FROM CRISES TO TARGETING INFLATION

AN INTERNATIONAL UPHEAVAL

By the early 1980s the situation for monetary policy had changed completely. Previously, the dollar was formally valued in terms of gold and the currencies in the Bretton Woods system were therefore based on gold. The collapse of that system put an end to the age of standards in terms of precious metals. A currency's value now depended entirely on confidence. Monetary policy had a new outlook.

After the oil-price shocks, cross-border capital flows rose rapidly. Various mutually reinforcing factors contributed to this. With new information technologies, large, complex long-distance transactions could be settled more

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The global economy is transformed. Cross-border capital flows are stronger and previously regulated economies are drawn into international trade. Economists reconsider the Keynesian approach behind early post-war monetary policy. Germany gives combating inflation precedence over employment; the United States and Britain set about deregulating financial markets. The reassessment reaches Sweden later than many other countries – deregulation here does not begin until the mid-1980s, followed by measures to lower inflation in the early 1990s. The latter coincide with a financial crisis when deregulation results in rapid credit growth. In November 1992 the Riksbank abandons the fixed exchange rate and monetary policy switches to targeting inflation. In 1999 a new Riksbank Act makes the Bank markedly more independent. In 2003, a referendum rejects a changeover to the euro and Sweden's currency continues to be the krona. The Riksbank's task of ensuring the stability of payment systems attracts more attention.

- 1970s The Bretton Woods system collapses.
- 1970s–80s Some central banks adopt a tight monetary policy to break inflation.
- 1980–1 Dollar interest rates rise.
- 1982 The krona is devalued by 16 per cent. Bengt Dennis is appointed Riksbank governor.
- 1985 Former finance minister Gunnar Sträng steps down as chairman of the Riksbank's governing board. Interest controls are abolished.
- 1986–90 Exchange controls are dismantled.
- 1992 The Maastricht Treaty. The EEA agreement comes into force. International currency unrest. Bank crisis in Sweden. The Riksbank abandons the fixed exchange rate.
- 1993 The Riksbank changes to targeting inflation.
- 1994 Urban Bäckström is appointed Riksbank governor.
- 1999 Amended Riksbank Act increases the Bank's independence. Eva Srejber and Kerstin Hessius are the first women on the Riksbank's Executive Board.
- 2002 Euro notes and coins are introduced.
- 2003 Lars Heikensten is appointed Riksbank governor. Sweden's referendum rejects the euro.
- 2005 Stefan Ingves is appointed Riksbank governor.

or less instantaneously. Financial market participants invented instruments and procedures for increasingly sophisticated purposes. Greater possibilities of operating across borders encouraged companies and investors to look further afield.

In the early 1970s, cross-border transactions were still strictly controlled. As the decade proceeded, more and more ways were found of evading the restrictions. An unregulated financial market grew up alongside the market which governments controlled. For the Bretton Woods system, this was a growing problem. At the same time, the two markets were so intertwined that disruptions outside government control could have serious repercussions in the regulated systems.

An indication of what could happen occurred in 1974, when Bankhaus Herstatt in West Germany collapsed. The bank had built up large future positions in foreign currencies and misjudged the course of events; the losses totalled more than a billion German marks. The Bundesbank could not achieve a reconstruction, so the German inspectorate closed the bank on 26 June. The failure undermined confidence in the entire banking system; insurance companies and foundations withdrew their deposits from smaller private banks (Franke, 1998). Other financial institutions also ran into trouble in the 1970s – American mortgage institutions, Franklin National Bank and institutions in Japan.

Rapidly expanding international financial markets gave many developing countries a chance of borrowing much more than before. International banks were flooded with deposits from the OPEC countries; non-oil countries obtained loans to avoid cutting imports. South Korea, the Philippines, Mexico, Brazil and other countries rapidly accumulated large debts. Goodhart (1988) considers that, prior to the crisis in 1982, creditors had underestimated the risk of lending to sovereign states, which had traditionally been seen as ‘safe’ debtors.

For a long time the issue at international conferences was not how to check borrowing but how to get banks to lend even more (Pringle, 1995). The banks relied on the United States assisting large debtor countries and on West Germany safeguarding its banks’ interests in Eastern Europe. The BIS was still undecided in June 1982, calling for stricter banking guidelines yet warning that undue caution in lending to the Third World might spread ‘too widely and too indiscriminately to whole groups of countries’.

When dollar interest rates rose in 1980–1, the burden of debt in countries with large dollar loans became heavier, particularly as the slump among OECD countries was reducing their export income. Led by Paul Volcker at the Federal Reserve and Gordon Richardson at the Bank of England, the central banks managed to prevent what could have been a major threat to the international banking system. Much of the adjustment was left to the debtor countries, though many banks did have to write off claims. The ensuing negotiations were in the hands of Jacques de Larosière, managing director of the IMF. The World Bank finally sounded the all clear for the major debtors in 1994.

More and more governments concluded they must strengthen their hold on the financial system. Fewer regulations would make financial institutions more willing to submit to government supervision; standards for reserves and coverage could then be imposed to reduce the risk of default. Following the example of West Germany and the Benelux countries, Margaret Thatcher’s government abolished Britain’s exchange controls in October 1979. As more and more countries deregulated, it became increasingly difficult for others not to follow suit.

The new order gave governments less discretion. In 1981 in France, the incoming socialist government lost no time in providing fiscal stimuli: under President Mitterrand’s budget minister, Laurent Fabius, the budget deficit grew by a quarter while economic growth picked up from 1.2 per cent of GDP in 1981 to 2.6 per cent the following year. However, as the stimuli could not be directed, the fixed exchange rate and a global recession led to a weaker balance of payments. The franc came under pressure and its interest rate in London rose above 20 per cent, signalling expectations of devaluation. In March 1983 the French socialists did an about-turn – they could not go on swimming against the economic tide. Belief in what Keynesian fiscal policy could achieve was shaken.

Opinions about monetary policy were changing. OPEC had effected a second oil-price shock in 1979. Contributors to the international economic debate began to talk of stagflation, a combination of stagnation, high unemployment and high inflation. Looking back on thirty years as governor of Denmark’s central bank, Erik Hoffmeyer (1993) wrote, ‘[T]he full employment policy was shipwrecked in the 1970s in virtually every western country.’

The instigators of the new insights included two economists. In his address as chairman of the American Economic Association, Milton Friedman

(1968) discussed the role of monetary policy and rejected the notion that inflation could help maintain employment. Some years later came Robert Lucas' (1976) influential assessment of economic policy's potential and effects. Economic agents are influenced by what they expect government will do. Households and firms behave rationally and adapt to new conditions. The fact that a particular tax system induces people to behave in a certain way does not mean they will continue to do so if the system is changed. Earlier models for economic analyses were therefore incapable of calculating and predicting what was happening in the 1970s. New models would have to be developed, based on the view that people's expectations are rational.

Combating inflation became the goal for more and more OECD countries, even if it meant higher unemployment. Opinion elsewhere was influenced by the Bundesbank's decision, in connection with the oil crises, to defend the value of money rather than stimulate the economy. The stabilisation of inflation in the major economies is dated by Cecchetti and colleagues (2007) to the mid-1980s. Decision-makers – central banks in particular – were now prepared to accept the consequences for employment. The realignment was largely entrusted to monetary policy. In the United States, where Paul Volcker became governor of the Federal Reserve in 1979, interest rates rose sharply; by the end of 1980 the dollar interest rate had been increased to 18 per cent. The drastic squeeze was maintained in the United States for most of that decade.

Internal controls were also questioned. Driven by the United States and Britain, deregulation spread to other countries from the mid-1970s onwards. While market funding made government financing easier at first, in the longer run the absence of controls tended to discipline fiscal policy. Excessive government borrowing would result in higher interest rates and slow the economy.

In May 1984 the EC liberated capital movements between member states to promote financial integration. France and Italy set about gradually removing their restrictions in the same year; Denmark removed the last of its controls on 1 October 1988.

The international stock-market crash in October 1987 added to the strains. To show that the lessons from the crash in 1929 had been learnt, the new Federal Reserve governor, Alan Greenspan, induced colleagues abroad to relax monetary policy and provide liquidity. This intervention raised the question of when policy should be tightened again after such a relaxation.

The overheating of the British and Japanese economies is at least partly attributable to monetary policy not being sufficiently restrictive in 1987–8 (Pringle, 1995).

THE 1982 DEVALUATION

Up to 1980, interest rates in Sweden had largely followed the international path. However, Sweden took longer to focus economic policy on combating inflation. Deregulation also came later. Problems with stabilisation were handled with the exchange rate rather than with interest rates.

Social democrat policy was gradually reconsidered during the years in opposition (1976–82). One issue was how industry could be expanded in order to finance welfare. The traditional recipe had been Myrdal's from 1944 – by setting taxes, subsidies and write-offs to promote investment. In the eyes of the policy group, this prescription had not been particularly effective when profitability sank in the 1970s; renewed industrial expansion called for much better returns.

In spring and summer 1982, Erik Åsbrink and Michael Sohlman, economists in the research department of the social democrat Riksdag group, concluded that the necessary improvement in profits called for a massive devaluation. This was a marked change in the party's strategy – from bridging an international recession with fiscal measures in the 1970s to monetary measures for a flying start. Prime minister Olof Palme and three other leading social democrats were informed ahead of the general election in September, but devaluation was not considered in earnest until after the election. By not deciding or not even discussing the matter, the politicians had nothing to deny, the inevitable dilemma with every decision to devalue.

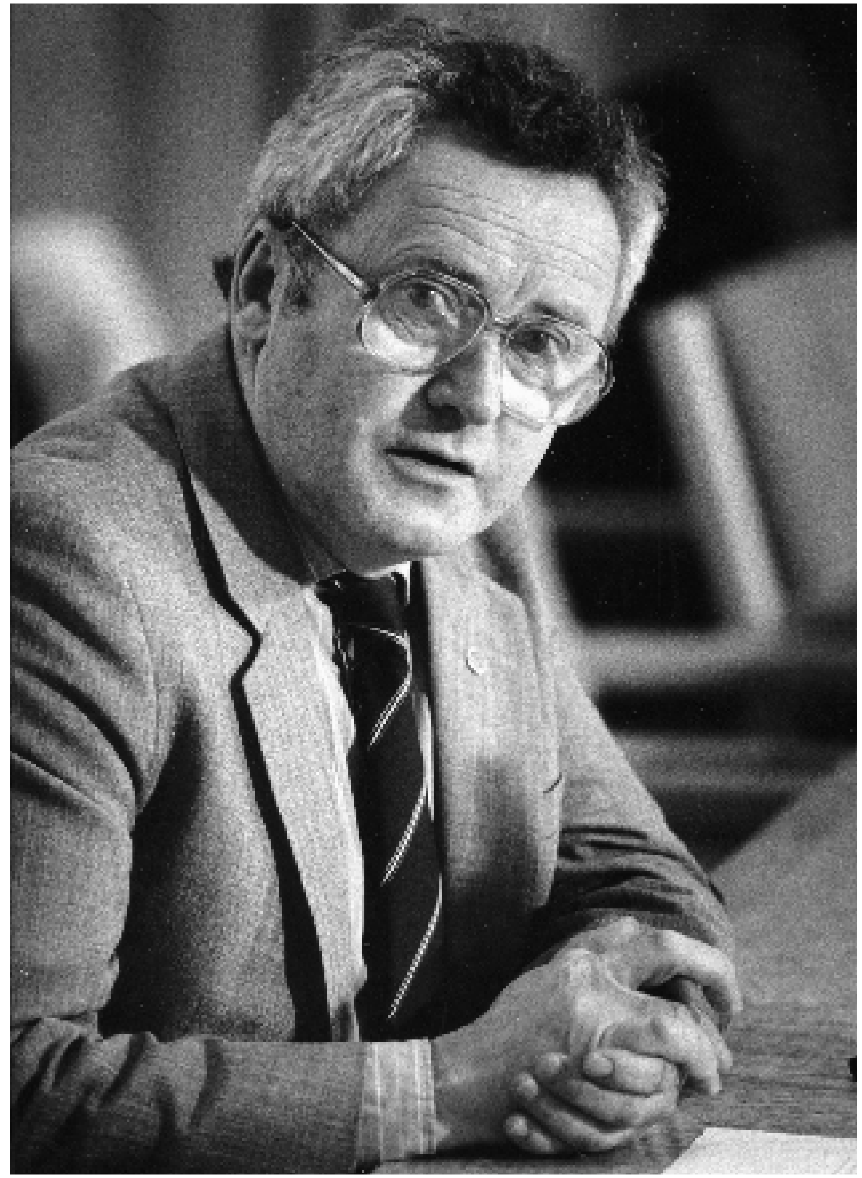
The leaders assembled on 28 September to discuss what their newly-elected government would do. The day before, Åsbrink had summarised the economists' views in a memorandum, 'Big Bang, Hard-currency policy and Consensus'. The finance minister-'elect', Kjell-Olof Feldt (1991), relates that the conference looked at three alternatives: expansion, restriction and Big Bang. The discussion went on until the evening and a decision had to be made the following day. Feldt, along with Olof Palme and Ingvar Carlsson (deputy prime minister), favoured a large devaluation, while Gunnar Sträng, who was to chair the Riksbank's board, was ambivalent.

The outcome was a ‘crisis package’ with devaluation as the centrepiece, to be followed by further measures. The problem was that higher import prices and increased corporate profits were likely to fuel inflation. The other measures therefore included a general price freeze and an exchange rate peg to the German mark. Wage drift would be countered by withdrawing profits and setting up employee investment funds. The package also included an extension of labour market policy, unchanged value-added tax (instead of a planned increase) and an extra tax reduction. The devaluation was planned for 17 October, or a week earlier if necessary.

Widespread expectations of devaluation led to currency unrest and an attendant outflow that disrupted the timetable. When Palme announced his new cabinet on 1 October, Feldt had to deny any intention of devaluation. The package was finalised on 6 October, a Wednesday, but as the government’s policy declaration was timed for noon on Friday, Palme wanted to wait until Sunday before announcing the devaluation. When Feldt refused to run the gauntlet again, the announcement was brought forward to Friday morning.

Although the decision was a matter for the Riksbank’s board, no one at the Bank had been told about the plans. This was in marked contrast to earlier exchange-rate adjustments (in 1946, 1949, 1976, 1977 and 1981), in which the Bank had played an active role (Jonung, 1993). The board’s composition had still to be adapted to the outcome of the election, so governor Wohlin had the casting vote. When Feldt called on him, Wohlin said he saw himself as an official, prepared to do whatever was required to defend the exchange reserves. Wohlin was nevertheless ‘dumbfounded’ by the devaluation’s size; in his opinion, 12 per cent would suffice to still the unrest. More than that would be regarded as aggressive. He was also ‘confounded’ by the plan to peg the krona to the German mark.

While Feldt was presenting the devaluation to the new government on 7 October he was told that the Bundesbank’s head, Karl Otto Pöhl, had phoned; Pöhl had found out what was in progress and expressed great displeasure, particularly about the peg to Germany’s currency. Before the devaluation was decided, Feldt called Pöhl, who described the scale of the devaluation as excessive – less than half would have been enough – and as his main point claimed that a peg to the mark required the Bundesbank’s approval. Feldt noted later that Pöhl had been wrong – the peg was a unilateral measure – but let the matter rest. The blue-collar unions were also



As finance minister, Kjell-Olof Feldt (b. 1931) brought about a major devaluation of the krona after the change of government in 1982.

 sceptical, seeing a risk that a peg would force Sweden to follow Germany's employment policy.

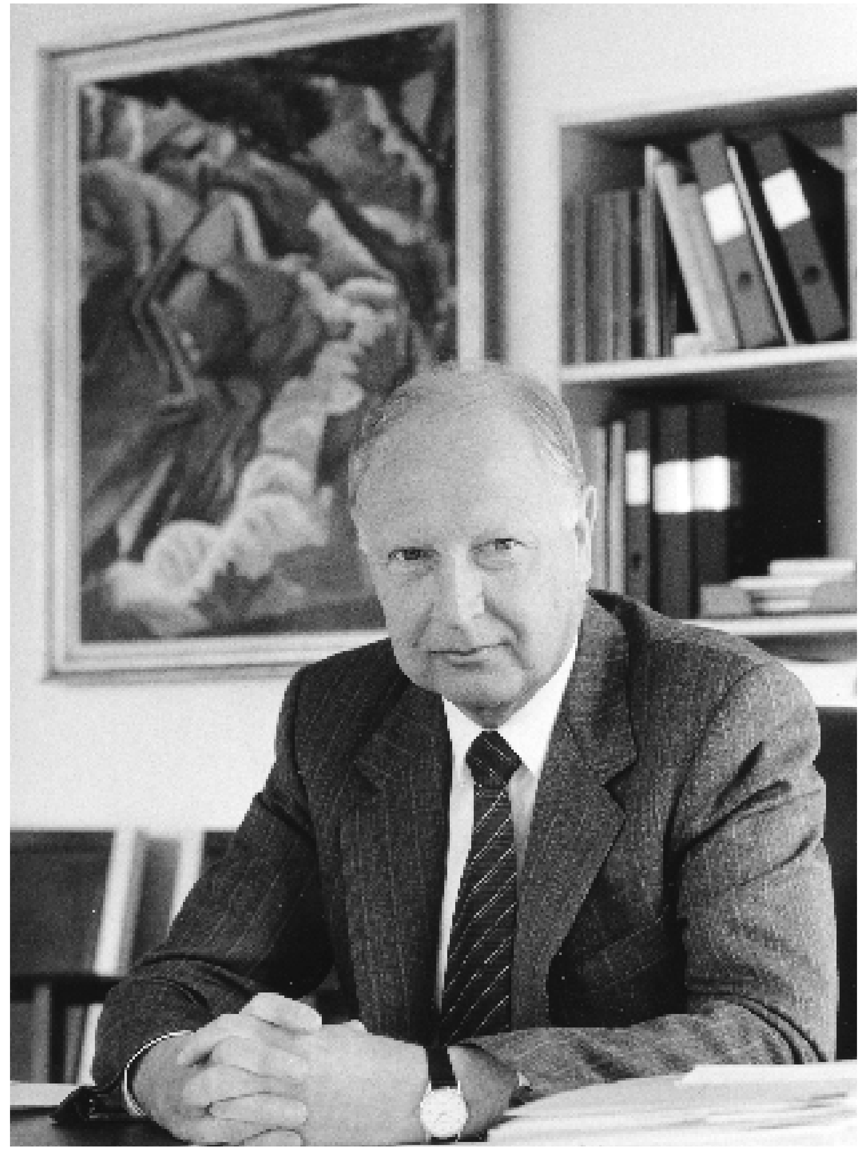
Wohlin was right about reactions abroad. Having informed the government, Feldt went to Arlanda airport for a meeting with the other Nordic finance ministers and central bank governors. A member of the Danish delegation (Mikkelsen, 1993) relates that opposition to the proposed 20 per cent was massive: 'Such a violent write-down was found to be quite unreasonable, all the more so as Sweden less than a year earlier [...] had devalued the krona by 10 pct. So it was clearly a matter of a competitive devaluation.' The Swedes took notice and made do with 16 per cent.

A change of Riksbank governor was taken for granted. Wickman was invited by Palme to return but declined for medical reasons. Two former senior officials in the finance ministry, Pierre Vinde and Carl Johan Åberg, were mentioned as alternatives but Feldt had another candidate: Bengt Dennis, his former under-secretary at the ministry of trade and previously a colleague at the finance ministry. Feldt phoned Dennis, who thought about it overnight; his appointment was announced on 1 October.

Securing the benefits of the devaluation proved difficult. Feldt's team appreciated the need for fiscal restraint to combat inflation but others in the government disagreed. Feldt had been forced to give in during the election campaign: the social democrats promised to index pensions. The devaluation had finally been accompanied by an increase to value-added tax but costly social reforms remained on the agenda.

Wage settlements were important for the impact on corporate profits. Devaluation meant higher import prices but the government still hoped that the Trade Union Confederation (LO) would exercise wage restraint; the price freeze was intended to support this. Wage increases were in fact lower than had been expected (Fregert, 1991) but not low enough. Other countries had combated inflation so successfully that Sweden's competitive position was gradually eroded. Even though wage increases slowed in 1983–5, inflation in Sweden continued to be 5 percentage points higher than in Germany. Moreover, the dollar's doubled weight in the currency basket pulled up the krona against European currencies. Price and wage increases are calculated to have cancelled the effect of devaluation in just three to four years (Wihlborg, 1991).

In order to stiffen fiscal policy, government borrowing in foreign currency was discontinued in 1984. This 'currency norm' or rule meant that



Bengt Dennis (b. 1930),
Riksbank governor 1982–93.

borrowing in foreign currency was confined to the private sector; currency flows would depend on the yield required by private investors. The government could not use foreign capital to cover budget deficits and its borrowing in the domestic capital market would affect interest rates. The self-imposed restriction was intended to strengthen fiscal discipline.

Policy in the 1980s was unsuccessful (Wihlborg, 1993). Inflation was not subdued; the private sector did not expand at the public sector's expense. Interest rate behaviour at the time suggests that devaluation had been expected; long- and short-term rates rose by more than the average for the currency basket. It is mainly the development of long-term rates that is indicative of inflation expectations. The interest differential with other countries widened because rates there fell in expectation of lower inflation.

The first exchange-rate crisis occurred as early as spring 1985. The current account had returned to a deficit and there was a currency outflow early in the year. A more marked outflow in May coincided with a labour dispute. The Riksbank raised the interest rate to 4 percentage points above the basket average, a signal that the exchange rate would be defended with a sharp squeeze.

In 1985 and 1986, the combination of a markedly weaker dollar and a strong international economy provided some relief because the dollar's weight in the basket pulled the krona down. This checked the decline in competitiveness. During the latter year and in 1987, the interest spread with the average basket rate narrowed to less than 1 percentage point for short-term rates; for long-term rates, however, the difference stayed at around 3 percentage points, an indication that expectations of inflation had not fallen.

From 1987 to the end of 1989 the level of Swedish costs relative to competitors abroad then deteriorated by as much as 10–15 per cent. A downturn in Europe during 1989 was followed by a recession in 1990; the boom in Sweden (and the United States) had ended earlier. Thus, the loss of competitiveness coincided with diminishing external demand. The Swedish economy was unprepared for what was to come.

Assessments of the 1980s have focused on the 1982 devaluation and responsibility for the overheating at the end of the decade. International economic forecasts had been gloomy at the time of devaluation but in the next few years the cycle turned and external demand became strong. The international upswing might have sufficed as a stimulus but that could hardly have been foreseen.

Sweden's industrial output is calculated to have grown in 1982–4 at an annual rate of 4.5 per cent, almost 2 percentage points higher than elsewhere; in the following years the rate was lower than abroad (Nordin, 1991). Nordin, as well as Korkman & Åkerholm (1991), note that productivity growth in Sweden was weak in the 1980s, contrary to what the advocates of devaluation had hoped to achieve.

DEREGULATION

After the 1982 devaluation, monetary policy's instruments were much the same as before. Financing the budget deficit on market terms was not yet an option because it would push interest rates up. At the same time, the controls had become much less effective. The internationalisation of financial markets had emasculated exchange controls; market participants had become used to interest controls and found more and more ways of evading them. A study of conditions in the 1970s (Ingves, 1982) shows that a monetary tightening led to an increase in unregulated lending; policy was not impotent but individuals and firms became more proficient at using the unregulated sector, so the regulated components had to be squeezed even more.

The government budget had been strengthened since the 1970s, but deficits in the early 1980s were still sizeable, with high borrowing as a result. Banks and insurance companies were forced to purchase government bonds. Liquidity requirements, investment obligations and the ceiling on non-residential loans were tightened continuously and the rules became increasingly mandatory. New bond buyers had to be found; the devaluation gave export producers greatly increased earnings but market interest rates were needed to induce them to buy securities.

The successful introduction of bank certificates in 1980 showed that a more market-oriented monetary policy ought to be feasible. Market conformity was the new mantra; instead of controls, policy's instruments were to be interest rates and open-market transactions in securities. An enquiry into credit policy advocated this in 1982; the Riksbank was rather dismissive but the winds of change were strong.

The first major adjustment concerned liquidity ratios, which obliged banks to place part of their deposits in government securities and housing bonds; as a result, government borrowing could be arranged at less than the market rate. By the early 1980s the mandatory ratios were close to the highest enforceable level, 50 per cent, which made the situation untenable; raising this level would have brought the banks even closer to being simply depositories for securities. In autumn 1983, as government borrowing shifted towards the open market, liquidity ratios were abandoned as an instrument of monetary policy.

The process was driven by the Riksbank's directors and officials (Svensson, 1996); the finance ministry did little more than concur. The Riksbank's aversion to the controls was one reason for getting rid of them (Feldt, 1991): 'In my opinion this was an essential factor. It is extremely difficult for a finance ministry to be constantly ordering a central bank, indirectly and via the Riksdag, to do a job it does not want to do.'

The abolition of interest controls followed on 13 May 1985. The Riksbank then used a monetary squeeze to check a strong currency outflow: a limit was imposed on the growth of bank lending up to November 1985. The lower ceiling meant zero growth in the rest of the year; on the other hand, banks were free to set interest rates.

That the Riksbank's realignment took so long was partly due to Gunnar Sträng, who opposed deregulation as chairman of the board; many members of the staff were also sceptical. However, Sträng did not stand for parliament in the 1985 election and left the governing board on 10 October. Two days later the government appointed the new chairman, Erik Åsbrink, under-secretary at the finance ministry. On 21 November, five weeks after Sträng's departure, the ceiling on bank lending was removed. This was the most important step in deregulation. Banks could now dispose of bond holdings and use the proceeds to provide more loans. With the increasingly large budget deficits since the mid 1970s, the banks had been obliged to hold bonds for up to 25–30 per cent of balance-sheet turnover; the share now fell steeply to 10.5 per cent in 1988.

The penal interest rate was replaced by a sliding scale whereby the rate for Riksbank loans increased with the amount a bank borrowed. The scale was used to influence banks' borrowing costs; it encouraged banks to borrow from each other because after the first few steps this was cheaper than borrowing from the Riksbank.

In time, the Riksbank began to use repurchase agreements (repos) as its primary instrument: the Riksbank buys securities from banks and

simultaneously agrees to sell them back at a predetermined date. By offering to purchase securities for a specified amount and thereby provide banks with liquid funds, the Riksbank can move the banking system up or down on the interest rate scale.

Insurance companies' investments were still controlled. Along with the National Pension Fund, they were obliged to acquire bonds with a yield that was a couple of percentage points below the market rate. As of 1985, however, they were free to dispose of the bonds, which meant that the difference between the issue rate and the market rate amounted to a tax; on the other hand, the composition of assets was no longer regulated. The investment regulations were finally abolished on 1 December 1986, though in the following year insurance companies had to pay a non-recurring tax: citing the large increase in value and favourable taxation, the state withdrew 7 per cent of their capital (16 billion kronor). In 1990, a 15 per cent tax was then imposed on the yield from pension funds.

The abolition of exchange controls took longer. The non-socialist government had commissioned an inquiry in 1977; three years later, reports by experts questioned the effectiveness of controls. The final report, in September 1985, favoured deregulation in principle in the long run, but considered that transactions which could result in volatile capital movements should still be restricted. The government was more radical; deregulation began in 1986 and was completed on 30 June 1990. Next day the 1939 Act was replaced by the Exchange Control Act, an emergency law that can be implemented only in the event of war, the threat of war, or currency flows that jeopardise social stability.

Developments in the European Community contributed to deregulation. The Treaty of Rome in 1957 had adopted the goal of a deregulated internal market but it took almost three decades for work to start in earnest. In 1985 a group of experts, led by EC commissioner Lord Cockfield, presented a white paper with 300 recommendations for how to institute the Single Market. Next year the member states adopted the Single European Act, effective from 1987. The Single European Market was finally established in 1992.

Financial markets were singled out for deregulation. In 1988 an EC directive called for an end to border controls for financial assets as of 1 June 1990. Meanwhile, the EFTA countries were negotiating a European Economic Area (EEA) agreement with the EC. After a time it became clear that under the agreement, concluded in March 1992, EFTA countries[39] would be integrated into the EC's deregulated single market, which meant that Sweden would have to adapt and liberalise its controls. Without border checks on capital, exchange controls could not be enforced.

In Sweden, credit growth after deregulation exceeded most people's expectations. Consumption rose rapidly in 1986 and 1987, while saving slumped. Relative to households' disposable income, consumption moved up from around 96 per cent in the 1970s to 98.5 per cent in the first half of the 1980s and to 104 per cent in 1987–9. Households' debt:asset ratio, which had fallen before 1970, turned upwards and stood at 54 per cent in both 1980 and 1985; in 1988 it was 68 per cent. The stock market boomed in 1985 and 1986; households borrowed more in order to acquire financial assets. Tax relief for personal pension investment encouraged borrowing for this purpose.

Deregulation created a new situation for households. Loans for purposes other than housing construction had been recurrently rationed, while house mortgage loans required official approval by a bank. The difficulty in obtaining finance had hampered bidding and held house prices down. When it became easier to borrow, house prices were bid up by eager buyers, which gratified sellers who had acquired property in the period of regulation.

The greatest change concerned non-housing credit. Borrowing to buy a house, at least a new one with state-approved loans, had at least been much easier than financing other projects. Without the regulations, people were in a better position to use loans and savings to smooth income over time, for example for travel, education or work experience abroad. Households were more able to deal with fluctuations in income and costs.

Another consequence of deregulation was that banks could be used to a greater extent for tax evasion. In 1986, half of the increase in bank lending occurred in December, followed by a large reflux in January 1987; debt in the form of loans reduced taxable wealth, and borrowing for a few weeks did not cost much, particularly as interest expenditure was tax deductible. This was one of the arguments for a comprehensive tax reform.

39 The European Free Trade Association was created in 1960 by Austria, Britain, Denmark, Norway, Portugal, Sweden and Switzerland. Since then, Denmark (in 1973), Britain (1973), Portugal (1985), Finland and Sweden (both 1995) have joined the EEC/EC instead, so today the members of EFTA are Iceland, Liechtenstein, Norway and Switzerland.

The problems in the 1980s were exacerbated by a lack of economic policy coordination. The abolition of the lending ceiling in November 1985 did enable large investors to free funds that had been tied up in bonds, but exchange controls restricted their access to asset markets abroad. But for this, the stock market and property prices would hardly have boomed as they did. Similarly, household borrowing would hardly have shot up so much after 1985 if tax rules for deducting interest expenditure had been reformed earlier. Each of the reforms was called for and beneficial – they made economic management easier for individuals and firms. It was the lack of coordination and poor timing that made the changeover troublesome.

A report on the November deregulation (Svensson, 1996) found that 'The Riksbank misjudged the extent and content of credit growth; it was not just a question of transferring credit from the grey market'. The change was also underestimated by banks; the chairman of SE-Bank, Curt G. Olsson, declared, 'But it does not imply an uninhibited expansion of credit to households. [...] Credit policy is still restrictive. We have freedom with responsibility.'

With the 1982 devaluation, the international upswing and credit growth, in the late 1980s the Swedish economy became very overheated, with strong inflationary pressure and rocketing asset prices. Feldt (1991) and Lundgren (1998) consider that the Riksbank ought to have tightened monetary policy, either by raising the interest rate or, in Lundgren's opinion, by revaluing the krona. Dennis (1998) doubts whether an interest rate hike would have done the trick because at that time the tax system made individuals and firms less sensitive to interest expenditure; he places more emphasis on fiscal policy's responsibility for inflationary pressure.

RULES AND THE SUPPLY SIDE

Economic developments in the 1980s were accompanied by a shift in the contemporary debate. Opinion about economic policy had previously been based on a strong conviction that many problems could be resolved by decision-makers doing what suited the circumstances. It was a question of using available means. A former head of Handelsbank, Tore Browaldh (1981), describes how Gunnar Sträng as finance minister adapted policy to the business cycle:

> Various measures enabled us, for example, to postpone major investments to the late 1950s, partly because the investment tax was removed just at the turn of 1957; moreover, investment reserves were released and the credit squeeze was relaxed. When the economy was overheating in 1960–1, a sizeable withdrawal of corporate saving to the Riksbank was achieved by Sträng via rules for building up investment funds with the prospect of future tax relief. Cyclical fluctuations were smoothed very skilfully in the period 1956–63.

Later, this strategy was less successful. Economic relationships became more complex, national economies more intertwined and people increasingly saw through and evaded economic policy's intentions. This necessitated a reassessment. Discussions in the OECD were important for the government and its staff. Swedish economists looking for clearer rules and stronger institutions for stabilisation policy had a forum in the Centre for Business and Policy Studies (SNS). Jonung (1999) summarises the new themes:

> The concept of credibility became a keyword. In the opinion of 'normative economists', economic policy should strive to establish the credibility of a non-accommodating[40] fixed exchange rate regime. A number of institutional changes were considered as a way of creating the desired credibility of a fixed exchange rate.

With hindsight it may seem remarkable that a fixed exchange rate became the normative policy's guiding star with so little debate. Given a fixed exchange rate, a small economy is liable to be at the mercy of external price movements. Wicksell and the goal of price stability after 1931 had been pointed out earlier by Jonung (1977) but were scarcely mentioned at the time. When the Brookings Report (Rivlin, 1987) questioned whether Sweden would be able to adhere to a fixed exchange rate, Swedish colleagues dismissed the argument. The generally accepted rule was a fixed exchange

40 An accommodating policy, one of the most frequent abusive epithets in the 1980s, stands for measures that aim to mitigate effects of other measures and trends that are basically harmful. Devaluation to neutralise the negative competitive effect of high wage increases is the classic example.

rate pegged as tightly as possible to the German mark; the stability and credibility which Swedish economic policy failed to create on its own would come from the Bundesbank. This view was also widespread in the international debate.

The other key concept in the 1980s debate was supply-side economics. When devaluation and international trade generated an economic upswing in Sweden, the recovery soon came to a halt because additional resources were difficult to mobilise without fuelling inflation. The question of how to liberate resources and get the economy to function more smoothly was addressed in numerous inquiries and reports, inspired by the OECD's discussion and experience from the United States under President Reagan and Britain under Thatcher. Government commissions and committees, as well as private institutions and think-tanks, left practically no stone unturned – competition, labour market policy, taxes, pensions, agricultural policy, social insurance and exposing municipal services to competition.

Some of the proposals led to decisions around the turn of the 1980s – the chief example is the tax reform in 1990–1 – but most of them were not taken up before the crisis a decade later.

THE FINANCIAL CRISIS

The effects of deregulation were accentuated by the level of interest rates. Inflation above the level of nominal rates meant that the real interest rate was negative, particularly after tax. It paid to borrow. This was reminiscent of property speculation in the Age of Liberty and profiteering in the First World War. Households became more indebted and companies found funding with loans more profitable after tax than attracting capital with share issues. The upswing rested on shaky foundations. The larger element of loans made households and firms less financially robust. Tax rules had previously relieved them of much of the interest burden but the tax reform changed that. Sweden was moving towards the pattern of boom and bust that marked the financial crises in Finland and Norway (Jonung, 2007).

The law had separate compartments for different types of financial institution. Detailed rules specified the operations that were open to commercial banks, savings banks and cooperative banks (the former rural credit societies), respectively. Insurance companies were clearly separated from mortgage institutions.

These rules irritated the savings banks because they made it hard to offer customers the range of services they required. As the 'central bank' of savings banks, Sparbankernas Bank was established to rectify this but only as a second-best solution. Savings banks wanted the same rights as commercial banks.

The demarcations between credit institutions were examined by a government committee. In 1968 its work resulted in legislation that abolished the discrimination; commercial banks, savings banks and cooperative banks were able to compete on equal terms. In the 1980s it became possible to combine operations; banks could acquire insurance companies, for example, and insurance companies could establish banks.

This did not immediately lead to any dramatic changes in the operations of financial institutions. Credit market deregulation created new opportunities. Many savings banks merged and larger regional savings banks were established; the biggest was Första Sparbank, formed in 1982 by amalgamating Sparbank Stockholm and Länssparbank Göteborg.

During the economic upswing in the 1980s, stronger competition was accompanied by far more transactions. With deregulated and extended financial markets, banks were able to offer new financial instruments.

Savings banks and cooperative banks endeavoured to capture market share from the commercial banks' traditional operations. Provincial banks set up Stockholm branches to be closer to customers who moved to the capital; soon they were looking for new business as well. The growth of regional commercial banks clearly resembled the wave of establishments in the capital city at the beginning of the 20th century; memories of the subsequent crash had faded.

The first signs of a crisis among finance companies appeared in autumn 1989. At the turn of the year, some were said to be in difficulties because certain property companies were in trouble. The clearest case was finance company Nyckeln's losses on properties in London. The rental market was weakening and so was property market turnover; interest rates were rising; and the stock market dropped more than 35 per cent from July to November 1990.

The loan stocks of finance companies in 1989 totalled 134 billion kronor, most of it in the property sector. The crisis became serious in September 1990 when some banks informed the Bank Inspection Board that they were reluctant to provide funds for Nyckeln, which had just issued a profit warning. 'Nyckeln was no longer able to obtain funds in the certificate market and next day Independent had the same problem. [...] Gamlestaden, Optimum and Finansor also had funding problems and the certificate market ceased to function on 26 September' (Dennis, 1998).

Nyckeln's collapse was followed by falling property prices, initially for commercial property and then for private houses and tenant-owned homes. The bubble had burst and no one was willing to buy. The market was illiquid. In the course of two years, 1990–1, the market value of large property companies almost halved (Pettersson, 1993).

The crisis spread from finance companies to banks. No bank had been in serious trouble since the Second World War. At the beginning of 1991, however, Tomelilla savings bank reported loan losses equivalent to one third of its loan stock. The situation was, in fact, much worse: share capital was exhausted and loans for 400 out of 600 million kronor had been lost. Other savings banks came to the rescue and Tomelilla was merged with Sparbank Skåne.

That was just the beginning. When property and finance companies could not service loans, banks in distress included Första Sparbank, Gota Bank and Nordbank. Difficulties were also experienced by Föreningsbank and SE-Bank. There was one instance (Sparbank Väst) of direct improprieties and a court case followed, but essentially it was a matter of assessments and decisions that could not stand up to the strains of the crisis.

The banks' loan losses in the period 1990–5 are calculated to have totalled 200 billion kronor (Lundgren, 1998). Gota Bank's losses in 1990–3 were equivalent to 37 per cent of its total loan stock, Nordbank's to 21 per cent and Sparbank Sverige's to 17 per cent. The state took care of more than 100 billion kronor in loan losses in the bank sector (Magnusson, 1996); a large proportion was ultimately recovered.

Första Sparbank's crisis led the Riksbank to prepare for mass withdrawals. The cashier's department arranged an extraordinary stock of notes in the vaults and procured transport to ensure that savings banks would be able to meet customers' demands.

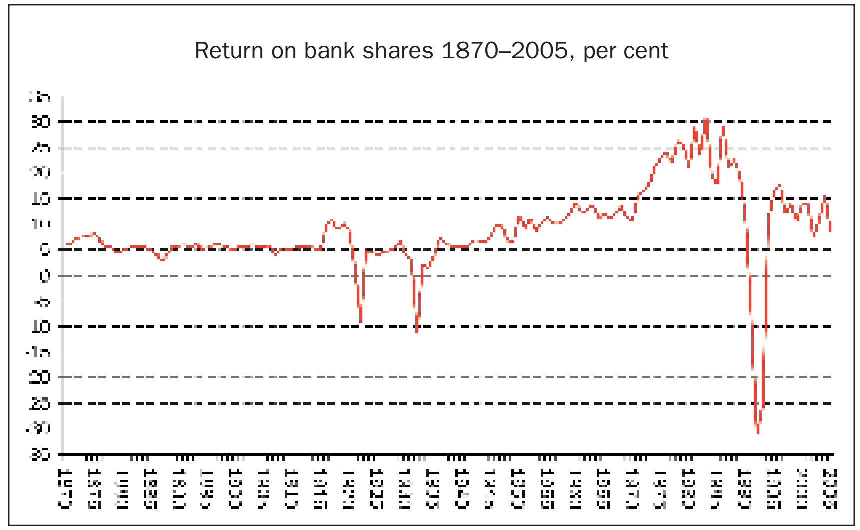
An inside account of the bank crisis has been published by Karl-Henrik Pettersson (1993), managing director of Första Sparbank in the hectic years that led to the bank's reconstruction. An important explanation according to him was the change in property values; prices were inflated when investors, besides relating the annual return to annual costs, counted on an increase in value; estimates of this type were initiated by insurance companies. One result was that the price of office buildings in prime locations in Stockholm and Göteborg doubled and even tripled.

The banking system failed to manage the increased risks that deregulation entailed. According to Pettersson, each property transaction was assessed separately and compared with other deals; what was lacking was an understanding that the crucial risk lay in the aggregate exposure to the property sector. It is significant that Svenska Handelsbank, the least affected of the major banks, had experienced a crisis and been reorganised as recently as in the Sixties. In much the same way, the crisis in 1878–9 taught Stockholms Enskilda Bank to be more prudent than others during the First World War and the Kreuger euphoria.

How, then, was the crisis to be managed? The Riksbank was accountable for the payments system but was entitled to extend credit to Swedish banks only under 'exceptional circumstances'. The Bank's interpretation of this provision was that it could only assist basically solvent banks that had trouble with liquidity; the risk of a bank failing was a matter instead for the government.

The government did not question the interpretation and set about organising support. Later, the minister in charge wrote: 'We concluded that a bank could not be left to fail except in the case of a single, relatively small bank that was in distress on account of internal problems and then only if there was deposit insurance which protected small savers. [. . .] The failure of a major bank could be very costly for the state and taxpayers because large resources would have to be provided to enable the insurance system to meet its commitments to depositors. There would also be the risk of other banks having difficulty with funding abroad' (Lundgren, 1998).

After some time the government set up the Bank Support Authority under Stefan Ingves (a future Riksbank governor) to manage the rescue work and the state's interests in the distressed banks. The reconstruction of Första Sparbank as Sparbank Sverige was accompanied by the failure of Gotabank and the reconstruction of Nordbank after the state had bought out the private shareholders. Compared with other countries, Sweden handled the financial crisis quickly and resolutely. Nordbank's and Gotabank's non-performing claims were transferred to separate companies, Securum and Retriva; the assets were ultimately sold for a total that covered a large part of what the state had provided during the crisis.



Financial crises in the 20th century were major setbacks for the return on bank shares.

Global economic growth slackened sharply in the early 1990s. The slowdown began in North America, Britain and Sweden and then spread to the rest of Western Europe; Japan was not affected until later.

There was one exception, Germany; the Berlin wall had been pulled down in November 1989 and the country was reunited the following year. To the dismay of Bundesbank governor Karl-Otto Pöhl, the plan which Helmut Kohl, the West German chancellor, presented to the four former occupying powers included monetary reunion. The conversion of East German marks into the West German currency was charged with symbolism.

The Bundesbank judged that productivity in East Germany amounted to between 33 and 40 per cent of the level in West Germany and concluded that for the Eastern economy to cope with reunion, wages there ought to be a third of those in the west. Assets in the east should therefore be converted at a rate of two for one, except for 2,000 marks per inhabitant which, for social reasons, should be exchanged one for one.

The Bundesbank's proposal fell on deaf ears; one for one was the only politically acceptable rate. East Germans were demonstrating in the streets, with slogans like *Kommt die D-mark, bleiben wir. Kommt sie nicht, gehen wir zu ihr* (If the D-mark comes, we stay. If it doesn't, we come to you). Mass emigration from east to west had to be avoided at all costs. The reunification treaty was signed in May 1990 by Kohl and his new East German colleague, Lothar de Maizière, and became effective on 1 July; next day, East German marks were converted into D-marks.

It was reunion that sustained the German economy compared with the rest of Europe. GDP growth in West Germany was 5.7 per cent in 1990 and 5.0 per cent in 1991; employment rose but so did inflation. The consequences of the conversion rate were accentuated when the social partners negotiated high wage increases for employees in the east; people had more money to spend, while companies went under. It was not until the second half of 1991 that the German economy also began to falter.

High inflation forced the Bundesbank to raise interest rates and this attracted a strong inflow of capital to benefit from better returns in the German market. The situation for the European Monetary System's exchange rate mechanism (ERM) became increasingly strained; in order to maintain the bilateral exchange rates, other ERM countries had to raise their interest rates, too, even though this added to the slowdown. Germany's high interest rate was criticised both by other European countries and by the United States. Some said that the German mark should be detached from the EMS because of the strains of reunification. German politicians, including Chancellor Kohl, also expressed displeasure.

Many people blamed the European recession on the United States. In 1992, signs of a US recovery seemed to herald better times and the possibility that progress with reunification would enable the Bundesbank to lower interest rates. Instead, the situation in Europe worsened.

Meanwhile, the Maastricht Treaty was in the process of being ratified. This would transform the European Community into the European Union and extend cooperation in a number of ways, not least by means of the Economic and Monetary Union (EMU). The negative vote in the Danish referendum on 2 June 1992 sent shock waves through the system; investors began to question the likelihood of EMU. If France followed Denmark's example, the process would be back to square one. Larger interest rate differentials were needed to compensate for the greater uncertainty; investors became averse to weaker currencies and therefore sold lira, sterling and kronor during the summer and autumn, which forced the central banks in question to raise their interest rates.

The situation had become more turbulent in the summer. The Bundesbank had raised its interest rate on 16 July on the grounds that the money supply had overshot the target. This had increased the pressure on weak currencies. When the Federal Reserve then lowered its interest rate to pull the US economy out of the recession, even more capital flowed to the German mark, which added to tensions in the EMS. By 26 August sterling had dropped to its ERM floor, accompanied by the lira.

In an attempt to ease the pressure, EC finance ministers and central bank governors held an informal meeting, chaired by Norman Lamont. The plan was to devalue the other ERM currencies against the German mark and the Dutch guilder, together with an interest cut on the part of the Bundesbank. It failed when the German representatives refused to lower their interest rate because of concerns about domestic inflation. A general exchange rate adjustment was rejected by the British and French negotiators, who were unwilling to be lumped together with Italy.

On 8 September, Finland devalued; costs had become a problem, as in Sweden, and Finland's situation was worse than that of the rest of Western

Europe because the Soviet Union's disintegration was threatening much of its foreign trade. It did not help that only a year earlier the currency had been revalued when Finland pegged it to the ERM system's unit of account, the ecu. Some months later, on 14 November 1991, Finland had been obliged to drop the ecu peg and let the markka float before returning next day to a fixed rate that was 12.3 per cent lower. In the midst of the chaos in financial and money markets, the governor of Finland's central bank, Rolf Kullberg, had then resigned in April 1992 after falling out with prime minister Esko Aho.

After another failed attempt to trade a general exchange rate adjustment for a German interest rate cut, bilateral negotiations resulted in an Italian devaluation on 13 September and a reluctant reduction of the Bundesbank's primary interest rate by 0.25 percentage points.

Three days later and four days before the French referendum, *Handelsblatt* in Germany published an interview in which the new head of the Bundesbank, Helmut Schlesinger, declared that 'further devaluations cannot be ruled out'. This added to pressure on sterling because many observers doubted that the British government and the Bank of England would raise interest rates still more, particularly as that was widely seen as pointless. Some of those concerned considered that a higher interest rate would simply add to the tension between the domestic economy and the ERM.

The attacks on sterling were fiercest on the day when the interview with Schlesinger was published. The Bank of England raised its minimum lending rate from 10 to 12 per cent and announced that next day there would be a further increase to 15 per cent. Lamont realised the game was up, however, and cancelled the second increase. That evening the EMS agreed to Britain withdrawing sterling from the ERM; Italy also withdrew and Spain announced a 5 per cent devaluation of the peseta.

The slight French majority in favour of Maastricht on 20 September failed to calm markets, which now knew that governments could be outdone. After the devaluation of sterling, the Irish pound was pushed towards its ERM floor and could not have managed without emergency controls. This was followed by 3 per cent devaluations in Spain and Portugal, Norway's move to a flexible exchange rate on 10 December and a 10 per cent devaluation by Ireland within the ERM on 30 January 1993. Publication of Spain's fourth-quarter unemployment statistics led to renewed speculation and both Spain and Portugal had to devalue once more.

Speculators now turned to France; on 24 June the minister of economics, Edmond Alphandéry, requested a meeting with his German colleague, Theo Waigel, to negotiate a German interest rate cut but was told that Waigel was otherwise engaged. On the last Thursday in July the Bundesbank again refused to cut its interest rate, citing the money supply and worries about inflation. The Banque de France spent more than $32 billion in defence of the franc in the last week of July, most of it on the 28th.

At an emergency meeting during the last weekend in July, finance ministers and central bank governors accepted the inevitable. Lack of agreement about how to save the system led to a decision to widen the ERM's band from 2 ¼ to 15 per cent, which put an end to the exchange rate mechanism in its narrow form.

Contrary to expectations, this capitulation did *not* lead to higher inflation, less central bank discipline or a loss of market confidence (Eichengreen, 2007). When the band had been widened, markets calmed down and EMU preparations went ahead. It is also noteworthy that France and Denmark, for instance, weathered the storm. French policy had been realigned in 1993. In Denmark, the currency had been devalued 26 per cent against the German mark in the period 1976–9 and the government had launched a 'new era with a fixed-rate policy' in September 1982 (Mikkelsen, 1993). This commitment meant that Denmark did not copy Sweden's devaluation in 1982; what the Danes called a 'potato cure' in 1986, followed by a tax reform next year that reduced the significance of tax deductions for interest expenditure, contributed to greater stability and won credibility.

DEFENDING THE KRONA

The international downturn caught the Swedish economy in a weak state, with a greatly impaired competitive position and an unstable financial system. The tax reform made matters worse because households were now far more sensitive to interest rates. An increase in the real interest rate, from 1 or 2 per cent in 1991 to over 10 per cent at times in the following year, resulted in far higher saving: negative saving in the late 1980s swung to 10 percent of household disposable income in 1993. With this loss of domestic demand, employment slumped. Economic policy had not foreseen the extent to which people felt they needed to save more.

The bank crisis was a serious complication in that large external commitments meant that many banks' balance sheets would be weakened by devaluation; on the other hand, defending the exchange rate called for high marginal interest rates that were a heavy burden on both the banks and their exposed borrowers. Whichever course the Riksbank chose, its policy would have serious repercussions on the financial system.

The weakness of the situation did not deter either the government or the Riksbank from sticking to the fixed exchange rate. Implementing the measures this required was another matter. On 6 February 1990, finance minister Feldt told governor Dennis he had decided to resign; the previous evening the Trade Union Confederation (LO) had adamantly opposed putting off an additional week's annual holiday and longer paid parental leave. Feldt judged this would make fiscal policy too relaxed but did not resign immediately. The government was preparing measures to replace the fiscal restrictions and Ingvar Carlsson, prime minister since the murder of Olof Palme in 1986, presented the package on 8 February. Prices, wages, rents and local government taxes would be frozen and the right to strike would be restricted, with much higher fines for wildcat strikes. The package can be seen as the last attempt to regulate the economy: the government was ordering inflation to come to heel.

After heavy opposition, not least from unions, the strike provisions were withdrawn on 12 February. Three days later the Riksdag rejected the wage freeze. Ingvar Carlsson tendered his resignation and Sweden had a caretaker government. Feldt now resigned; when the government was reinstated on 27 February, the new finance minister was Allan Larsson, previously director-general of the National Labour Market Board.

The political difficulties gave rise to exchange market unrest, with rising interest rates. To support the exchange rate, on 14 February the Riksbank announced the aim of withdrawing 21 billion kronor at an overnight rate of 15.25 per cent, an upward adjustment of 2.75 percentage points. A labour dispute in the banking sector obstructed this operation, which attracted less than the full amount. Still, the signal was effective: the currency outflow slowed and pressure on the exchange rate eased.

Erik Åsbrink was a member of the new government and had to be replaced as chairman of the Riksbank's board. Kjell-Olof Feldt was mentioned but the post went to Per Borg, director-general in the Defence Matériel Administration. Governor Dennis 'knew Borg well from our time in the ministry of trade and had great confidence in him'; they had worked

together in the finance ministry before transferring to trade when Dennis became under-secretary there.

Two months later the LO economists' spring report, backed by an article in *Dagens Nyheter,* proposed a changeover to either a flexible exchange rate or an index of currencies that represented policies which were more in line with Sweden's – that was the only way to full employment. Finance minister Larsson related that this simply made the government even more resolute: 'I had thought there was a consensus on the need to bring inflation down and therefore saw the article as a provocation' (Lindvall, 2006).

Renewed financial unrest broke out early in October 1990. Sterling joined the ERM on 5 October and there was speculation in a krona devaluation combined with an ecu peg. The Riksbank increased its marginal interest rate in steps to 17 per cent, while the government prepared further proposals: 1 billion kronor in spending cuts, including lower social security benefits, and an assurance that the fight against inflation had priority over all other economic policy goals. The press notice included an even more important announcement about European cooperation:

> Sweden's role in Europe must be further clarified in order to establish good conditions for growth in the corporate sector. The government aims for a new Riksdag decision about policy on Europe that clarifies more distinctly and in more positive terms Sweden's ambition to become a member of the European Community.

For Sweden and the social democrats, this was a break with the past. Social security expenditure had increased as a share of GDP in the 1980s and been exempt from budgetary restrictions (one cause of fiscal policy's failure). Full employment had been social democracy's primary objective since the 1930s; giving precedence to combating inflation supplanted this, despite assurances that the ultimate purpose was precisely to support employment. The declaration also reversed the policy which social democrats had advocated since 1971, when Olof Palme had described EC membership as incompatible with Sweden's traditional foreign policy.

Another major change was also in progress. In early spring 1990 the government commissioned Bertil Rehnberg, a former director-general of the National Labour Market Board, to 'monitor wage negotiations and give the parties appropriate advice and suggestions'. After talks with numerous labour market organisations, on 30 March Rehnberg and his team handed the parties a proposal for agreements for the remainder of 1990 and for 1991; this was rejected by the organisation for private sector salaried employees (PTK): 'According to Rehnberg, at that time there was no awareness that the country was in the throes of a serious economic crisis' (Nycander, 2002).

In September the government persuaded Rehnberg and his colleagues to try again. The group informed 111 central wage-negotiating organisations about the purpose of a stabilisation agreement and most of them concurred on reducing wage and price increases. The crisis in October underscored the gravity of the situation. In December the group submitted a draft agreement for the period up to March 1993: low-pay groups would accept a wage freeze for 6 months, others for 15 months, and there would be an end to all the clauses and guarantees which had previously inflated wage increases from one settlement to the next. In the first half of 1991, more and more industry agreements adhered to the Rehnberg model, until practically the entire labour market was covered.

The Rehnberg agreement, aided by the deep recession, was instrumental in breaking the high rate of wage increases. Not the least of its achievements was to clear agreements of the jungle of clauses and provisions. It was the starting point for the increasingly decentralised and individualised wage formation in the 1990s that contributed to a favourable development of real earnings.

These changes seemed to have removed many of the obstacles to economic policy and development. Maintaining the fixed exchange rate should therefore be more possible. The link with EC membership raised the issue above party politics. Public debate seemed to assume that the entire nation had rallied to support the krona.

The snag lay in the time it took to gain credibility. Inflation was already down around two per cent in 1991 but markets were not convinced that this would last: would the budget deficit be eliminated, had wage formation really changed? It had taken several years for Denmark and France to persuade markets that their exchange rates were realistic in terms of economic conditions and political drive. In Sweden, however, there were decision-makers who talked of the krona becoming a hard currency; in practice the changes had still to be confirmed by experience.

The 1991 budget and budget statement underscored the primacy of

combating inflation. Interest rates in Sweden were still much higher than abroad but were falling steeply. The Riksbank announced a peg to the ecu on 17 May. Prior to the general election in September, the social democrat government talked of an imminent turn in the business cycle. The supplementary budget bill in April noted that 'Future prospects for the Swedish economy have improved in the past six months.'

Lundgren (1998) considers that the Riksbank contributed to the currency outflow in that from June to August the interest differential with the ecu narrowed to almost zero. When the non-socialist parties won the September election, Staffan Burenstam Linder (a conservative who had been minister of trade in the previous non-socialist government) became chairman of the Riksbank's board but Bengt Dennis stayed on as governor. This was a step towards insulating the Bank from party politics.

When Finland's currency was devalued in November 1991, renewed pressure on the krona led the Riksbank to raise the interest rate in two steps, from 10.5 to 11.5 per cent on 26 November, followed by a jump to 17.5 per cent on 5 December. 'This was the first time I used the authorisation which the Riksbank's board had issued on 8 November 1990, whereby under certain circumstances the governor was entitled to set an interest rate that exceeded the interest rate scale the board had approved' (Dennis, 1998).

The rate was lowered again by degrees in the spring until the trend was broken by Denmark's rejection of the Maastricht Treaty. Financial agents were concerned about Sweden's rapidly growing budget deficit. GDP was falling and unemployment was on the way up. At the end of July the Riksbank adjusted the rate from 11.5 to 12 per cent. When the currency drain continued to grow, the rate was increased to 13 per cent on 20 August and ten days later to 16 per cent. This hike induced the government to approach the social democrat opposition, which initiated inter-bloc cooperation to uphold the fixed exchange rate.

Another Finnish devaluation on 8 September set off further speculation against the krona. Raising the overnight rate from 16 to 24 per cent was not enough. At 7 a.m. the following morning, the Riksbank's board approved Dennis' proposal that, 'instead of a marginal rate of 24 per cent, go to 75 per cent and replenish exchange reserves by borrowing 120 billion kronor abroad'.

This put an end to the moratorium on government borrowing in foreign currency. The Riksbank obtained 25 billion kronor, mostly from the BIS against gold reserves and the rest from the Danish and Norwegian central banks. At the same time the National Debt Office, which for three years had been repaying the external component of government debt, became at a stroke the largest borrower in international capital markets. In the coming year, the State of Sweden stood for a fifth of all sovereign and supranational borrowing.

Another event on 9 September was that a credit insurance company, Svenska Kredit, had suspended payments when the principal owners, the Trygg-Hansa SPP and Skandia insurance companies, refused to contribute additional capital. A couple of days later, SE-Bank informed Urban Bäckström, under-secretary at the finance ministry, that borrowing foreign currency was becoming difficult.

The Times doubted that Sweden's fixed exchange rate could be maintained: in March 1983 the Banque de France had shored up the franc with an interest rate of 1,000 per cent for a number of weeks but had finally been forced to give up; instead of signalling a strong government, ridiculously high interest rates were usually the last desperate resort of a country that is on the way to giving in to the superior power of financial markets.

A brief respite was broken by renewed speculation on 16 September when the Bundesbank governor spoke about further devaluations. Dennis proposed that the Riksbank's board should again raise the marginal rate to 75 per cent and that he could use the authorisation from November 1990 to make a further increase, if necessary. At 3.20 that afternoon, the Riksbank issued a press notice: 'The increase in the marginal interest rate to 75 per cent announced this morning by the Riksbank [...] was inadequate to halt the outflow of currency. The Riksbank has therefore decided to raise the marginal interest rate to 500 per cent.'

When sterling and the lira left the ERM that evening, 500 per cent did not suffice to check the outflow from Sweden. Riksbank staff pointed out that for someone who had borrowed kronor and exchanged them for a currency which was not devalued, a 10 per cent devaluation within twenty-four hours conferred a return of 3650 per cent.

Looking back, it seems that at this juncture Sweden, too, could have abandoned the fixed exchange rate. So what were the consequences of holding out for another two months? Many companies took the opportunity of reducing exposures in Swedish kronor; on the other hand, the high real

interest rates were a heavy strain, for smaller indebted companies as well as for the crippled financial sector. The finance ministry even engaged a head-hunter to list potential candidates for bank boards in case the state had to take over distressed banks.[41]

The struggle continued. In the morning of 17 September, finance minister Anne Wibble met the Riksbank's governor and the leading members of the board; they agreed to go up to 4,000 per cent if necessary and to find ways of protecting the financial system from the harmful consequences. The main thing was to gain time while the government and the opposition agreed on a crisis package over the weekend.

Next day, prime minister Carl Bildt phoned Dennis and invited him to a meeting of all the party leaders. Dennis stressed the importance of reducing the budget deficit; at least 3 per cent of GDP was needed, mostly in the form of spending cuts. Although the emergency package, presented on 20 September, fell short of this, next morning the Riksbank's board lowered the interest rate from 500 to 50 per cent.

The storm did not subside. Banks were having great difficulty with foreign loans; their exposures had been reduced after discussions with the Riksbank but were still very large. Although customers were required to pay more for foreign-currency loans, the cost of borrowing kronor continued to be higher. This caused problems because foreign creditors were becoming increasingly hesitant. Sweden was under pressure, the State of Sweden was cornering much of the available lending facilities and some Swedish institutions (Dennis mentions Gota Bank) were judged to be in a bad way.

Banks might have to stop lending foreign currency, which would have accentuated the unrest. A report by Riksbank managers on 24 September reveals that a small proportion of the exchange reserves was transferred to three Swedish banks, thereby securing their foreign-currency assets. Such transfers by the Riksbank peaked at 57 billion kronor (Lundgren, 1998). This was a new departure in Sweden; a similar arrangement had existed in Norway for quite some time.

The crisis had also spread to mortgage institutions. Claes Norgren, who was monitoring the bank crisis on behalf of the Riksbank, proposed that these institutions should be allowed to borrow on special terms; the Riksbank opened a credit line for 18 billion kronor, to run for four weeks at

41 Stefan Ingves, personal communication 4 April, 2007.

20 per cent; five billion was distributed in proportion to the institutions' capital, the rest according to need.

In the evening of 29 September, finance minister Wibble phoned Dennis and asked him to meet 'five party leaders', by which she meant the leaders of the four coalition parties and the social democrats. Dennis relates that 'Ingvar Carlsson had a leading role and his questions alarmed me. He asked me twice whether failure would mean we had wasted ammunition.'

Notwithstanding Carlsson's qualms, the social democrats participated in the second emergency package that was hammered out that night. Next morning the Riksbank lowered the interest rate from 50 to 24 per cent; after a currency inflow the following day, the rate was cut again on 2 October to 20 per cent. Commenting on the mood at that time, Bo Lundgren, one of the ministers involved, writes, 'We had hopes that all devaluation rumours and currency speculation could be dismissed for ever.' Further interest rate cuts followed, down to 11.5 per cent on 10 November.

The calm was short-lived. At the end of September, Thomas Franzén, Riksbank deputy governor, had been told that an investment company, Luxonen S.A., would unwind its positions in Swedish kronor as soon as the market had settled down. On 12 November, Luxonen terminated dollar and D-mark loans for 15 billion kronor, which resulted in a large currency outflow. On the same day the National Debt Office was unable to place the whole of the treasury bill issue. Next day the currency outflow reached 32 billion kronor. In an interview on Sunday 15 November, Ingvar Carlsson said there would be no more agreements with the government. The outflow continued on Monday.

At a board meeting on Tuesday, Dennis raised the question of a peg to the German mark; Sweden's currency would then be less vulnerable to turbulence and a lower exchange risk would make the krona more attractive. Staffan Burenstam Linder asked whether the Riksbank's exchange market operations jeopardised the Bank's own financial position. Meanwhile, the government was engaged in new talks with the social democrats; the finance minister thought there was a fifty-fifty chance of an agreement by 4 o'clock next afternoon.

When the Riksbank's board assembled at 1.30 p.m. on Wednesday, officials had prepared a detailed memorandum about the Bank's currency exposures. According to Dennis (1998):

Dagens Nyheter's street poster on 10 September 1992: 'Dennis' interest rate war – but who is fighting whom?'

Dagens Nyheter's street poster on 17 September 1992: '500% per cent interest rate. Panic and speculation in a Swedish devaluation.'

> The memorandum's conclusion in this respect was that even if the Riksbank's net position were to become sizeably negative, the Bank's robust overall position would not be undermined. The balance sheet was very strong. The balancing account and the Bank's capital, together about 60 billion kronor, were intended for situations of the kind that had now arisen.

Judging from Dennis' account, chairman Burenstam Linder was still uneasy. Some hours after the meeting, he and Johan Gernandt, likewise appointed by the conservatives, both phoned Dennis to say they thought the cost of upholding the fixed exchange rate could be excessive. Dennis asks whether the chairman was looking for 'a technical economic peg, such as the size of the forward position,' on which to hang a decision to let the krona float. An alternative interpretation is that their qualms resembled those Ingvar Carlsson had expressed earlier: if Sweden continued to resist market forces, what were the chances of success?

On Thursday the Riksbank intervened in the market for a total of 36 billion kronor, most of it in the afternoon. A meeting of social democrat members of the Riksdag was held in the evening; the mood seems to have been negative. *Dagens Nyheter* disclosed six months later that between 9 and 10 p.m. LO chairman Stig Malm had phoned his financial manager and instructed him to obtain forward cover for two large foreign-currency loans[42] (Lundgren, 1998). Next morning Anne Wibble phoned Dennis just before 6.30 to say that no agreement had yet been reached with the social democrats. The party's executive committee was due to meet at 10, after which its Riksdag group would meet, but when that would be had not been decided.

Even so, early next morning a press notice spelled out what the government was prepared to do. In order to restore competitiveness, employer contributions would be reduced by 7 percentage points as of April 1993; to avoid adding to the budget deficit, this would be financed in 1993 and 1994 by lowering the national supplementary pension contribution, which was an off-budget item. The social democrats had been informed and the government was prepared to consider other forms of finance. Moreover, government borrowing in foreign currency would be resumed in consultation with the Riksbank. The earlier decision to refrain from external borrowing had been a signal that the government was not shirking the consequences of a budget deficit; with the exchange-rate turbulence, however, foreign-currency loans would reduce the cost of servicing the deficit and underscore the government's stake in a fixed exchange rate – devaluing the krona would make the debt burden considerably heavier.

42 Forward cover involves paying a fee so that a loan can be redeemed on a fixed date at a given exchange rate even if the rate has changed in the meanwhile.

The Riksbank's board assembled and Dennis proposed raising the interest rate to 20 per cent; the news reached the market just before it opened. According to Dennis (1998):

> The exchanges between Burenstam Linder and [Allan] Larsson [the leading social democrat on the board] made it crystal clear that the issue was no longer the defence of the fixed exchange rate but who would be caught with Old Maid when the rate was abandoned. The social democrats were out to gain time, to avoid replying to the government until the reactions of the market and the Riksbank could be assessed.

After only two hours of trading the Riksbank had already been obliged to intervene for 17.5 billion kronor. That was the last straw for Dennis: 'At 10.42 I told the members I no longer considered it meaningful to support the exchange rate and the Riksbank should switch to a flexible exchange rate.'

The Riksbank Act required prior consultation with the government. As prime minister Carl Bildt and finance minister Anne Wibble were busy defending the fixed exchange rate in a televised press conference, consultation had to wait for an hour or so.

While the press conference was in progress, the Riksbank's board held an informal discussion about the tolerable size of that day's currency outflow; the chairman got the other members to agree to a limit of 25 billion kronor. Three years later, in an interview about what had happened (*Dagens Nyheter* 4 November, 1996), Dennis remarked that 'there are those who need a red light – here but no further – however irrational its position may be'. It was already clear to him that the game was up.

After a meeting with the Riksdag group that lasted an hour or so, just before 1 o'clock Ingvar Carlsson made it known that he would be getting in touch with the government to present his view of the emergency packages; he would not say whether or not he would negotiate, and promised to hold a press conference at 3 p.m.

At 2 o'clock the Riksbank's board met again. Before proceeding to the formal decision, Dennis made a final call to the prime minister and the foreign minister. The former, Carl Bildt, asked for ten minutes in which to phone some colleagues in other countries. The Riksbank's decision was published at 2.28 p.m., by which time the day's interventions totalled 26 billion kronor. The press notice ran:

> Sveriges Riksbank has decided, effective immediately, to let the krona exchange rate float. The Riksbank thus ceases to buy and sell kronor in order to defend the fixed rate relative to the ecu. The increase in the marginal interest rate to 20 per cent announced this morning is cancelled. Instead the marginal interest rate is set to 12.5 per cent.

The interest rate was crucial for the future path of what was now a flexible exchange rate. Looking back a decade later, Krister Andersson (2003), head of the Riksbank's economic department at the time, relates how the discussion went among the Bank's staff:

> Franzén assumed that the increase to 20 per cent would be withdrawn and that the rate would be set at the previous level, 11.5 per cent. I argued strongly for a rate above that, for instance 12.5 per cent, to show that we were not abandoning the goal of price stability and did not accept just any fall for the krona. Franzén jumped at the idea and thought it was the clearest way of communicating that the overriding objective had not changed, only the means for achieving it. He returned to the board to discuss the matter.

In the same context, Dennis (2003) states that '[c]riticism of the Riksbank's interest rate policy started almost immediately after the decision to float the krona and quickly became stronger'. At the press conference on 19 November he had taken exception to the Bank of England's 'very relaxed monetary policy' and he notes that when the Riksbank lowered the interest

Government representatives assembled on 18 September 1992 to negotiate a crisis package with the opposition.

L. to r.: Alf Svensson (Christian Democrat), Olof Johansson (Centre), Bengt Westerberg (Liberal), Carl Bildt (Conservative) and Anne Wibble (finance minister).

rate two months later, the exchange rate had weakened markedly and this did not stop until the Bank had given assurances that there would be no sizeable cut.

At the finance ministry there were those who thought differently. Lundgren (1998) states that during the evening of 19 November the economic department had already recommended that Sweden follow Britain's example and set the interest rate close to the German level or even lower. He also concedes that an unduly relaxed monetary policy might have led to a weaker currency and thereby to higher inflation. 'On the other hand, an unduly restrictive monetary policy could lead to such a marked economic downturn that the only cure would be a weaker exchange rate as well as higher inflation. As far as I could see, it was probably the latter explanation that held the long-term interest rates up.'

Just as when sterling had left the ERM two months earlier, when the Riksbank set the interest rate on 19 November it presumably had a range to choose from. The importance of this choice is an open question. Once the level had been decided, the rate at which it was lowered would be conditioned by economic development and reactions abroad. At the same time, the level would be a factor behind the real economy's future path.

A remarkable feature at this time was the far-reaching fiscal policy advice which was sought from the Riksbank's governor. In connection with the earlier crisis in February 1991, Dennis had presented the Riksdag speaker with a detailed memorandum on the emergency package. This dealt with questions such as which budget items to cut, which structural reforms the government should carry out and how to freeze local government taxes. When it came to the package in September 1992, Dennis gave the party leaders eight criteria; one was a numerical target for the fiscal squeeze. In the next package he questioned the proposal to lower national supplementary pension contributions 'because it was a temporary solution and not in line with a long-term policy for the pension system'. Other aspects of the package were also discussed with the finance minister.

There is no record of any other Riksbank governor so frequently airing such detailed opinions about fiscal policy. Lundgren (1998) questions the weight Dennis attached to the budget deficit during the defence of the krona (Lundgren considers it impeded tax cuts that could have stimulated the economy) as well as afterwards (he believes the interest rate was not lowered to match budget consolidation).

Attempts have been made to estimate what the crises cost. Dennis (1998) puts the state's direct costs for defending the krona at 14 billion kronor (8 billion via the Riksbank, 6 billion via the National Debt Office).

Estimating the socioeconomic costs is harder. The bank crisis strained the financial system; many people permanently lost their footing in the labour market, with far-reaching consequences for social-security funding; the high real interest rate destroyed many small companies; and the spending cuts presumably tended to weaken demand. The Riksbank tried to mitigate some effects by transferring a part of the exchange reserves to banks and arranging credit on special terms for house mortgage institutions; this, however, posed other questions: who should be helped, who should be left to their own devices and what were the consequences of this?

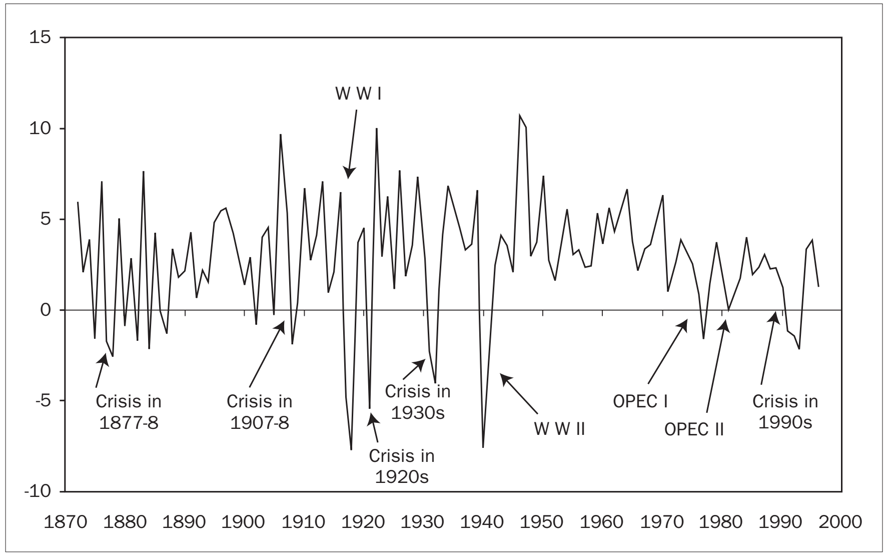
In a comparison of crises in the Swedish economy from 1878 onwards, Hagberg and Jonung (2005) conclude that in terms of real income, only the crisis in the 1930s cost more. No previous crisis hit employment so hard or for so long. The monetary squeeze has been found to explain more than half of unemployment at the end of 1994; up to a third of the effects lived on for a decade (Alexius & Holmlund, 2008).

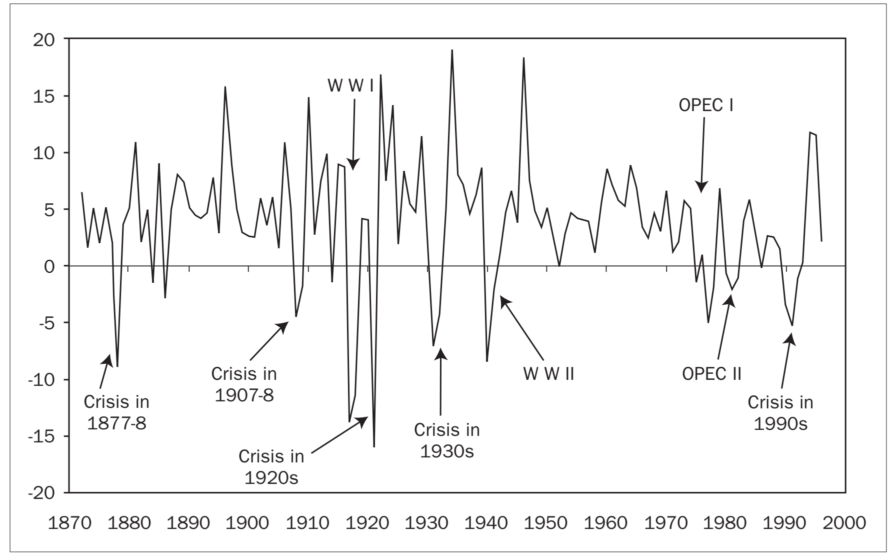
A longer perspective needs to include other consequences. Defending the exchange rate was a manifestation of the normative policy; failure was a factor that led to a different approach. Belief in a discretionary policy – the feasibility of choosing the right means for each situation, untrammelled by formal rules – gave way to an emphasis on institutional matters. This was evident in decisions about the Riksbank's status and objectives, as well as in the current statutory framework for the budget process. Dealing with the crisis paved the way for a reduction in the rate of inflation, more sober wage formation and a reorganisation of the national pension system. An overall assessment remains to be done.

TARGETING INFLATION

The next question – just as when Sweden had left the gold standard in 1931 – was: what shall we have instead? The answer was also the same: next day governor Dennis told the board:

> Monetary policy is no longer guided by the need, with a fixed exchange rate, to balance currency flows. With a flexible





Real GDP (left) and industrial output (right) 1872–1996, annual change, per cent.
From Hagberg & Jonung, *Ekonomisk debatt* 2005:8.

> exchange rate the Riksbank must watch a number of indicators and focus on price stability.

There were other similarities with 1931, when decision-makers had also had to grow accustomed to new arrangements; central banks had replenished gold reserves in preparation for a return to the gold standard. After 1992 there were many who likewise saw the flexible exchange rate as just an episode, to be replaced by some new peg and ultimately by the EU's single currency.

Still, the objective had to be defined. In keeping with Milton Friedman's thesis, the Bundesbank had been targeting the money supply for some time; an increase indicated a greater risk of inflation. Many other central banks kept a close eye on the money supply in the 1980s and a number tried to follow the Bundesbank's example.

The money supply is, however, rather hard to define and influence. It consisted originally of bank notes and coins. By the 19th century, sight deposits in banks were just as available for payments as cash. Further instruments were introduced in the 20th century, particularly after deregulation had started. Moreover, the extent of deregulation, which varied between countries, affected the possibility of influencing the money supply (Eijffinger, 2000). The British system, out of consideration for the City's role as a financial centre, placed no restrictions on banks' reserve requirements, so the money supply fluctuated more than in other countries. The Bank of England and other central banks gave up attempts to control the money supply, while the Bundesbank continued up to the end.

The Riksbank did monitor the money supply as an indicator, but never as a policy target. In the weeks after the move to a flexible exchange rate, Bank officials and other economists held discussions that resulted in a seminar on 15 December 1992. New Zealand's central bank had most experience of targeting inflation; experience elsewhere was also taken into account. In a meeting with financial analysts on 27 November, Thomas Franzén had already pointed to Canada and mentioned 2 per cent annual inflation as a reasonable approximation for price stability. Inflation in EU countries had stabilised at roughly that level.

After some weeks of discussion, on 14 January 1993 the Riksbank's board was ready to decide. The social democrats in particular were doubtful about a hard and fast percentage rate (Dennis, 2003). Would the interest rate be raised if the 1993 price increase was 6 instead of 5 per cent?

In the end, the board opted for the managers' proposal. During 1993 and 1994, monetary policy would focus on limiting inflationary impulses, after which a more permanent target would come into force: 'The Riksbank specifies the monetary policy target as being to hold the change in the consumer price index as of 1995 at 2 per cent, with a tolerance of ±1 percentage point.'

This formulation was the Riksbank's work; the government did not back the target until 1996, possibly on account of a critical attitude to the Riksbank's interest rate policy inside the government and in the government offices. However, Urban Bäckström (2003), finance ministry undersecretary at the time, and one of those who questioned the high interest rate, points out that the target was accepted in practice; the government's representatives were in a majority on the Riksbank's board and the Bank was required to consult the government on important monetary policy issues.

Targeting inflation is not a simple matter. One difficulty lies in the time it takes for an interest rate adjustment to affect economic activity; according to the Bank's annual report for 1997, 'the main effect of monetary measures on price movements normally occurs after twelve to twenty-four months'. So instead of setting the interest rate in the light of the current situation, the Bank has to guess what the state of the economy will be one year ahead or even more.

Another question is how price movements should be computed. The target became more precise; in the same report the Bank's executives explained their approach to the task:

> Monetary policy normally aims at fulfilling the 2 per cent target in twelve to twenty-four months time. There are two grounds for departing from this rule. One is that in the relevant time perspective the consumer price index may be pushed upwards or downwards by one or more factors that are not considered to affect inflation more permanently. Changes in interest expenditure, indirect taxes and subsidies are examples of such factors. The other reason is that a quick return to the target in the event of a sizeable deviation can sometimes be costly for the real economy. If either of these situations occurs, the magnitude

> of the deviation from the target, defined in terms of the CPI, that may be motivated one to two years ahead will be clarified by the Riksbank in advance.

Since the introduction of the inflation target, the Riksbank has endeavoured to add to the outside world's knowledge and understanding of the Bank's assessments. The Bank of England's first *Inflation Report* came out in 1993. On 29 October that year the Riksbank published *Inflation and inflation expectations in Sweden* as a first attempt to provide a picture of inflation's future path. This was followed by *Inflation Report*, issued four times a year with a consistent prediction of economic activity and inflation in the next twenty-four months. In 2007 the name was changed to *Monetary Policy Report*, which currently appears three times a year and reproduces the data and analyses on which the Bank's monetary policy decisions are based. In addition, the minutes of the Executive Board's monetary policy meetings are published a fortnight later to provide insight into the reasoning that preceded the decisions.

Sweden's amended constitution from the early 1970s prescribes that the Riksbank and monetary policy are to be monitored by the Riksdag's finance committee. In April 2005 the committee commissioned an independent evaluation of monetary policy in the first decade with an inflation target, 1995–2005. The report, compiled by Professors Francesco Giavazzi and Frederic Mishkin, appeared at the end of November 2006 (Giavazzi & Mishkin, 2006). The basic conclusion was favourable:

> Our evaluation of monetary policy in Sweden indicates that the Riksbank compares favourably with the best central banks in the world and that monetary performance has greatly improved from what occurred prior to the adoption of inflation targeting under an independent central bank.

However, 'in recent years the Riksbank has persistently undershot its inflation target; this has been associated with a loss in output and higher unemployment'. The authors considered '[t]here is thus room for improvement in the Riksbank's performance' and suggested, for example, that the Bank should make it clearer that asset prices (housing prices, stock prices and exchange rates) are not independent targets for monetary policy and

Urban Bäckström (b. 1954), Riksbank governor 1994–2002, was a finance ministry under-secretary during the bank crisis.

that housing costs should be excluded from calculations of inflation. Turning to practical matters, they proposed a published assessment of the interest rate's future path; the Riksbank took notice of this in the first *Monetary Policy Report* in 2007.

Another item in the evaluation was that in the event of persistent undershooting of the inflation target, the Riksbank should lean towards relaxing monetary policy, and vice versa. This amounted in practice to a recommendation to target the price level instead of inflation. In their opinion this was more predictable. If inflation had been low for a couple of years, the market could count on lower interest rates until the price level had returned to the intended path; that would 'help to stabilise employment'.

Commenting on the report, the Riksbank's executives adduced reasons why inflation had been below the Bank's predictions – in particular the unexpectedly strong increase in productivity. They also noted that targeting inflation as opposed to the price level was still an open question in research but was followed closely by the Riksbank.[43] The statement was supported in the General Council's submission.

Many countries successfully broke the high rate of inflation in the course of the 1980s. Sweden was one of the last to achieve this, which helps explain why the crisis in the early 1990s was more painful than elsewhere.

PAYMENT SYSTEM STABILITY

Besides being accountable for maintaining the value of money, the Riksbank is required to promote a safe and efficient payment system. These two tasks are strongly interdependent; in the past, fiscal crises and monetary unrest have often triggered or reinforced each other. The difficulty lies in striking a balance between controls and freedom with responsibility. Controls are needed to protect the payment system and society in general from the effects of financial crises but the safety-net must not tempt institutions to take risks which others have to pay for.

The bank crisis in the early 1990s caught the Riksbank unawares.

43 The question was aired at the Riksbank seminar in 2000 on future challenges to central banks; the opening speakers who addressed it were generally sceptical about price-level targeting (Santomero et al., 2000).

Summing up the Bank's work on stability, Andersson (2008) writes: 'As Norway had been afflicted before us, more effort was put into discussing why this could not happen in Sweden than into preparing ourselves for a similar situation. [...] The Riksbank, the Financial Supervisory Authority (*Finansinspektion*) and the Finance Ministry completely lacked both an analysis to understand the accumulation of risk and a preparedness for dealing with a severe shock to the financial system.'

Since then, the Riksbank has extended its analysis of payment system stability. Responsibility for this is shared with other national bodies, primarily the Financial Supervisory Authority, which supervises financial institutions individually, while the Riksbank oversees system stability. Andersson explains that because it is the banks which are of strategic importance for the payment system, the analysis concentrates on 'the major banks together with the markets and participants that are important to the banks' earnings, funding and risk management'. The primary concern is the spectrum of risks: 'credit risk, liquidity risk and strategic risk'.

The Riksbank's assessments are published twice a year in *Stability Report*, one of the first of its kind when it was launched in 1997. Andersson notes that other central banks were explicitly sceptical at first for fear that the information would cause more unrest than reassurance. Today, however, regular surveys of financial system stability are published in some fifty countries. The general view is that making it possible to judge the extent of potential problems enables markets to function more efficiently.

Crisis management at the Riksbank is predicated on having only three hours in which to decide whether emergency credit is to be provided for a distressed institution. For this, the necessary information needs to be available at short notice, which demands a good deal of the Bank's internal routines. During the market unrest in 1998, for instance, the Riksbank asked the banks about foreign-currency payments that were due in the next seven days; providing this information took one bank more than a week.

After the bank crisis in the early 1990s, the payment system was fairly stable for more than a decade. Still, the risks are evident from the turbulence which arose in 2007 in connection with the US mortgage market and developed into a global financial crisis. Sub-prime housing loans had been converted into financial instruments of such complexity that not even financial institutions were always clear about the associated risks. Financial market integration meant that the crisis in the United States soon had repercussions in Europe, where fund managers were caught with American bonds that had dropped in value.

Another cause of the interdependence is that more and more financial groups operate transnationally. In Sweden, Nordea is a Scandinavian bank, while Swedbank and SE-bank have establishments in the Baltic states. There is then the risk that financial market disturbances in one country threaten the stability of the group as a whole.

Aspects of payment system stability were the main topic in contributions to the Riksbank's international research symposium on challenges to central banks (Santomero et al., eds., 2000). A major issue was how responsibility for stability should be handled in the European Union: by a common institution and in that case within the framework of the European system of central banks, or simply by coordinating the efforts of member states (Vives, 2000). In 2007 the Riksbank's governor, Stefan Ingves, proposed a European authority for the oversight of Europe's largest transnational banks; the proper way of meeting increased financial integration was coordinated supervision, not protectionism.

THE RIKSBANK'S INDEPENDENCE

Until recent times the Riksbank was the bank of the Estates of the Realm. There was therefore a latent conflict with the power of the Crown and the government. Compromises had to be sought as a rule but at times the government and the Bank were dominated by the same group; occasionally there were open conflicts.

The bicameral parliament changed this. Power in the reformed Riksdag determined the composition of both the government and the Riksbank's governing board, so they came to have the same political colour. Stable post-war political majorities diminished the practical significance of the Riksbank's status. The crisis policy in the 1930s and new economic theories led, as in other countries, to the central bank functioning more and more as a branch of the finance ministry.

Under the Bretton Woods system, fixed exchange rates limited the discretion of central banks. Few questioned this subordination. The 1991 Riksbank inquiry (SOU 1993:20) notes that a more independent status for the Riksbank had been advocated by Professor Erik Lindahl in the mid 1950s. In his opinion, the gold standard, politicisation of the governing board and pressures that fuelled inflation had made the Bank less independent of the government; the constitutional foundation was adequate but needed to be supplemented with new rules for appointments to the board, a stronger position for the governor and a primary objective that underscored the importance of safeguarding the value of money.

Developments took an entirely different turn. In the early 1970s the Danish economic and budget minister Per Hækkerup cited Sweden's central bank as a model when he wanted 'parliament and the government to influence in full the dispositions that are agreed on [in the central bank]' (Mikkelsen, 1993). Flexible exchange rates then created a new situation. Without an anchor, monetary policy had to be reconsidered. The major issues were the direction of policy and responsibility for it.

The criticism of Keynesian policy in the 1980s raised questions about the close links between monetary policy and other aspects of economic policy. With the interest rate at their disposal, governments readily gave in to the temptation to boost employment with inflation; economic agents realised this and tried to pre-empt the expected price increases.

Some economists observed that inflation was lower in countries where the central bank had a more independent status. The usual example was the Bundesbank but the Federal Reserve System was also comparatively independent. It was this status that enabled Paul Volcker to break inflation expectations at the turn of the 1970s.

The observation was transformed into hypotheses and rules. One influential paper (Rogoff, 1985) sought to explain 'why many countries set up an independent central bank and choose its governors from conservative elements in the financial community'. The advocates of greater independence argued that placing monetary policy in the hands of an independent, prudent central bank that has price stability as its sole objective, increases the possibility of fulfilling the goal. By doing away with disturbances from inflation, that in turn creates better conditions for economic development in general. Economic policy would therefore stand to benefit from a central bank that is independent instead of subordinate.

The view was not accepted automatically. In November 1988 the British chancellor Nigel Lawson proposed making the Bank of England statutorily independent, which for prime minister Thatcher was out of the question: 'I did not believe, as Nigel argued, that it would boost the credibility of the fight against inflation [...] In fact, as I minuted, "it would be seen as an abdication by the Chancellor."' Some economists were also against. Posen (1993), for example, pointed out that the relationship could be the reverse, namely that it was countries where inflation was already low that had accepted central bank independence.

Soon, however, the 'conservative central banker' had become the monetary policy hero. The new line was enshrined in the Maastricht Treaty. To prepare for economic and monetary union, the member states undertook to give their central banks an independent status, screened from political influence and not available for government borrowing. Some countries were more expeditious than others. The Banco de España, for example, was already independent by 1994, whereas the Banque de France was admittedly given more freedom in 1993 but only 'within the framework of the government's general economic policy' and the changes which made it independent by EU criteria did not occur until 1 January 1999.

In Sweden a new Riksbank Act was approved by the Riksdag in 1987 and became effective from 1989. It made the Riksbank more independent in two respects: instead of the government's right to appoint the chairman of the governing board (a disputed issue in the reform of 1897), the seven board members appointed by parliament would now nominate the chairman from among their number; furthermore, the seven would appoint an eighth board member to be governor of the Riksbank, with a mandate of five years instead of three. Giving the board the power to appoint the chairman did not reduce the element of political influence but the longer mandate put the governor in a stronger position. Krister Wickman's involuntary departure a decade earlier had not been forgotten.

The new law did not specify an objective for the Riksbank's monetary and exchange-rate policy, though the amended Instrument of Government stated that the Bank was to be active in this respect. In the Bill, the finance minister phrased his opposition to a more precise instruction in words that witnessed to persistent confidence in a discretionary policy's superiority:

> It should clearly be up to politically responsible bodies and the Riksbank to make the choices and strike the balances which are necessary in these respects. Economic policy goals and the means that are used to fulfil them can obviously change over time. The specific provisions should therefore not include any economic policy goal. Neither does it appear meaningful to state in general terms that the Riksbank through its actions is to promote a favourable economic development. It must be regarded as self-evident that the Riksbank as an institution of the state shall have such an approach in its operations.

Sweden's application for EC membership called for greater independence; when it had been ratified, the Maastricht Treaty would apply to the Riksbank. The 1991 inquiry found that the primary aspects of independence are control of monetary policy, the operational objective, the power of appointment, accountability, the rules for government borrowing from the Riksbank, and the Bank's budget.

The inquiry's proposals were presented in 1993, but it took time to reach a political consensus. Bengt Dennis' term as governor ended in 1994 and at first the board could not agree on his successor. The social democrat representatives asked Michael Sohlman, executive director of the Nobel Foundation, whether he was interested but he withdrew when the board was not unanimous. The non-socialist majority then appointed Urban Bäckström, finance ministry under-secretary, whereupon the social democrats tabled a reservation and explained to the press that Bäckström was too 'junior' and that there were other, 'superior' candidates. They did give assurances that they would not oppose cooperation but Bäckström (2003) notes that afterwards he found 'this reservation exceedingly dreary'.

A five-party agreement on further amendments to the Riksbank Act finally emerged in 1996. The Instrument of Government would also have to be amended, so the agreement could not become effective until it had been confirmed by the Riksdag after the next general election in 1998. The election put social democrats in a tight corner – their government depended on support from the left and green parties, which had remained outside the five-party agreement; however, the social democrats made it clear that cooperation did not mean that the Riksbank's independence could be questioned (Persson, 2007). The new order was implemented as of 1999 but the amendments to the Instrument of Government were not effective until 2000.

The governing board's annual report for 1997 drew attention to the wording:

> The Riksbank, as the Swedish central bank, will still be an authority under the Riksdag. It is therefore misleading

> to say that the Riksbank is independent in the sense of being unaccountable. But the Riksbank's independence is enhanced and its responsibility for price stability is laid down in law.

Under the amended Act, the Riksbank is managed by an executive board consisting of six members appointed by the general council. These appointments are the general council's most central function; they carry the democratic mandate from the Riksdag. In 2001, when Kristina Persson was appointed, the four non-socialist members of the council tabled a reservation. The most recent appointments have been made unanimously.

The general council designates one member of the executive board to be the board's chairman and at the same time governor of the Riksbank, and at least one other member to be vice-chairman. The vice-chairman and the other four members have the status of deputy governor; the general council decides the order in which they act as the governor's alternate. Members of the executive board may not have assignments or posts that render them unsuitable; this continues to apply for a year after they leave the board. They may neither seek nor take instructions when fulfilling their monetary policy duties.

The Riksdag's influence is exercised in the first place through the general council, which monitors the work of the Bank, fills vacancies on the executive board and presents the Riksdag with proposals for the allocation of the Bank's profits. The Riksdag delegates these matters to its finance committee; the Riksbank is required to submit a written report to the committee at least twice a year, with an account of monetary policy.

When the power of the general council comes up for discussion, the question is sometimes dismissed by claiming that the most important business concerns the design of bank notes. In Sträng's day as chairman, the governing board (the general council's equivalent at that time) had to decide about a new 500 kronor note; the non-socialist members wanted to portray a king but Sträng refused. In the end the matter was referred to negotiations between Sträng and a conservative member, the former minister Ingegerd Troedsson.[44] A compromise was finally reached – the chairman was prepared to accept Karl XI, commemorated as the 'Great

44 The first woman to sit on the governing board was the liberal Cecilia Nettelbrandt, as an alternate from 1971 and a regular member from 1973.

The design of the 500-kronor banknote became a matter for negotiations between Gunnar Sträng, Riksbank board chairman and a social democrat, and Ingegerd Troedsson, who represented the conservative party on the board; 82×150 mm.

Organiser of the Nation'. That settled it; what the board had overlooked was that during the war with Denmark in the 1670s, Karl XI's troops, in what had become southern Sweden, had set fire to the parish of Örkened and killed every man between the ages of 15 and 60. The present inhabitants of Örkened therefore protested against the note; in Stockholm, newspapers made fun of their objections.

On the question of power, Dennis (1998) notes that during the defence of the fixed exchange rate the balance tipped towards the governing board, which 'as always heard proposals for policy decisions, presented by me or some Bank official, but everyone was more aware than before that the board really had the last word.'

The new Riksbank Act changed this. Today it is the executive board that is accountable for monetary policy. The chairman and vice-chairman of the general council attend board meetings, follow the discussion and are in a position to ask questions but may neither submit proposals nor vote. This does not mean that in a future crisis the general council would not be able to play a more active role in order to add legitimacy and weight.

The Maastricht Treaty stipulates that the government is no longer to have preferential treatment in financial markets. The new Act allows the Riksbank to accept deposits from the government but not to provide the government with credit or purchase its debt instruments. These provisions signify that the Riksbank is not available for government borrowing on preferential terms. The priority accorded to government bonds in the era of regulation is not possible under the new rules.[45]

The Act spells out the starting-point for the Riksbank's operations:

> The objective of the Riksbank's activities shall be to maintain price stability. The Riksbank shall also promote a safe and efficient payments system.

The Act's preliminary documents make it clear that in so far as these objectives permit, the Riksbank is also to aim for the Riksdag's other economic policy goals. The reason why such a provision was not included in the Act itself could

45 The government's grip on debt policy has in fact been strengthened in that in 1989 the National Debt Office ceased to be an agency of the Riksdag and became answerable to the government via the finance ministry.

be that it was judged to be questionable in the context of EU rules. In any event, for its part the Riksbank has declared that besides targeting inflation, it does take other matters into consideration. Consequences for the real economy apparently carry considerable weight.[46]

The five-party agreement restricted the Riksbank's sphere in one important respect. The 1974 Instrument of Government had prescribed that 'The Riksbank is the central bank of Sweden and is responsible for currency and credit policy,' which meant that the exchange-rate regime was chosen by the Bank, albeit after consultations with the government. The Riksbank inquiry was in favour of this but the five-party agreement resulted in an arrangement whereby 'the government is responsible for general currency policy issues' and 'the Riksbank is responsible for monetary policy'. This avoided a conflict between two legal domains because all agreements with foreign powers are the government's business.

EUROPEAN MONETARY UNION

The notion of a monetary union in Europe can be traced back to the time of the Marshall Plan. It was revived in connection with the Treaty of Rome in 1957 and lived on in the EEC. At the Hague summit in December 1969 the council of ministers gave the go-ahead for a committee of experts headed by Luxembourg's prime minister, Pierre Werner; the plan that bears his name was presented the following October. In March next year the Community's supreme body, the European Council, declared that the goal was to achieve an economic and monetary union in the next ten years. This objective was confirmed at the Paris summit in October 1972 but the disintegration of the Bretton Woods system put the idea on the back-burner and nothing came of it.

The decision to establish the single market revived the discussion in the mid-1980s; during the turbulence associated with German reunion, the project gained political weight. When the Bundesbank found it necessary to raise the interest rate, all the other ERM states had to follow suit; with a single currency and an interest rate set by a common central bank, other countries would have more of a say about the level of interest. Germany

46 Lars Heikensten, personal communication 26 February, 2008.

for its part feared that a union with other currencies would diminish the mark; the government made participation conditional on the member states concluding a stability pact to enhance discipline.

Many economists were highly sceptical. The issue of optimal exchange-rate areas had been raised by an American economist, Robert Mundell (1961): what characteristics should be in place for an area to have a single currency? Seen from that angle, many found it unlikely that a European monetary union would be feasible. Productivity, wage levels and rates of inflation differed so much that it would be hard to prevent a union from falling apart; the drive for harmonisation would be weak; there was no common institution with instruments that matched the forcefulness of a national fiscal policy.

However, the political will was strong. In 1992 the EC member states decided to establish a monetary union as one component of the Maastricht Treaty. The preparations got under way despite the subsequent currency unrest. A European Central Bank (ECB) would be set up and be independently accountable for the common monetary policy (the currency and the interest rate).

The purpose of the monetary union was to enhance conditions for economic growth and also strengthen political cohesion between member states. A single currency was seen as a further step towards the transformation of the European Union into a single market, with no cross-border barriers. That would facilitate trade and reduce opportunities for currency speculation.

Doubts persisted. The possibility of a monetary union that included all the member states was questioned for a long time. Just a couple of years before the changeover was finally decided, leading German officials formulated this as a paradox: a European monetary union that does not include every founding member of the EU is out of the question politically but a monetary union that includes Italy would be too hazardous economically on account of its disparities. The doubters feared that, protected by the single currency, individual member states would be tempted to be fiscally irresponsible.

In 1997 the EU's Amsterdam summit agreed the Stability and Growth Pact to allay such fears. Germany initiated a set of convergence criteria to further monetary union; they also apply to EU member states that still have their national currency. Three of the criteria are that the rate of inflation is

not to be more than two percentage points above the average rate in the countries where inflation is lowest; government debt is not to exceed 60 per cent of the country's GDP; and a deficit on the public finances is not to exceed the equivalent of three per cent of GDP. A euro state that breaches the Stability and Growth Pact is liable to financial penalties.

Sweden's participation in the monetary union was up for discussion as soon as EU membership came onto the agenda. The economic and monetary union (EMU) was introduced in three stages. The first two amounted to a preliminary approach and Sweden joined in. During the negotiations for EU membership, however, Sweden declared that the decision to proceed to the third stage, with the changeover to the euro, was ultimately a matter for the Riksdag. In 1997 the Riksdag decided that instead of proceeding to stage three when full EMU started in 1999, Sweden would wait and be prepared to participate at a later date. In December 2002 the Riksdag then decided to hold an advisory referendum on 14 September 2003.

Stage three, with the introduction of the euro, started at the beginning of 1999; the euro countries changed over to euro notes and coins as of 2002. They now have a common monetary policy under the eurosystem, with the ECB as their common central bank.

In 1994 and 1997 the Riksbank's governing board had recommended Sweden's full participation in EMU. Prior to the referendum, however, the executive board decided that the Riksbank as such would be neutral and focus on disseminating information, while members of the board were free to express personal opinions. Lars Heikensten, who had succeeded Urban Bäckström as governor in 2003, declared he was in favour of the single currency.

The Riksbank had been heavily engaged in the practical preparations for the ECB. The Bank's management had participated in the new institution's construction in the second half of the 1990s and many officials were included in the forty or so working groups that shaped the common central bank.

If a majority of the Swedish electorate was in favour, the government wanted the changeover to occur all at once at the beginning of 2006, when the euro would be adopted in Sweden both electronically and in the form of notes and coins. As that left little more than two years after the referendum, the Riksbank had to start preparing earlier. Had Sweden adopted the euro, the functions of the Riksbank would have changed; much of the

 Bank's independent work would have been taken over by the ECB in Frankfurt.

A major issue in the referendum debate was employment: how could economic policy counter acute phases of unemployment without access to a national exchange rate and interest rate? Those in favour of full membership relied on fiscal policy and the tendency for Sweden's cyclical fluctuations to be much the same as those in the euro area. Other arguments concerned higher growth, increased trade and political ties.

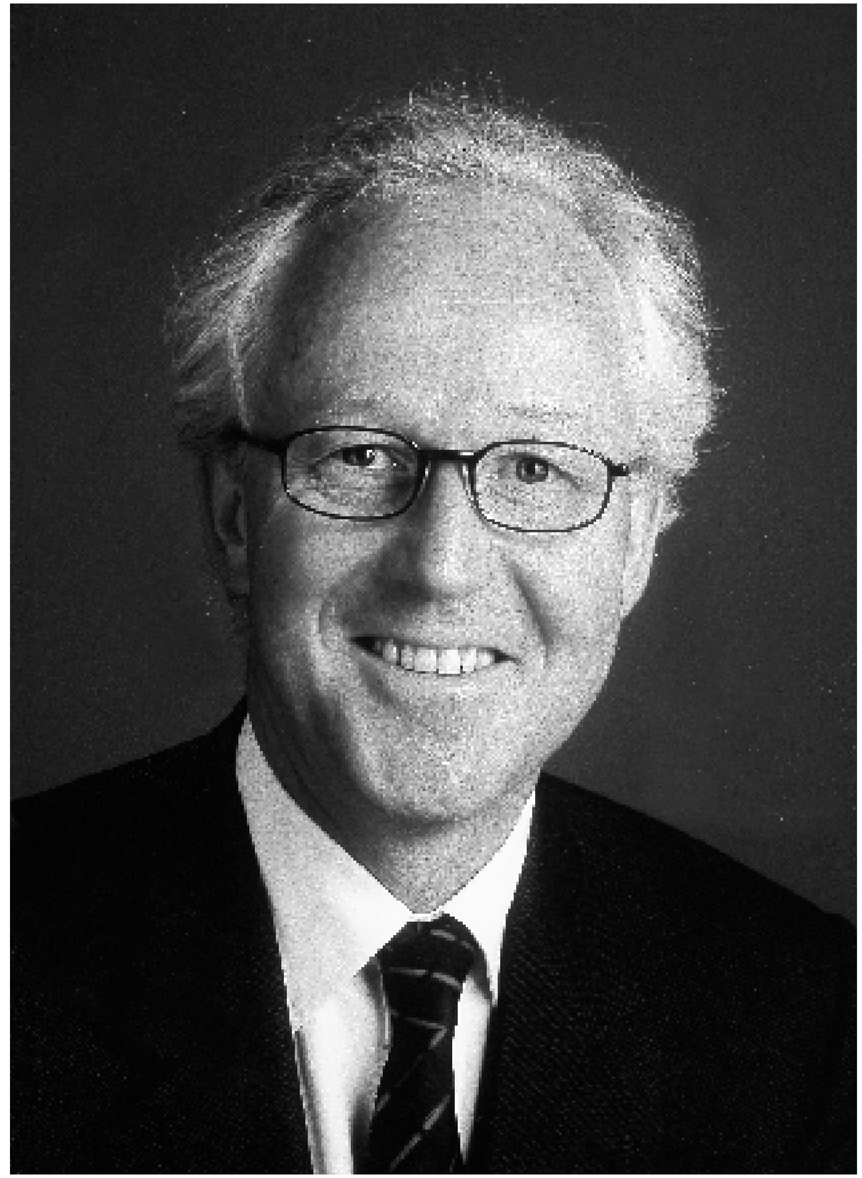
The referendum attracted a high turnout, 82.6 per cent; 55.9 per cent voted no, 42.0 per cent yes, 2.1 per cent voted blank and 0.1 per cent of the votes were invalid. Sweden remains a member of EMU but does not participate in stage three. This means that the Riksbank is included in the European System of Central Banks and its governor is a member of the ECB's General Council, which handles matters of common interest to all the member states. Sweden produces a convergence programme annually but is immune from sanctions for not fulfilling the criteria. Cooperation with the ECB continues to be important, not least as regards rules for the financial sector, but contacts are less intensive than during the preparatory work.

ANALYSIS AND EFFICIENCY

Deregulation had far-reaching consequences for the Riksbank. Many officials who had handled exchange controls and domestic regulations now had to switch to other tasks or leave the Bank. Dealings with the financial sector changed from direct intervention and heavy-handed persuasion to a more market-oriented approach. Communication was maintained with the leaders of the major banks but it changed from the acrid tone in the era of regulation.

The Bank's administration had been neglected for many years. It was not until the 1970s that an effort was made to modernise the organisation. Modern information technology accentuated the need for change at a time when the drive for greater independence raised the question of the Riksbank's essential functions. This led the Bank to dispense with peripheral activities and staff.

One of the most labour-intensive functions was that of supplying the banking system with notes and coins; this had become the primary task of



Lars Heikensten (b. 1950), Riksbank governor 2003–05, had primary responsibility for the Bank's monetary policy from 1995.

 the Bank's provincial offices. The handling of notes was rationalised, so more and more of these offices were closed; none remain today. The Riksbank is still responsible 'for the provision of Sweden's banknotes and coins'. It has two centres (in Tumba outside Stockholm and Mölndal outside Göteborg) for dealing with cash but the practical arrangements are now largely in the hands of banks and private companies.

The Swedish Mint was transferred to the Riksbank in 1986 and incorporated in Tumba Bruk, thereby making the Bank responsible for both the production and the distribution of notes and coins. However, banknote printing had become less and less profitable; keeping up with technical developments was increasingly difficult, not least as regards banknote security. The Riksbank began to consider either closure or continued operation under another management. In 2002 the Bank initiated the sale of Tumba Bruk to the American company Crane & Co, the leading manufacturers of dollar notes; the deal was completed two years later. After more than a thousand years, minting coins of the realm ceased to be a regal right, though the Riksbank still has the right to issue notes and coins. Performance is contracted out; as of 2008, Swedish coins are minted in Finland.

When the supply of notes and coins was transferred to a subsidiary, the Riksbank also ceased to be involved in the National Debt Office's premium bonds; the cash-desks at the head office in Stockholm were closed.

Rationalisation came to a head in 2003–5, when the number of employees at the Riksbank and its subsidiaries was cut from approximately 1,300 to little more than 400. Today the Riksbank is one of the world's smallest central banks in relation to its responsibilities and the country's size. In 2007 there were 390 employees; their work includes analysing and monitoring developments connected with monetary policy and the payment system, managing the Bank's assets (including the exchange reserves), supervising the supply of notes and coins, and handling the Bank's RIX system for clearing and settlement, the hub of Sweden's payment system.

Since the mid 1990s the Riksbank has systematically recruited a growing number of officials with a background in research. The element of academic competence is also high at managerial level. Besides building up a research division, the Bank has strengthened its analytical capacity in other ways. The results of the analyses are now published to a much greater extent than before, not least in the periodical *Economic Review*. The Bank's assessments are therefore accessible for scrutiny and criticism in ways that are new.

Stefan Ingves (b. 1953), appointed Riksbank governor in 2005, was director-general of the Bank Support Authority during the bank crisis in the early 1990s.

The executive board that was appointed when the new Riksbank Act became effective as of 1999 included the first women at this level, Eva Srejber and Kerstin Hessius. When Lars Heikensten succeeded Urban Bäckström as governor in 2002, Eva Srejber was appointed first deputy governor. On her departure in 2007, this post went to Irma Rosenberg, who had been on the board since 2003.

AFTER THE EARLY 1990S CRISIS

Apart from some sharp shocks, the second half of the 1990s was rather calm in the world's financial markets, though later, in 2007–8, the global economy was again subject to very severe strains.

Early in July 1997, Thailand's currency fell by a quarter of its value against the dollar; the crisis then spread to Hong Kong, Malaysia and the Philippines. Next year one of the US market's large hedge funds (Long-Term Capital Management) had to be rescued and Russia carried out a marked devaluation of the rouble. In 2000–1 the dotcom bubble burst and stock markets fell worldwide. However, the financial system absorbed these blows comparatively successfully. During a long period of substantial economic growth in many countries, international inflation remained low.

In connection with the terrorist attacks on the World Trade Center and the Pentagon on 11 September 2001, the Riksbank along with other central banks took measures to secure the financial system's access to liquidity. The Federal Reserve concluded an agreement with the European Central Bank to make dollars available to banks in the euro area. The Riksbank decided to provide up to one billion dollars for Swedish banks. After a time, the situation in the US overnight market became more normal and Swedish banks did not need to use the dollar facility.

The Riksbank analysed the attacks' possible effects on economic development and inflation in Sweden. On 17 September, less than a week after the attacks, the Riksbank and other central banks lowered their monetary policy rates. The executive board feared that a future loss of both business and household confidence might lead to a deeper and more prolonged slowdown; this pointed to inflation being below the 2 per cent target in two years time. The attacks on 11 September show that crises are liable to activate responsibility for payment system performance as well as for monetary policy.

The period of stability is also evident in Sweden. Financial crises in the past decade did not affect Sweden to the same extent as previously (Eklund, 2007):

> Investors had regarded Sweden as uncertain, so currency flows had proved contagious. This time, however, the international disorder did not spread to Sweden, where interest rates remained low. To international markets, low inflation and a balanced budget represented credibility [...]
>
> The currency is indeed still volatile – as is customary with a flexible exchange rate – but the inflationary impulses that a weakening generates via import prices seem to be smaller than before. One explanation is that, thanks to the Riksbank's more independent status, the inflation target is credible, so companies focus on containing costs even when these rise for imports. In other words, just the fact that expectations of inflation in the longer run have become more stable means that the pass-through from price impulses associated with a flexible exchange rate is smaller than before.

With the move to a flexible exchange rate, the perspective of monetary policy changed dramatically. Competitiveness had been the dominant consideration since at least the 1930s, with the exchange rate as the most effective instrument. The government undertook to regulate price conditions in Sweden relative to the outside world. Wage formation started from the fixed exchange rate and because the rate was fixed, the wage leader should be export industries.

With a flexible exchange rate, the focus switched to domestic prices, with the interest rate as the central regulator. The link to the exchange rate still exists – a slack economy leads to a lower interest rate that pushes the exchange rate down and that strengthens competitiveness – but it is indirect, weaker and subject to counter-forces. The government has more or less abdicated from influencing competitiveness at all directly and at times the exchange rate has been sidelined in the political debate.

The conditions for wage bargaining have changed as well. The wage-leading role of the trading sector is no longer taken for granted. Large wage increases for export producers might be neutralised via the flexible exchange rate. While that can affect inflation indirectly, in that depreciation tends to result in higher import prices, the tradeables sector is less important for monetary policy than it was when the exchange rate was fixed. Wage increases in the domestic sector can be more of a problem if they jeopardise the inflation target so that monetary policy has to be tightened.

The primary condition for confidence in the krona can be said to have been the stabilisation of fiscal policy. Furthermore, wage costs stayed more in line with the outside world, partly as a result of more decentralised and individualised wage determination. The Riksbank also contributed; it sent a clear signal in the run-up to the 1998 round of wage negotiations. Lars Heikensten, deputy governor at the time, recalls, 'We raised [the policy rate] in the autumn of 1997, which was clearly warranted by our contemporary assessments of inflation. [...] The exact timing was somewhat influenced, at least for me, by the wage negotiations, as I believe I have said publicly in other contexts. We also devoted a good deal of pedagogic effort to it all.'[47] In the following years the social partners were well aware that inflationary wage increases would trigger higher interest rates. This helped moderate wage demands, while low inflation gave the largest real wage increases since the 1960s.

In the past, lengthy periods of economic and financial calm have ended in severe crises. William R White, economic adviser to the BIS, a former deputy governor of Canada's central bank and one of those who contributed to the construction of Sweden's inflation target, issued a warning in 2006 that the low rate of inflation is reminiscent of the decades before the First World War. In both cases, prices were held down by new technology, capital flows and free trade, while growth was strong at times and asset prices rose. White considers that central banks need to pay more attention to long-term trends, including the risk of financial imbalances when low interest rates contribute to rising asset prices (White, 2006). A similar theme was included in first deputy governor Eva Srejber's address on 28 June 2006:

> The problem for those of us responsible for monetary policy
> is that inflation – measured as consumer prices – has often
> remained relatively unaffected during these periods.
> It is difficult to distinguish bubbles from economically-motivated
> fluctuations in advance, which partly is because we have
> insufficient experience of credit and asset price cycles
> in deregulated financial markets. Many of the countries
> that were hit by depression and banking crises during the 1930s
> had beforehand witnessed steep rises in asset prices
> and a sharp credit expansion without any appreciable increase
> in inflation. We have seen a similar development in Japan
> in the late 1980s. Also during the latter part of the 1990s
> we have seen examples of crises with a similar course of events,
> for example in Thailand and other parts of Asia.

47 Lars Heikensten, personal communication 25 September, 2007.