# Nils Bernstein: The Danish krone during the crisis

Speech by Mr Nils Bernstein, Governor of the National Bank of Denmark, at the Copenhagen Business School, Copenhagen, 22 March 2010.

*   *   *

It is now my turn to discuss how Denmark – as a non-euro area EU, ERM II member state – has navigated through the financial crisis. The really interesting question is, perhaps, what difference it would have made, if we had been part of the euro area. That is difficult to say, as other things might not have been equal. For example: who knows whether Denmark's economic policy would have been the same, if we had not been governed by the fixed-exchange-rate policy? (Chart 1)

Since the euro was rejected in a referendum in 2000, it has been a widespread view, that Danish membership of the euro area is first and foremost a political question. Combined with the other three opt-outs, the issue is whether Denmark wants to participate fully in the important political decisions on the future of Europe.

From a purely economic point of view, Danish participation in the euro can be expected to lead to slightly lower interest rates, a small increase in foreign trade and lower transaction costs. In normal, calm periods, interest rates will only be marginally lower than under the current fixed-exchange rate regime.

Over a longer horizon, adopting the euro will have a certain positive overall effect on growth in Denmark. But it is difficult to quantify this effect, which is hardly likely to be felt in the short term.

Danmarks Nationalbank's rough estimate is that, in the long term, euro area membership would permanently boost GDP by between 0.5 and 1 per cent.

Since the introduction of the euro in 1999, Denmark has performed well outside the euro area. This is due to our long-standing stability-oriented economic policy with a focus on medium-term objectives and structural reforms, not least in the labour market. It is important that Denmark continues along this path – even if we eventually join the euro. The current economic policy discussion should be viewed in that context.

All along, we have been aware that the advantages of euro area membership would be accentuated in periods of financial turmoil. The lessons from the financial crisis have more than confirmed this.

## The world before Lehman fell

The seeds of the financial crisis were sown already in July 2007, when the rating agencies decided to downgrade bonds issued to finance sub-prime mortgages. This increased uncertainty in the markets. The effect soon spread to more creditworthy securities. In the money markets, the uncertainty was reflected in a widening spread between collateralised and uncollateralised money-market loans. The confidence crisis developed in stages over the latter part of 2007 and up to September 2008.

In August 2008, Danmarks Nationalbank with a government guarantee and the Danish Contingency Association acquired Roskilde Bank on the brink of collapse. This was an important medium-sized bank, with a significant funding in foreign currencies. This should be seen in the light of a Danish banking sector with a total deposit deficit of 600 billion kr. Danmarks Nationalbank's primary reason for stepping in was to avoid a systemic crisis. In that situation we couldn't accept doubts that loans to Danish banks would be honoured.

## Capital outflows from smaller areas

The financial crisis intensified from mid-September 2008 after the collapse of Lehman Bros. Risky assets such as shares and credit bonds plummeted. The heightened uncertainty prompted investors to seek safe havens. This led to portfolios shifts towards more secure assets. There was a worldwide trend for foreign exchange to flow out of small capital areas and into larger ones. In other cases, portfolios were actually closed by investors who had bought assets, financed by short-term loans in foreign currency – such as dollars – that were subject to regular renewal. Investors who were unable to obtain renewed funding in early October 2008, when the international loan markets[1] froze, were compelled to sell assets immediately, regardless of the price. The interest-rate increases by Danmarks Nationalbank, – which I will return to – did not have any impact on investors, who were forced to sell out, when the global loan markets contracted.

## Liquidity constraints – the need for euro and dollars

Initially the money-market turmoil was strongest in the dollar market, and many financial institutions outside the USA experienced a shortage of dollar funding. As the crisis escalated, the euro market was eventually also affected.

In the spring of 2008, the ECB established a swap line with the Fed, with a view of lending dollars to euro area banks. The majority of the Danish banks did not have access to this facility.

Many financial institutions in Europe already depended on short-term funding in both dollars and euro. As a result, most of them were on the same side of the order flow. Moreover, the usual dollar funding channels dried up, to a certain extent because the suppliers themselves had an increasing need for dollars, which in itself was partially due to mounting concerns about counterparty risk. This put pressure on both the demand and supply sides of the dollar market.

## Impact on the Danish krone

The dysfunctional markets for, primarily, euro and dollars had a considerable impact on the market for Danish kroner. Danish banks needed access to funding in euro and dollars; a need that was to some extent satisfied by issuing CP and trading in the FX swap market. In principle, the use of FX swaps has no impact on the exchange rate of the krone. But as the crisis evolved, funding and hedging in the FX swap market became expensive, and the spot markets became a more attractive source of foreign exchange. As a result, the krone came under pressure.

Developments in the euro area were particularly significant for the krone. In late September and early October 2008, extensive demand for euro liquidity meant that the average allotment rate, in the ECB's weekly main refinancing operations, exceeded Danmarks Nationalbank's lending rate. In other words, the interest-rate spread turned negative. Usually the spread is positive to compensate for the exchange-rate risk. In early October, just before the ECB began to offer unlimited liquidity at a fixed rate of interest (the lending rate), the ECB's average allotment rate was observed to be a full 39 basis points higher than Danmarks Nationalbank's lending rate. As a result, the krone came under pressure.

[1] The interbank market for uncollateralised lending, the CP market, and the FX swap market.

## Speculation against the krone

At the peak of the crisis, many market rumours were circulating, claiming that Danmarks Nationalbank was in difficulties. A large foreign bank wrote that Danmarks Nationalbank no longer had any reserves for intervention and that the exchange rate was approaching its limit, i.e. a deviation of 2.25 per cent from the central rate. If that situation does occur, the ECB has an obligation to intervene in support of the krone. So far this has never happened. The ERM II agreement includes a provision on unlimited intervention credit between the ECB and the participating central banks, including Danmarks Nationalbank. Such credit must be repaid within three months.

There was extensive market focus on the size of our foreign-exchange reserve. More specifically, a limit of DKK 100 billion was mentioned for Danmarks Nationalbank to be able to defend the krone.

The currency positions of the Danish banks in the market were, on the whole, not unfavourable to the krone (Chart 2). The banks reduced their market positions, to more or less neutral levels, but never held long currency positions, when Danmarks Nationalbank made intervention purchases to support the krone. This reflected some degree of confidence on the part of the Danish banks, that Danmarks Nationalbank would be able to observe the unofficial de facto band.

There was anecdotal “evidence” that certain foreign investors were speculating against the krone (Chart 3). The first speculation rumours concerned options, with a strike price outside the implicit narrow band around the central rate. For example, a large hedge fund was reputed to have bought options against the krone weakening. The size of the financial backing behind this speculation is, however, uncertain. “Out-of-the-money” options involve little cost, but hedging by sellers of such options may have led to considerable sales of kroner.

Generally speaking, international speculators had a certain interest in testing the strength of the support for the fixed-exchange-rate policy. This caused further uncertainty about the krone.

## Intervention

The spring of 2008 saw gradual weakening of the krone, and Danmarks Nationalbank Danmarks responded by intervening – to a limited extent (Chart 4). As late as in July 2008, we mirrored the ECB when it raised its key interest rates.

Danmarks Nationalbank took the usual course of action when the krone came under pressure. First, we sell foreign exchange for kroner. If this has not had the desired effect after some time, we raise interest rates.

To counter the tensions in the dollar market, Danmarks Nationalbank intervened in the FX swap market on 18 September, i.e. before the crisis really erupted. Dollars were offered against kroner for a total of DKK 3 billion with a maturity of 7 days. Likewise, in early October, Danmarks Nationalbank intervened in the euro market, offering euro for a total of DKK 17 billion with maturities of 7 days and 1 month. Danmarks Nationalbank had not previously intervened in the FX swap market in recent times.

The intervention in the FX swap market turned out to have only a temporary impact on the market. The Danish market for euro and dollar liquidity is considerable, and intervention via the FX swap market also entails drawing substantial amounts on the foreign-exchange reserve.

Pressure on the krone prompted Danmarks Nationalbank to intervene heavily directly in the foreign-exchange market in late September and the first weeks of October. Intervention sales of foreign exchange totalled DKK 1 billion in September and reached a monthly all-time high of DKK 64 billion in October. There were considerable day-to-day fluctuations. On some days, intervention purchases approached DKK 15 billion. Intervention by Danmarks Nationalbank was concentrated in the periods around 7 and 24 October, when we raised our interest rates. We could literally see our reserves pouring out of our coffers. I felt like driving a car without brakes.

### Monetary-policy interest rates

Sustained strong pressure on the krone led Danmarks Nationalbank to increase monetary-policy interest rates on several occasions in October (Chart 5). On 7 October, the lending rate was raised by 0.4 percentage point. The following day, the ECB reduced its key interest rate by 0.5 percentage point, thereby widening the interest-rate spread once more. It was very unpleasant to have to raise interest rates and accept a widening spread at a time when other central banks were lowering theirs to support the financial sector. The only way to interpret this was that something must be rotten in the state of Denmark! But we had no other choice.

These interest-rate increases had no short-term impact on the krone. In the hours immediately after Danmarks Nationalbank's announcements, the krone weakened further and intervention sales of foreign exchange were necessary. The interest-rate instrument did not have the desired effect. Few domestic counterparties bought kroner in response to the interest-rate increases.

On 15 October, the ECB introduced full allotment in its weekly main refinancing operations, and the pressure on the krone eased temporarily. Euro area banks were now able to obtain sufficient liquidity from the ECB, which was reflected in market spreads to the euro area.

On 24 October, further capital outflows – driven by foreign investors – led Danmarks Nationalbank to raise interest rates further. Subsequently, the spread to the euro area was 1.75 percentage points, which was enough to make domestic insurance and pension companies in particular turn towards the Danish kroner once again.

### Issuance of CP

The substantial intervention sales in October drained the foreign-exchange reserve. In previous crises, it had been possible immediately to increase the reserves by issuing short-term CP loans and later replacing these by longer-term loans if necessary. Experience from the autumn of 2008 showed that we, on the behalf of the government, could not issue sufficient CP at the peak of the crisis. Furthermore, it took quite a while before the government was able to raise longer-term foreign loans at an acceptable price. We did not want to borrow at a rate that signalled an urgent need for foreign exchange. The crisis confirmed the old saying that money is hardest to come by when you need it the most. By 15 October, the foreign-exchange reserve had been reduced to DKK 104 billion, the lowest level in ten years (Chart 6). How long would it take before the situation would begin to improve?

After 14 October, Danmarks Nationalbank was finally able to issue CP on behalf of the Danish government (Chart 7). This continued on an almost daily basis throughout the rest of 2008.

### Other initiatives

We managed to keep our head above water, but this was not solely due to our own intervention and interest-rate increases. A number of other factors played an important role.

The shortage of euro and dollar liquidity, combined with dysfunctional financial markets – notably the frozen interbank market – led the ECB and the Fed to establish swap lines with other central banks, including Danmarks Nationalbank. Via these swap lines, national central banks were able to offer euro and dollar liquidity to domestic banks.

Danmarks Nationalbank established a swap line with the Fed on 24 September 2008. The need for this facility was highlighted by the fact that volumes offered in our dollar auctions were drawn upon in full. The swap line with the Fed – totalling USD 15 billion – was fully exercised after three auctions.

On 27 October 2008, Danmarks Nationalbank and the ECB established an equivalent swap line for 12 billion euro. Although this limit was not reached, the security of Danish banks in relation to euro funding was undoubtedly boosted. The swap facility has been very helpful in addressing the banks' liquidity needs.

It should be emphasised that this facility did not affect the foreign-exchange reserve or support the krone directly. It supported the krone indirectly by calming the market for FX swaps; and the ECB's backing sent a strong positive signal to the market.

Issuance of 30-year government bonds was another key factor. There was extensive demand in the Danish market for domestic bonds with longer maturities – particularly on the part of pension funds, which needed to hedge their long-term commitments. In November and December 2008, the Danish government took the extraordinary step of issuing 30-year bonds. As a result, Danish pension funds restructured their portfolios from foreign to domestic securities. This supported the krone.

Last – but not least – it was equally important that the government, at short notice in early October 2008, decided to issue a guarantee for all deposits with and loans to Danish banks. It is impossible to say exactly what the impact of this measure, known as Bank Rescue Package I, was. Non-residents withdrew krone deposits totalling DKK 70 billion from Danish banks in October 2008.

This package contributed strongly to keeping capital outflows during the crisis at a manageable level. Timing and determination were essential elements in terms of ensuring confidence in Danish banks.

As I see it, the Danish banks would have been far worse off without this guarantee, and Danmarks Nationalbank's ability to keep the krone stable might have been called into doubt.

But while the government provided bank guarantees totalling around 2.5 times Denmark's GDP, the potential claims on the foreign-exchange reserve increased. If a bank failed, the guarantee might be called in at short notice. If loans had been raised abroad, this would have affected the foreign exchange reserve. Therefore, the need to increase the reserve was even more important.

The turning point in the krone crisis came in late October, when stabilisation of the krone market enabled us to buy back foreign exchange. Large scale buy-backs took place from 4 November 2008.

Partial normalisation of the situation made it possible for us to follow suit when the ECB lowered its interest rates by 0.5 per cent on 6 November. In December, the monetary-policy spread gradually narrowed by a total of 0.75 percentage point.

## Conclusion

(Chart 8) During 2009, Danmarks Nationalbank gradually reduced interest rates so that the spread to the euro area narrowed again. Today, the monetary- policy spread is only 5 basis points. But the actual money-market spread is around 50 basis points, mainly due to the substantial amount of excess liquidity in the Euro area.

Over the last year, Danmarks Nationalbank has built up the foreign exchange reserve to a much higher level than it used to be. It now exceeds DKK 400 billion. The dollar swap line with the Federal Reserve has expired.

So, in many ways the situation has normalised. But we have learnt what it means to be outside the euro area when you are a small economy with a fixed-exchange-rate regime. This should give food for thought.

We made it through. I will not ponder upon – at least not openly – what could have happened if speculation against the krone hadn't subsided. We are still in a fixed exchange rate regime.

As recent developments have shown, euro membership is not – and should not – be a guarantee for easy access to foreign borrowing. That depends on one's ability to keep its own house in order. There is no substitute for sound economic policy inside or outside the euro.

But when you are a small open economy and a storm of this magnitude sweeps through the markets – you would rather not have your own currency to worry about.

Thank you for your attention.

Chart 1

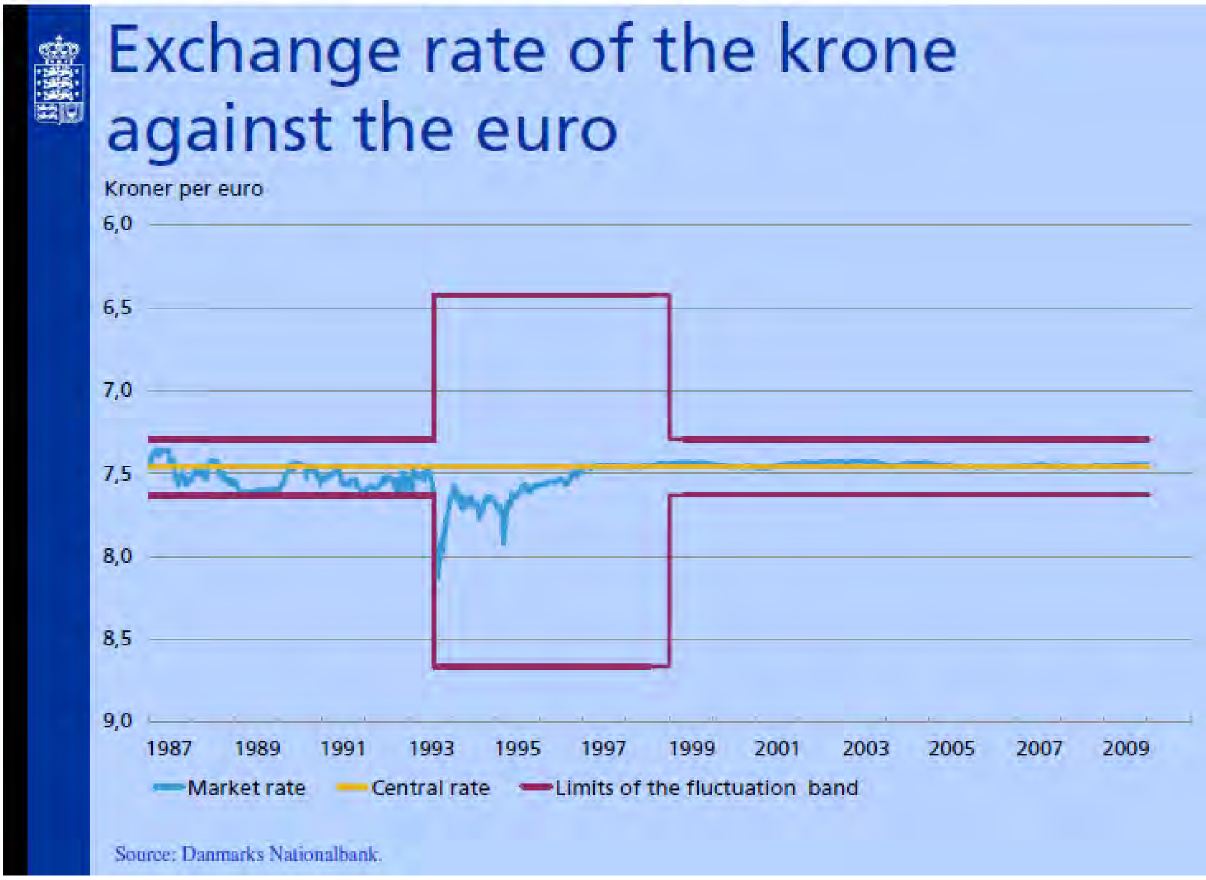


Chart 2

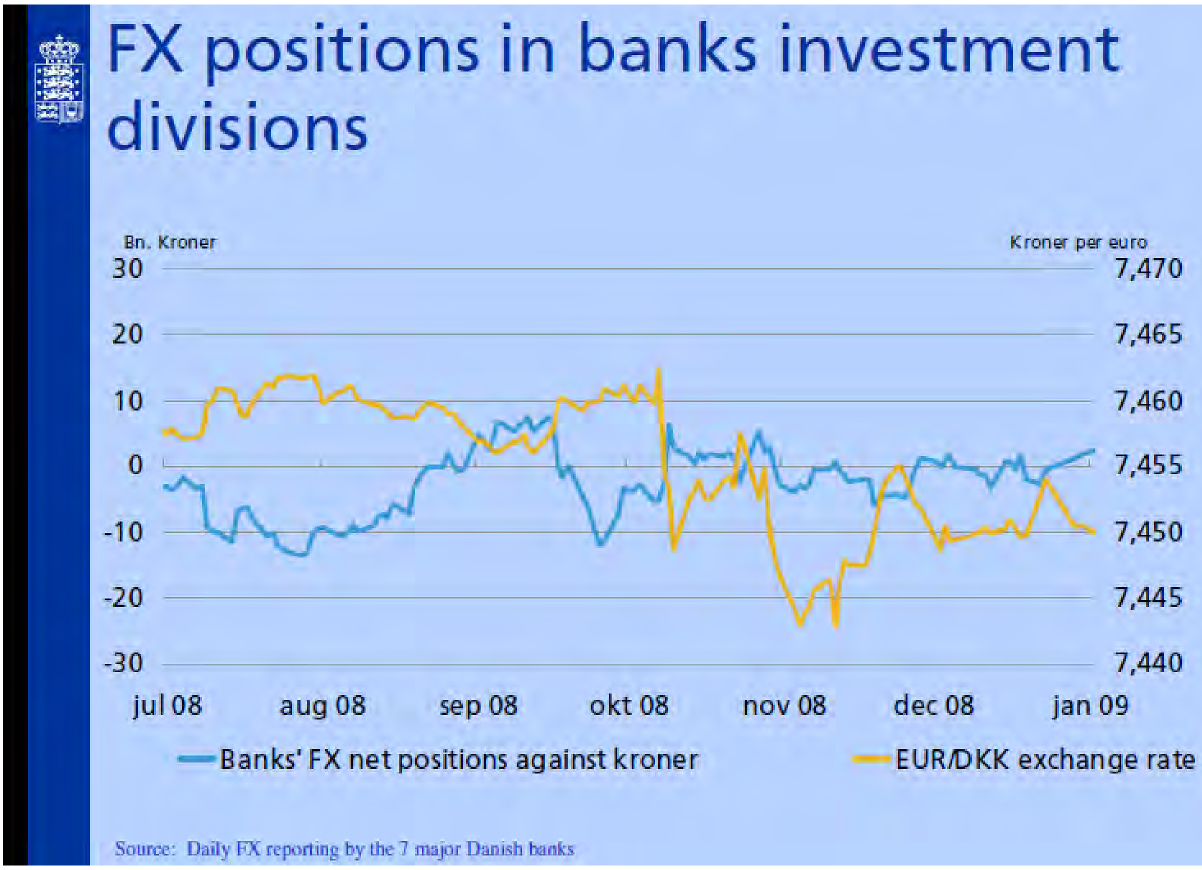



Chart 3

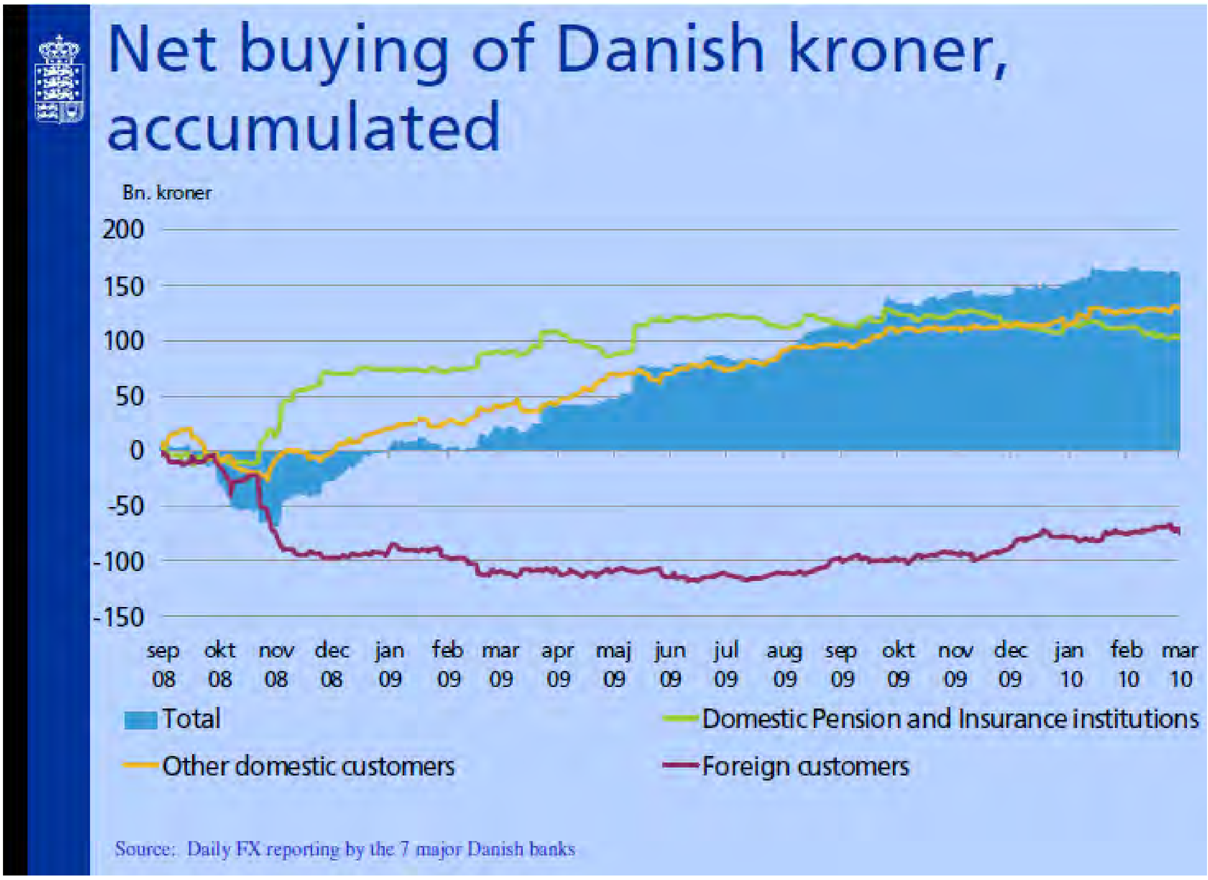


Chart 4

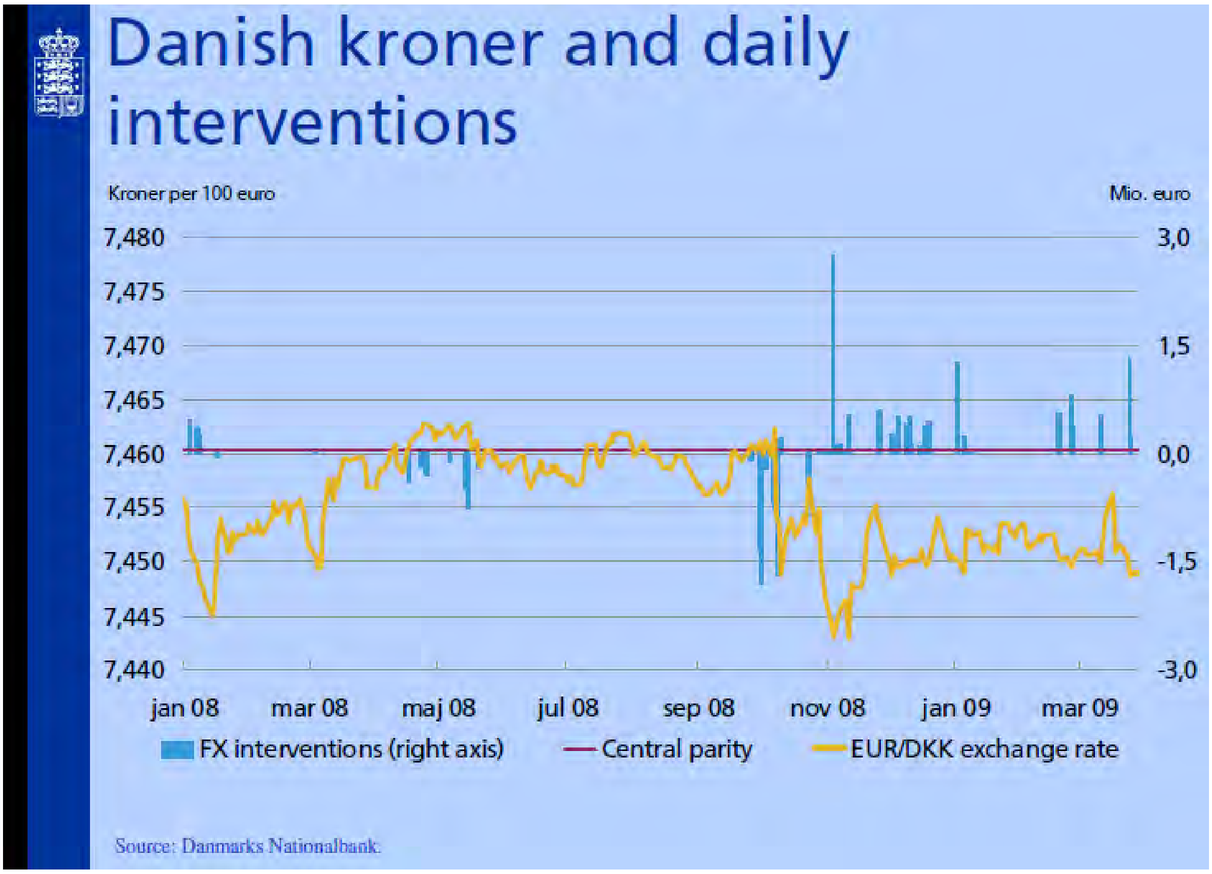



Chart 5

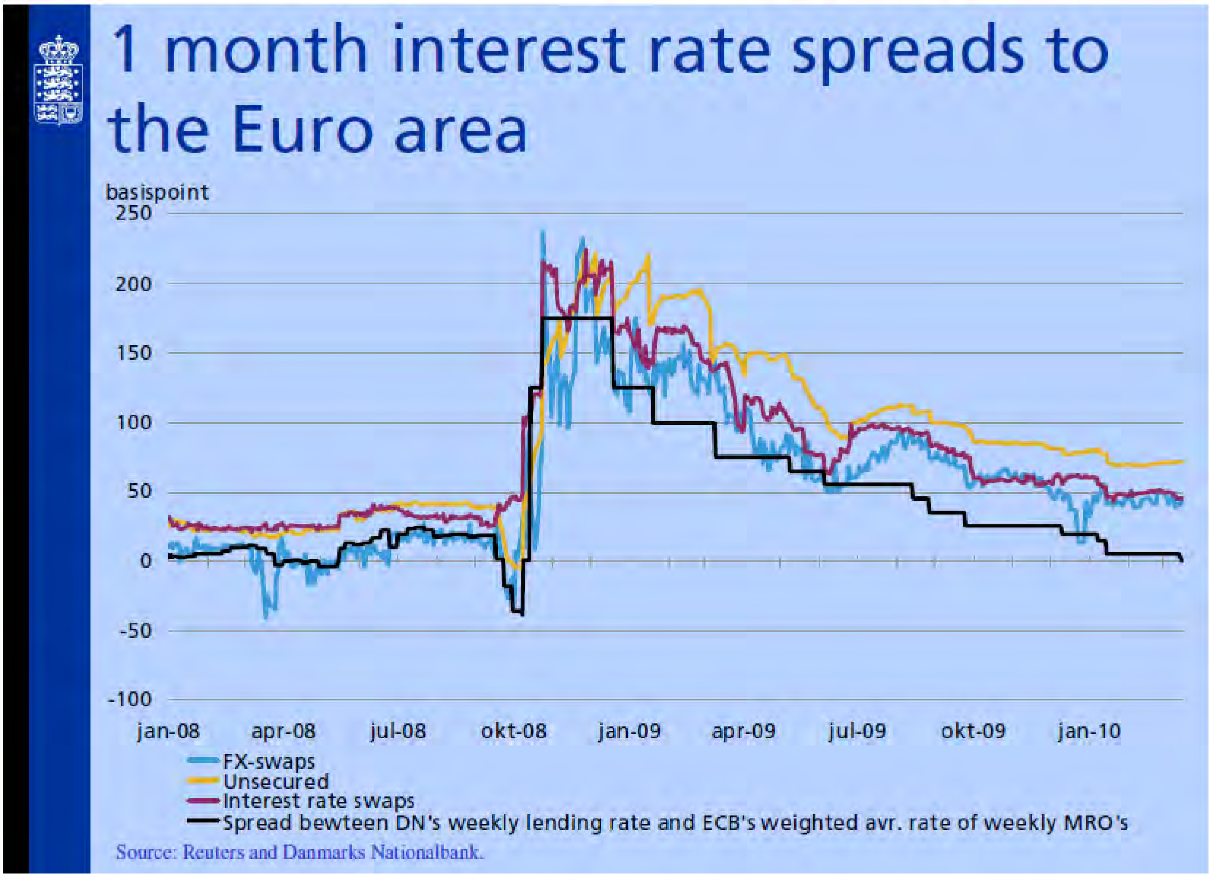


Chart 6

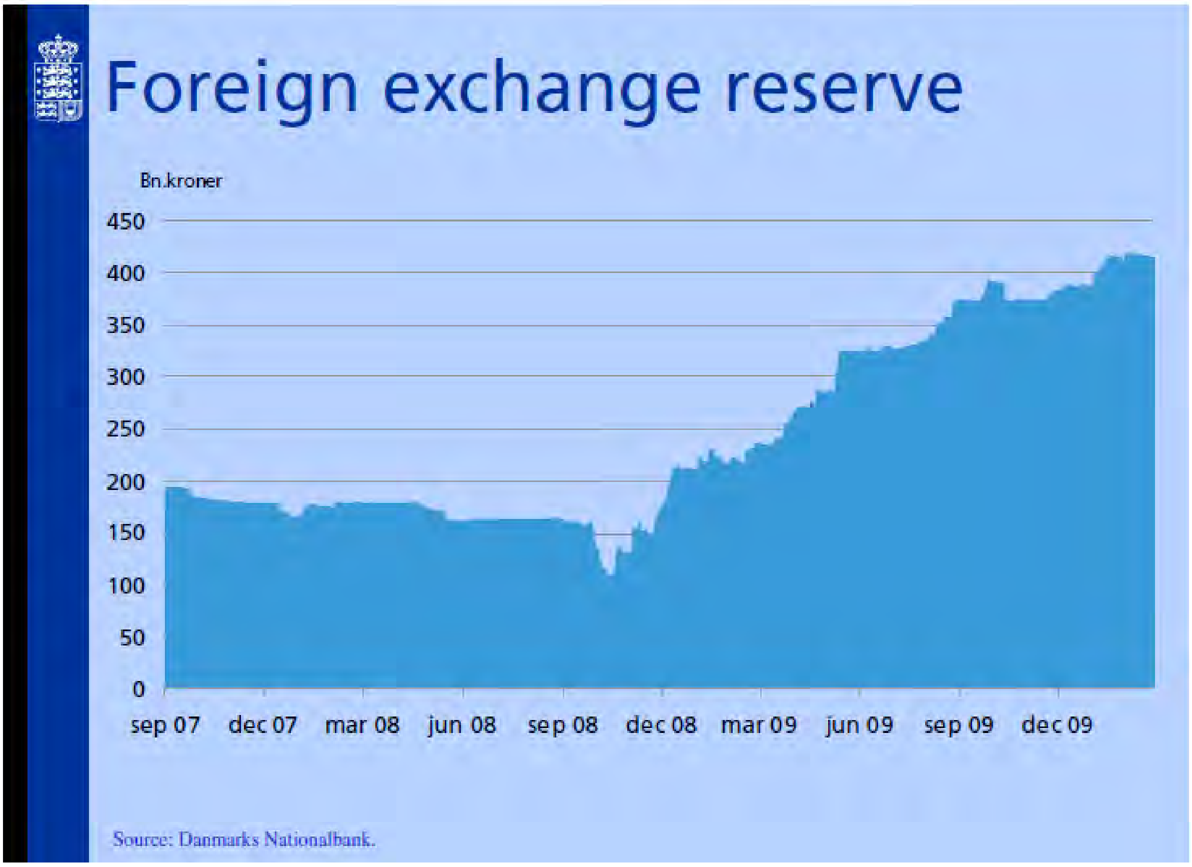



Chart 7

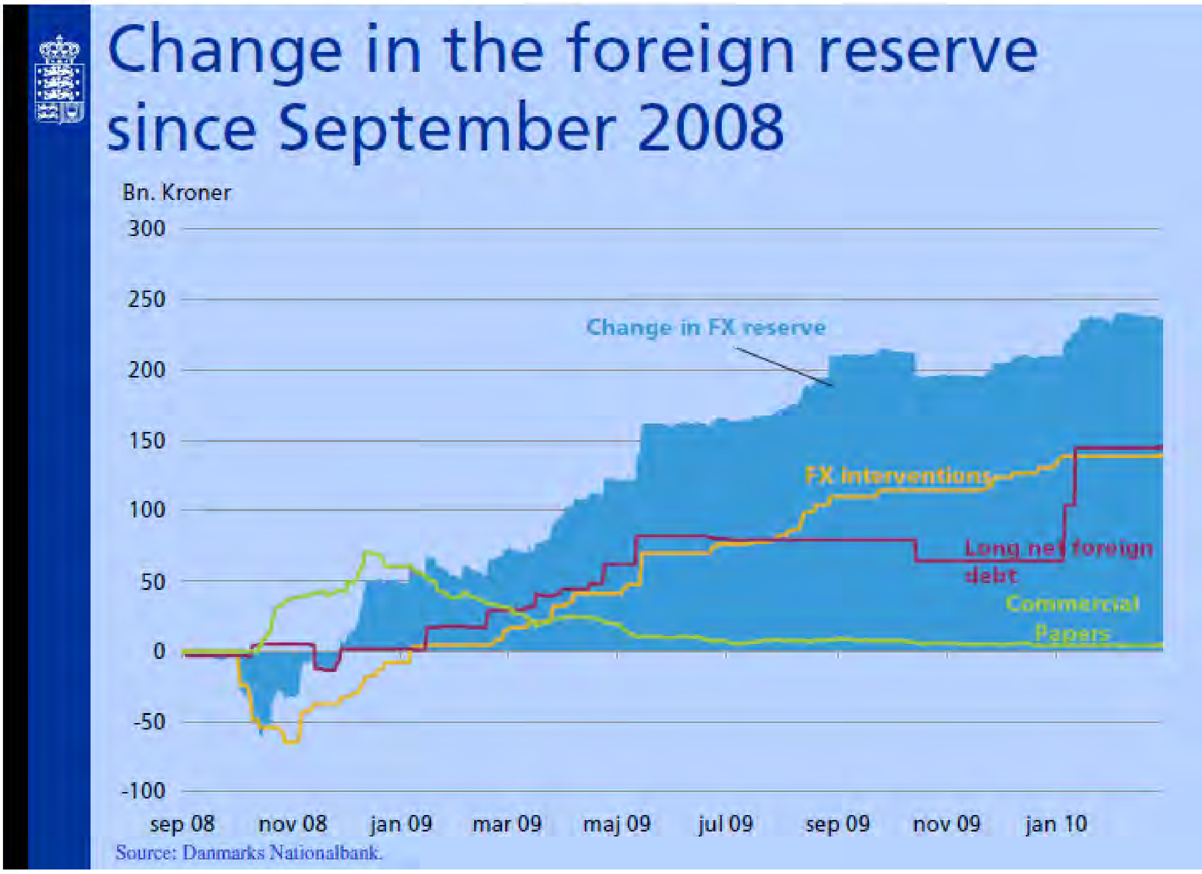
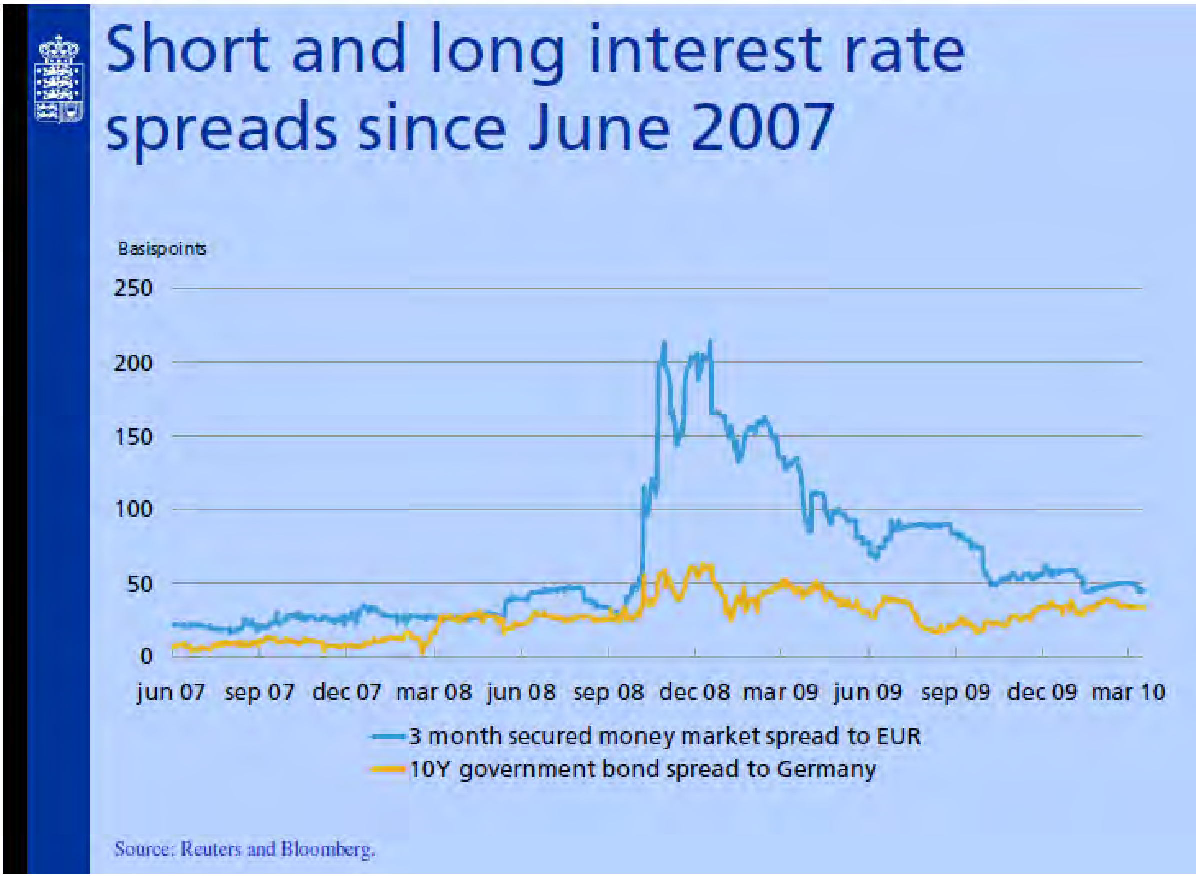


Chart 8



Short and long interest rate spreads since June 2007
Basispoints
250
200
150
100
50
0
jun 07
sep 07
dec 07
mar 08
jun 08
sep 08
dec 08
mar 09
jun 09
sep 09
dec 09
mar 10
3 month secured money market spread to EUR
10Y government bond spread to Germany
Source: Reuters and Bloomberg.