Monetary policy in Denmark since 1992

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Background

As a point of departure it is worthwhile to put the environment for Danish monetary policy into a slightly longer perspective than indicated by the title.

In the 1970s and into the 1980s economic performance was clearly unsatisfactory. Unemployment was increasing rapidly, in particular if one abstracts from an early retirement scheme introduced in 1979, government deficits were approaching 10% of GDP, the current account of the balance of payments showed a chronical deficit of between 2 and 5% of GDP, inflation was running at double digit numbers, and living standards were rapidly deteriorating compared to most of our neighbours.

In retrospect, economic policy in those years was dominated by short-termism. Wages were set by agreement between the partners in the labour market in an environment of wage indexation. In principle, a fixed exchange rate policy was pursued, although the krone occasionally, in periods even frequently, was devaluated against the Deutsche mark in the snake and from 1979 onwards in the ERM. Keeping a high level of employment was considered a government responsibility respecting the fixed-exchange-rate and wage-setting behaviour. In practice this led to a growing share of the public sector in the economy, with taxes lagging somewhat behind expenditure. Government debt increased rapidly and interest payments even faster due to higher nominal as well as real interest rates. The increases in interest rates went well beyond the international trend of the period (Charts 1–4).

In 1982, a rather radical change in policies took place after a shift in government. It deserves to be mentioned that some of the initiatives in the preceding years pointed in the same direction, but were offset by other measures, thus leading to the aforementioned poor overall economic performance. It should also be mentioned that most parties in Parliament had government responsibilities before 1982.

Chart 1
Inflation rate
Percentage change in consumer prices

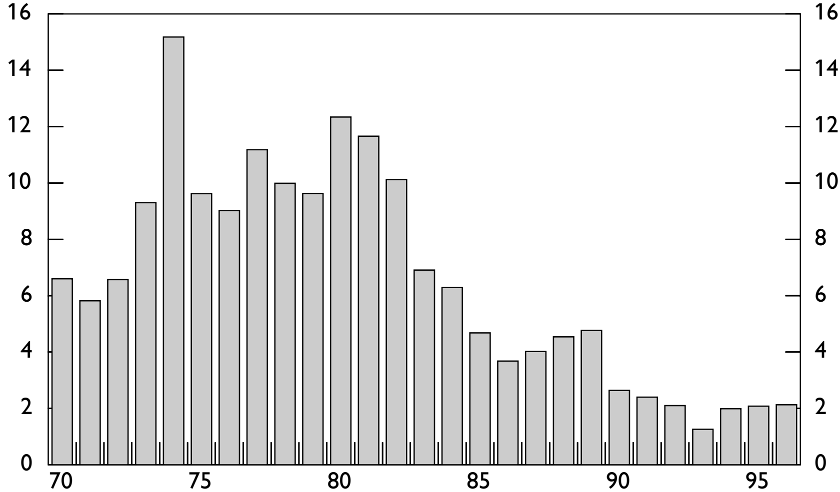


Chart 2
Current account
As a percentage of GDP

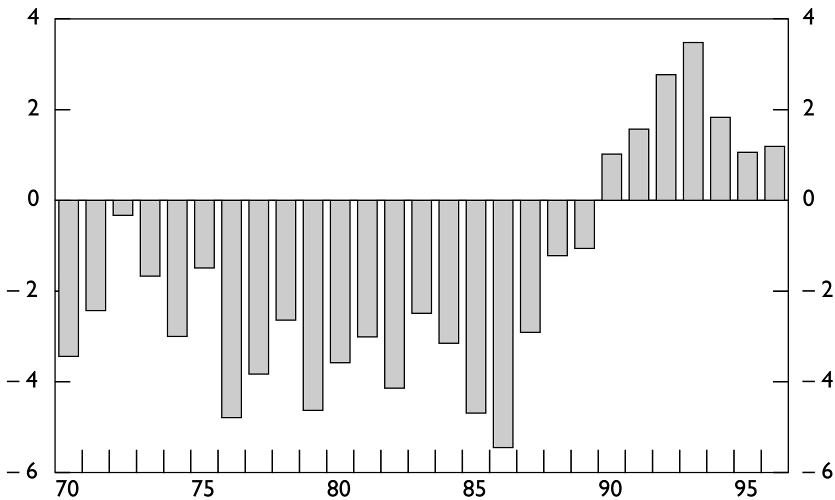


Chart 3
General government fiscal balance
As a percentage of GDP

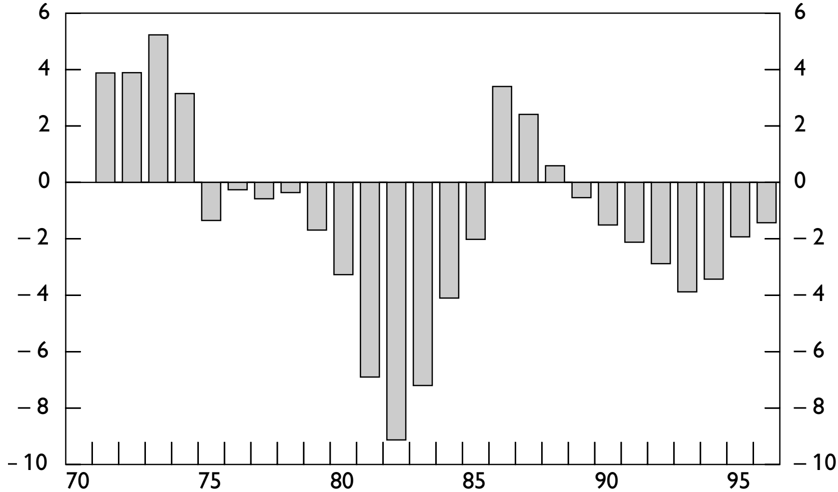
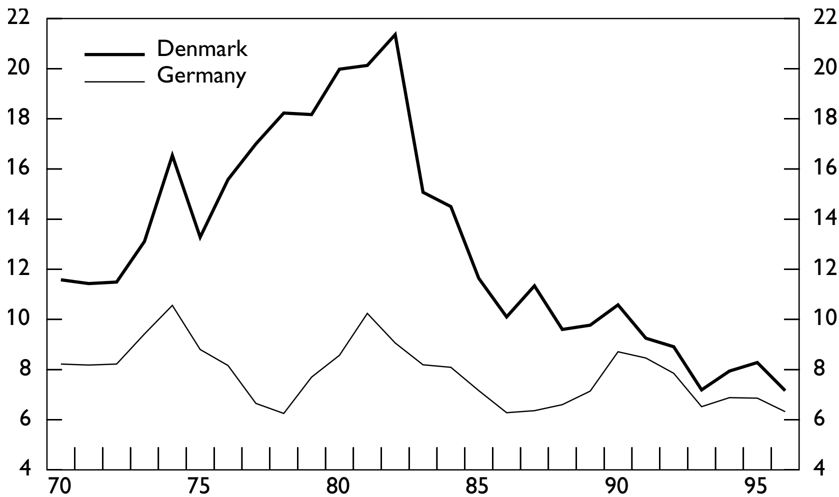


Chart 4
Long-term interest rates
In per cent



The measures taken in the fall of 1982 can be seen as falling in three broad categories:

- a commitment to a fixed exchange rate policy
- a law against wage indexation
- a significant tightening of fiscal policy.

Following the measures, long-term interest rates – dominating in Danish financial structures – fell rapidly as did inflation, leading to a sharp pick-up in domestic demand, declining unemployment, improving government finances, and an even bigger deficit on the current account than before.

It might deserve mentioning that the declared exchange-rate policy came to an immediate test as Sweden, our second most important trading partner, devalued its currency with as much as 16% within days after the Danish announcement. The Danish government stuck to its target and did not devalue the krone and, combined with the other measures, credibility increased rapidly. As witnessed by the comparative developments in GDP per capita (PPP) in Denmark and Sweden in the following years (and basically by any statistics) the decision made by the Danish authorities seems to have been wise. It should be underlined as well, that the strong activity in the mid-80s needs to be seen against a depressed point of departure and all the policy measures mentioned. In the academic literature there seems to be a tendency to attribute the decline in interest rates and thus the expansion of private demand to the fiscal discipline alone. The Danish experience has been seen as a documentation of the possibility that a fiscal tightening can prove to be expansionary even in the short run. However, the exchange rate policy and the wage policy are at least of equal importance for the increased confidence. Besides, fiscal tightening was to a certain extent "hot air" as a tax on the interest income of pension-funds was a big revenue maker that did not have any immediate impact on consumers' disposable income after payments to pension schemes. However, from a structural point of view, the tax on pension funds was important since it seems to have raised total savings of households that cared about their future living standards as the previous "free lunch" was removed.

The rapid deterioration of the current account forced the government to introduce additional fiscal measures and in late 1986 the housing market and private consumption started to decline. The structural factor seems to have been a tax reform starting in 1987 lowering the tax on capital income – positive or negative – and thus the value of the full deductibility of interest payments, but temporary measures were taken into use as well.

The following years saw stagnant or declining domestic demand but, in technical terms, a recession did not take place due to a rather strong export performance. The current account turned into surplus after more than 25 consecutive years with deficits, the government deficit increased somewhat while unemployment reached unprecedented levels. The losses in the financial sector were significant, but manageable compared to those of the other Nordic countries and Danish financial institutions were well capitalised at the outset.

Development in the 1990s

(i) What were the principal forces behind developments in demand components, aggregate output and employment, and what was the role of macroeconomic policies in this respect? Is there any evidence of changes in the behaviour of households and firms? To what extent did financial institutions and developments in financial markets and asset prices affect overall demand?

Developments in early 1992 were dominated by domestic demand being stagnant for the sixth year in a row while export performance was rather healthy due to German unification and a good level of competitiveness. The impact of the tax reform of 1987 became increasingly visible, in particular in the housing market. In nominal terms housing prices in early 1992 were almost 20% below the peak in late 1986.

The impact of the depressed housing market was an increase in the household savings ratio as productivity, real wages and real disposable income increased steadily at a pace of around 2% per annum. It is a matter of definition whether this points to a change in savings behaviour as policies have changed the incentives.

In late 1992, Parliament passed a relatively expansionary fiscal bill for 1993 and in early 1993 a major change in government took place due to factors totally outside economics. The incoming government accepted the broad outline of the policy in the previous decade (in particular the exchange rate policy) but wanted to kick-start the economy via a temporarily more expansionary fiscal policy and used an additional tax reform as the main vehicle for this purpose. Marginal tax rates were lowered, including the tax rate on capital income, the tax base was broadened, in particular via new pay-roll taxes, and environmental taxes were increased. The temporary nature of the stimulus was underlined by a timetable for future tightening, although only partially specified in detail.

Furthermore, there was a so-called conversion wave in Denmark from the summer of 1993 into early 1994 leading to lower interest payments for many households due to the decline in the international level of interest rates. During the conversion wave mortgage credit loans for DKr 300 billion were converted. The conversions as such did not lead to a credit expansion but stimulated borrowing from the mortgage credit institutions, particularly non-business lending. The development was supported by the liberalisation of lending regulations and the amendment of the taxation regulations for loans financed by issuing mortgage credit bonds below par in the summer of 1993. The drop in interest rates meant that new mortgage credit loans carried lower interest rate burdens than the old ones. Thereby the conversion wave generally raised households disposable income at the expense of the large institutional investors that were the primary holders of the bonds. Besides, the decline in interest rates led to higher house prices and thus increased household wealth. This contributed significantly to the upswing.

Broadly speaking, things turned out well (Charts 5–8). Domestic demand started to pick up, the current account deteriorated, but remained in surplus, the government deficit started to increase but only temporarily and in 1996 Denmark became the third EU country not having an excessive budget deficit. Unemployment declined rapidly, although to a large extent due to measures reducing the labour force (leave schemes, early-retirement schemes). However, employment outside the government sector also increased. By now, Danish unemployment is among the lowest in Europe, in particular if the harmonised Eurostat definitions are used (6% in 1996 against 10% in Sweden and 15.7% in Finland), and youth unemployment has basically disappeared, in sharp contrast to most other EU member states. The measures used against youth unemployment are difficult to fit into textbook presentations of macroeconomic policies. However, the main content is that for persons below the age of 26 it is impossible to receive unemployment benefits or welfare payments for more than a short period. If unemployed in that age group cannot find a job themselves they are obliged either to accept a job that shall be offered by the municipalities or to start an education.

House prices started to pick-up in 1993, in retrospect at a 10% per annum rate and thus at a rate way beyond the general level of inflation. The pick-up in house prices came about primarily because of the upswing and the general drop in long term interest rates, which also brought along the conversions wave. Recently this has led to much higher residential construction and a fear of overheating in the construction sector. Since 1993 the stock market has been strong, abstracting from developments in 1994.

The breakdown of the narrow band in the ERM in 1993 and the preceding story of the ERM also influenced developments, maybe less in Denmark than in most other European countries. Looking at the level of business investment in Europe compared to GDP it seems justified to blame investment for the slowdown in 1995, as it did not reach normal levels relatively to GDP, and next to blame the unstable exchange-rate environment for the low levels of investment. In theory, unstable exchange rates increase uncertainty and thereby decrease the level of investment. In practice, the level of business investment in Europe has been low in recent years, in particular in countries with strongly depreciated currencies, such as Italy and Sweden. In practice, it seems to have been the case that in appreciating countries enterprises have reacted to the deteriorating competitiveness by lowering investment while enterprises in the depreciating countries have taken a wait-and-see attitude as they were uncertain as to whether the improved competitiveness was of a permanent nature or not. The importance of a nominal stable environment for the level of business investment rarely enters analysis of potential benefits from the single European currency even if the benefits go far beyond the lower costs of handling several currencies.

(ii) What were the major sources (external as well as internal) of price and wage inflation (or disinflation)? Did policies or changes in policy targets influence expectations of inflation?

Since 1992, Danish inflation has been stable around a level below 2% per annum. CPI inflation bottomed out at 1.3% in 1993 but increases since then have only been minor (2.1% inflation in both 1995 and 1996). Incidentally, inflation has consistently turned out to be lower than expected

Chart 5

GDP

1980 = 100

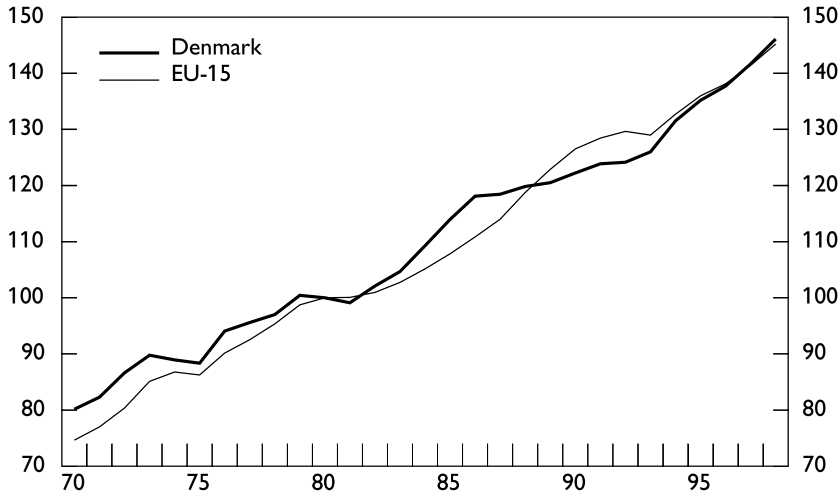


Chart 6

Total employment

As a percentage of the 15 to 64-year-old population

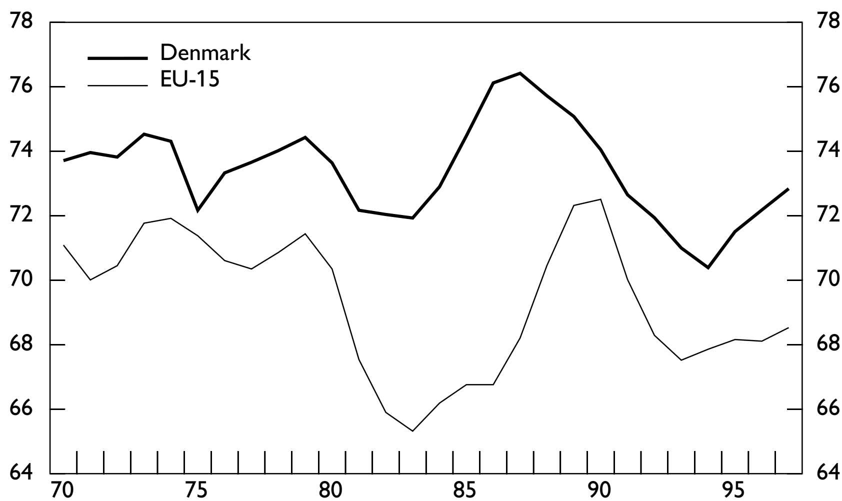


Chart 7
Unemployment rate
As a percentage of the labour force

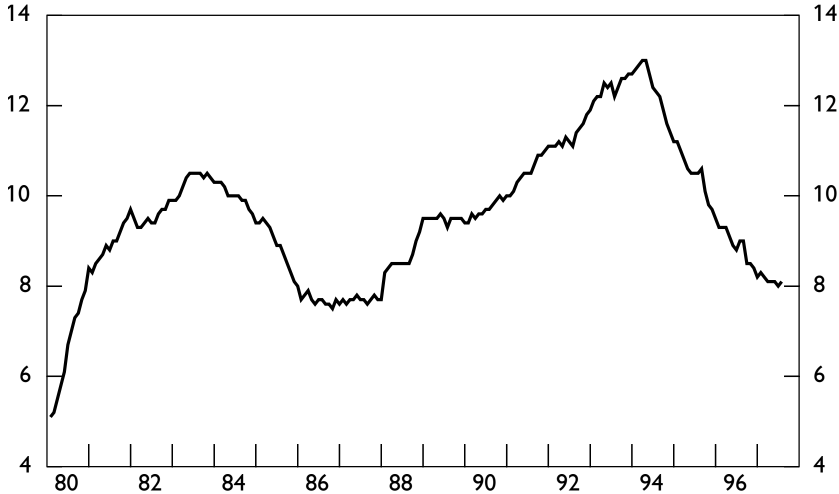
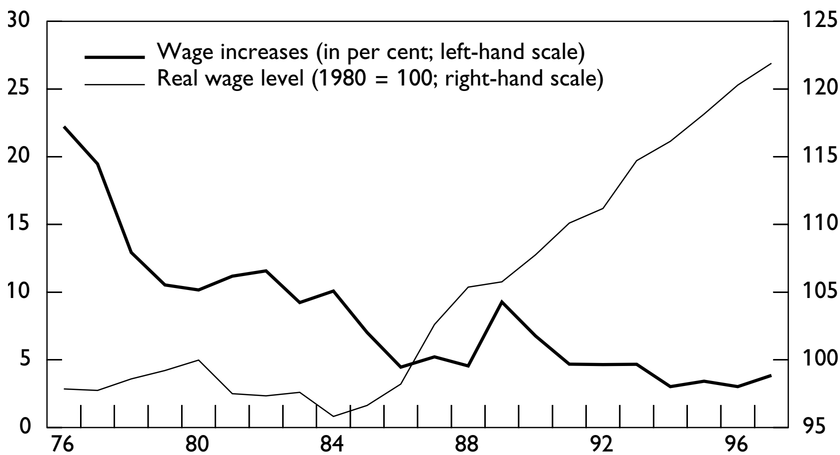


Chart 8
Nominal wage increases and the level of real wages



Note: Nominal wage increases are lagged two years.

by the majority of forecasters. This will be the case also in 1997 when CPI inflation will be of same magnitude as in the previous years.

The transition to a seemingly stable low inflation environment can to some extent be attributed to the exchange rate policy since 1982 – with unchanged parities against the strongest currencies in the ERM since early 1987. The exchange rate policy gives the partners in the labour market a stable nominal environment for their negotiations which, to a greater extent than before, are carried out at the plant level. Taking the rapidly declining – and by now low – unemployment into consideration it is obvious, however, that other elements have also played a role. Among economic policy measures, a band between an increased emphasis on preventing bottlenecks via education and the impact of the tax reforms seems to be of importance. From an econometric point of view no structural breaks in wage formation have been detected yet.

In the period under review, households' inflation expectations have been roughly unchanged. However, an attempt to quantify expectations points to expectations of inflation being consistently slightly higher than the outcome – as have been the case with almost all forecasts.

(iii) What were the major considerations in the formulation and implementation of monetary policy and were there particular constraints? Were there changes in operating procedures and, if so, to what extent were they induced by changes in the objectives of monetary policy (both final and intermediate) and by developments in financial markets and institutions ?

The central framework for the conduct of monetary policy in Denmark is the membership of the ERM and the government's commitment to exchange rate stability. Since 1982, the government has not used exchange rate adjustments in the ERM as a policy option. The exchange rate policy has gradually been defined as stability against other core currencies.

Before the widening of the band in the ERM in August 1993 the monetary policy objective was simply to keep the krone within the narrow band. The existence of the narrow band in reality made announcement of a more specific strategy superfluous. After the widening of the bands there was a need for clarification of the Danish exchange rate policy in the new environment. Reasons for changing the central parities against the core currencies were not seen, but for a period it had to be accepted that exchange rates would fluctuate more than before. Summing up, the strategy of monetary policy as such was not changed, while measures had to adapt to the new situation.[1]

Accordingly, the unhappy decision to widen the fluctuation bands in 1993 to some extent required changes in policy reactions. Prior to August 1993 a movement close to intervention limits would normally trigger a stabilising speculation by the private sector but, in itself, did not trigger any response from the Nationalbank. Only if the krone came very close to the intervention margin were changes in official rates considered but official rates could, of course, also be changed for other reasons than exchange rate movements. Moreover, intramarginal interventions were not seen as part of the tool set. Radical measures had to be taken during the repeated speculative attacks before the breakdown and official rates were promptly raised significantly. When things calmed down short-term interest rates were normally lowered slowly and stepwise.

Since August 1993 it has become even more important to keep the exchange rate stable, because the Nationalbank now stands alone in the defence of the krone. However, it has been chosen not to announce or demonstrate the quite narrow bands in which the krone can vary (against the Deutsche mark) since this would imply a willingness to defend the announced limits "at all costs". The choice might best be described as a policy of "revealed preferences". The policy implicitly defines an exchange rate policy or strategy of maintaining a value of the krone close to the central parity against the core countries of the ERM and a policy of not changing the parities. This is not because the central parities are viewed as equilibrium rates per se but the central parities are the only reasonable and probably also the only credible benchmark values in the system with a ±15% fluctuation margin. In practice, the Deutsche mark, as the undisputed anchor of the ERM, is the most important benchmark to measure the exchange rate stability against. Germany is also Denmark's largest trading partner.

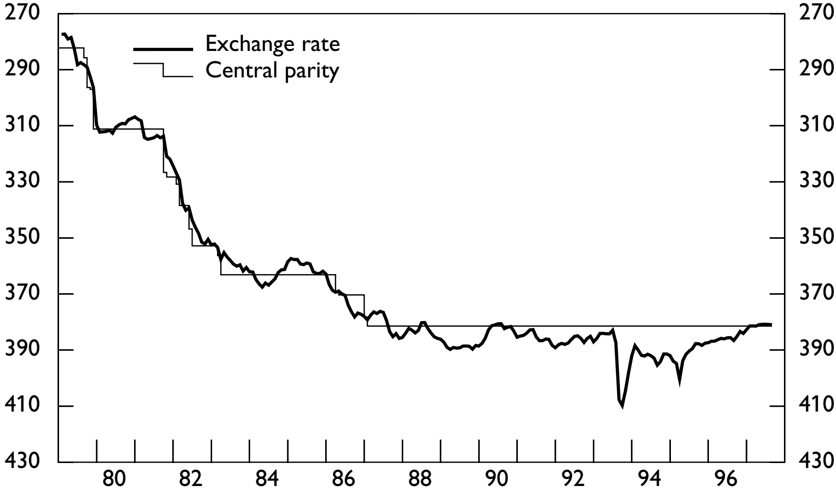
The breakdown of ERM did not change the hard currency option; but, at first, there was uncertainty about the proper way to react in the new environment. The problem was not the economic fundamentals but the new situation: The Nationalbank stood alone in the defence of the krone in an environment where speculative attacks were highly probable. In the

[1] See the statements from the Danish Prime Minister and the Nationalbank, reproduced in the Annex at the end of this paper.

Chart 9

Krone exchange rate vis-à-vis the Deutsche mark

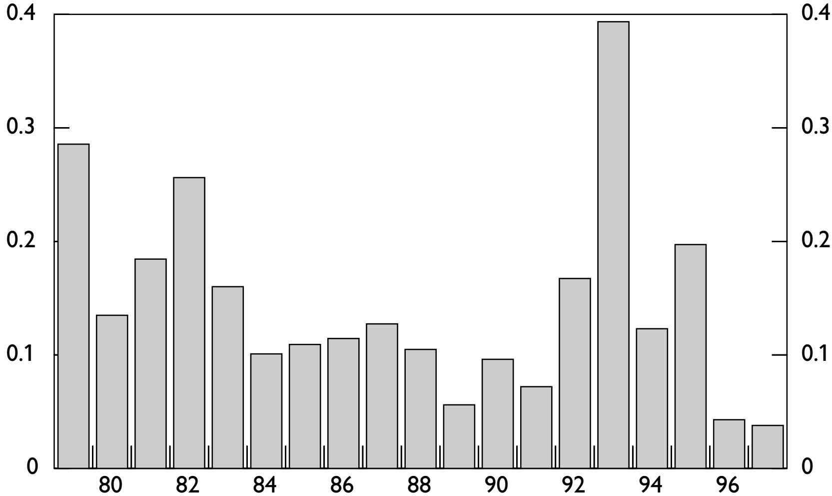
Krone per 100 Deutsche mark



months following the breakdown the overall strategy was a combination of repeating the exchange rate policy to the public and maintaining the high interest rate differential towards Germany. The policy encouraged a strengthening of the krone and showed market participants that the hard currency option was still in place. Slowly the krone strengthened and the confidence of the Nationalbank in its own instruments grew. In periods of currency unrest market participants have also returned to the well known pattern of stabilising the krone exchange rate as short term interest rates increase before the Nationalbank takes action. The March 1995 experience might be seen as an example. From February to the beginning of March 1995, there was an almost worldwide currency unrest, and the krone weakened from about 3.94 per Deutsche mark to a peak of 4.06 per mark. The short-term interest rate differential quickly widened significantly. Official rates were only raised on 8th March.

The Nationalbank has also gradually refined the strategy of revealed preferences. Since the beginning of 1995, intramarginal interventions have been in extensive use to stabilise daily movements in the krone exchange rate. The volatility of the bilateral rate against the mark is now lower than in the heydays of the ERM (Chart 10).

Chart 10
Standard deviation of daily changes in the krone vis-à-vis the Deutsche mark



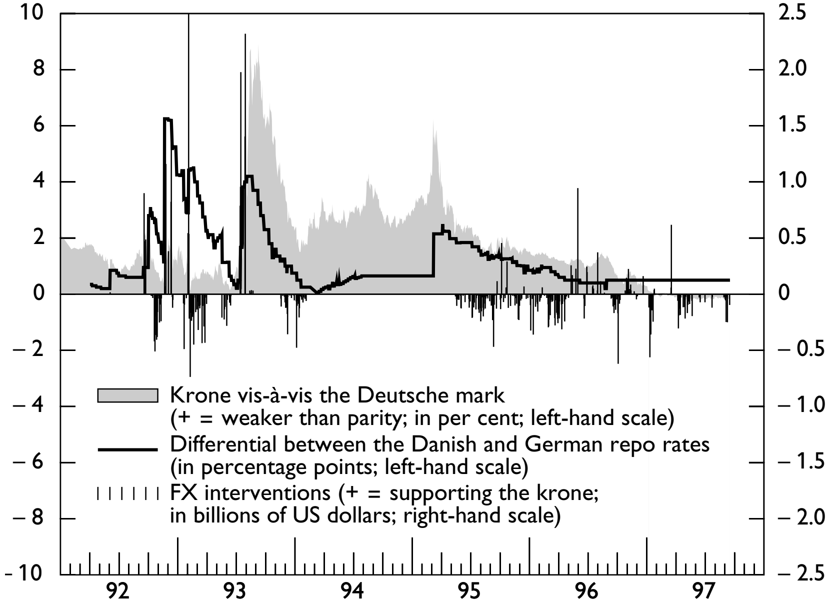
Note: The standard deviation is calculated on a series of daily changes for each year separately.

Decisions on changes in official interest rates will – as before the ERM-crisis – normally be triggered by either the exchange rate or changes in rates in other core countries. It might be pointed out that interest rate decisions today are perhaps made even more carefully than previously. This should be seen in connection with experiences in 1992 when official rates were lowered almost to German levels and where the krone weakened shortly after as a consequence of the general currency unrest. Also, the narrowing of the interest rate differential almost to zero towards the end of 1993 was followed by a gradual weakening of the krone against the mark. Chart 11 tries to illustrate the strategy in a compact manner.

Turning to the constraints, it is obvious that the effective krone exchange rate is not constant. However, this is not seen as a great problem, as the Danish public and the business sector in general understand that temporary swings in the effective exchange rate must be foreseen given the exchange rate policy. Perhaps more important, the Danish business cycle in general has differed somewhat from the continental European business cycle. From time to time this means that the levels of interest rates and effective exchange rates are not "correct",

Chart 11

Danish monetary policy measures and the krone exchange rate



Note: Interventions before August 1993 only took place if the krone was close to the intervention margin of a currency participating in the ERM. This is not illustrated by the chart since it only shows the krone's position against its Deutsche mark parity.

judged from the position in the business cycle. However, there is a broad understanding between the Nationalbank and the government that, if necessary, fiscal measures should compensate for these effects to reap the benefits of the fixed exchange rate policy.

The level of short-term rates is not a significant constraint. The financial structure in Denmark is dominated by long-term borrowing at fixed rates via mortgage credit institutions (up to 30 years). Thus the political pressure against taking what is considered the necessary steps to protect the exchange rate is only moderate. Occasionally, foreign investors have been complaining about the increased funding costs but these complaints are not a significant constraint on policy. It might be added that in times of (milder) currency unrest only the repo rate is raised, whereas the discount rate is often kept unchanged or is only raised slightly, so that only the professional money market is affected significantly.

In April 1992, the Nationalbank changed its monetary policy instruments in qualitative terms. Today the Nationalbank's monetary policy instruments resemble the instruments used in most EU countries but there is no automatic end-of-day overdraft facility and no reserve requirements. This means that there is no ceiling over day-to-day money market rates and that the day-to-day money market rate fluctuates quite considerably compared to most other European countries.

The present instruments comprise current accounts deposits, certificates of deposit and repurchase agreements. Prior to the adjustment in April 1992 individual banks had access to liquidity directly from the Nationalbank on an ongoing basis and at their own initiative, but subject to certain limitations. There was little activity in the money market, and a liquidity surplus or deficit was usually balanced directly with the Nationalbank. The Nationalbank also steered longer term rates because it acted as a market maker in Treasury bills. In the new system, on the other hand, the Nationalbank normally supplies liquidity to the banks only once a week as 14-day repurchase agreements. At the operations the Nationalbank enters into repo agreements (supplying liquidity) and sells central bank CD's (absorbing liquidity). This procedure ensures that:

1. The net size of the structural position of the banking system does not matter, since it is always possible to sell more CD's than repo's and vice versa.
2. The banks get CD's. The CD's can be sold with immediate liquidity effect, as opposed to ordinary repo transactions which only can be settled on a tomorrow-next basis or later.

As an extraordinary measure the Nationalbank may also supply liquidity during the week but, in general, the banks themselves must ensure that their total deposits with the Nationalbank are sufficient to cover the need for liquidity during the week. Since overdrafts at the close of the day are not accepted, the banks must settle liquidity among themselves. This settlement primarily takes place in the money market.

There were several reasons for the changes. The most obvious one was that the changes provided the Nationalbank an additional official interest rate (the repo rate). This enabled the Bank to influence money market rates in a more flexible and marked-based manner, without affecting banks interest rates towards smaller customers. Such a facility was called for because it became obvious that changes in the discount rate were "too powerful" an instrument for fine-tuning developments in the money and FX markets. The change of instruments also helped to partly separate monetary policy from government debt policy, and meant that the Nationalbank no longer had to operate in the money market (Treasury bills) on an everyday basis.

An additional factor was the international tendency for banks to exercise restraint in providing uncollateralised loans to each other, which had already almost eliminated the deposit market. The Nationalbank's adjustment contributed to the transition from uncollateralised to collateralised money market transactions by creating the basis for a more broad-based repo market.

Finally it was also recognised that the adjustments would make it necessary for the banks to establish a more efficient day-to-day management of liquidity which would encourage a more widespread use of the money market.

In retrospect, the absence of automatic access to central bank liquidity helped the Nationalbank during the ERM turmoil in 1992 and 1993. First, the lack of automatic access to liquidity meant that money markets rates rose quickly as the Nationalbank bought kroner in the market, thereby, in itself, stabilising speculation even before official rates were raised. Second, because the instruments are symmetrical it was possible for the Nationalbank to buy enormous amounts of Danish kroner during the turmoil without creating a need for additional operations even though the net position of the banks turned from negative to positive.

(iv) Have there been major "surprises" during the last 4–5 years to which monetary policy had to respond. On hindsight, could policies have been conducted better?

It is evident that the breakdown of the old ERM system in 1993 represents a major surprise that monetary policy had to respond to. The response is described in the answer to (iii). Also the outcomes of the two Danish referendums on the Maastricht treaty in 1992 and again in 1993 might be described as such events, first of all because of the immediate effects. In a longer perspective the adoption of the opt in clause for the EMU – that was a part of the package at the second referendum and meant that Denmark will not participate in the EMU at least not from the beginning – have brought along a somewhat higher interest rate differential vis-à-vis Germany.

In assessing whether policies could have been conducted better several considerations could enter the discussion. Most important, it was in principle an option to abandon the hard currency policy in August 1993. This would, in retrospect, have been unwise and was in fact not considered in the first place. Other issues are of a much more marginal nature. Among issues for discussion have been the speed at which interest rates were lowered, and the pros and cons of announcing specific numbers for the exchange rate unilaterally.

Even in retrospect the answers to such questions are not obvious. In general it was a question of assessing potential risks and benefits. The answers turned out to be on the cautious side.

Annex

Statement by Governor Erik Hoffmeyer on 13th August 1993 on foreign-exchange-policy issues

As a result of the lack of political willingness to defend the Exchange Rate Mechanism of the EMS, France and Germany in reality suspended the ERM temporarily, leaving Denmark's exchange-rate policy without a safety net to support us in times of crisis for the first time in 21 years.

This gives rise to greater uncertainty in the market, thereby influencing expectations. Fortunately we derive some strength from the economic policies pursued in recent years. As mentioned on many occasions, our economy is one of the most stable in Europe.

Against this background the following issues are important.

1. The government and the Nationalbank agree that the present circumstances provide no grounds for changing the krone's central rate against the present core ERM countries.
2. An agreement on a considerable narrowing of the wide fluctuation margin temporarily fixed at ±15% will be sought under the auspices of the EC.
3. The uncertainty influencing expectations will entail considerably wider fluctuation in exchange rates during a transition period. As a result residents with foreign-currency-denominated debt, and non-residents holding krone assets, may wish to eliminate their foreign-exchange risk. This may gradually be offset by increased public borrowing abroad. This conversion will have no impact on Denmark's net debt.
4. These transition problems might for a short period weaken the krone more than the economic fundamentals would justify, but after this a strengthening can be expected. Under these circumstances monetary conditions will be normalised, resulting in a drop in the high inter-bank interest rates, but the possibility of lowering short-term interest rates will be limited for some time.

Statement by the Danish Prime Minister on 2nd August 1993 concerning the exchange-rate policy

The Prime Minister states as follows:

At the meeting of the EC Ministers of Economic Affairs and Finance and Central-Bank Governors it was agreed that the economic fundamentals gave no grounds for realigning the EMS exchange rates.

Against the background of recent considerable capital flows and foreign exchange interventions the negotiations resulted, however, in a temporary adjustment of the present exchange-rate system's two thresholds for obligatory marginal intervention purchases of foreign exchange to the significantly wider fluctuation margins of ±15%.

Denmark's economy is one of the strongest in Europe, with the lowest inflation rate in the EC, a substantial balance-of-payments surplus and a relatively modest budget deficit.

The agreed temporary adjustment of the ERM does not give any reason to revise Denmark's economy-policy objectives of reducing unemployment and ensuring a continuing low rate of inflation.

In the new situation the objective of Danish exchange-rate policy will be to maintain a stable exchange rate against the core EMS countries. The government hopes that before the end of the year agreement can be reached on a substantial narrowing of the temporary wide fluctuation margins for all EMS currencies.

(The Nationalbank's translation)