

Chapter 2

Monetary policy and the financial system during and after the crisis

In the wake of the global financial and economic crisis, the Swedish central bank aggressively cut interest rates and introduced an array of unconventional policy measures. This helped limit the depth and length of the recession and facilitated a strong recovery. Moreover, the Riksbank has successfully maintained low and stable inflation, and longer-term inflation expectations are well anchored, notwithstanding occasional communication problems. While the financial sector experienced stress, in part due to bank exposures to the Baltic countries, it coped well on the whole. However, there is room to improve financial sector regulation and to revisit the financial supervision framework.

The recent economic crisis put monetary policy authorities and financial systems to the test in many countries, including Sweden. The central bank (the Riksbank) aggressively lowered interest rates and, together with other Swedish authorities, introduced additional policy measures which have helped the financial sector operate during the recent turmoil. This chapter examines the Riksbank's performance, looking at how financial markets have operated during the crisis as well as at inflation and other outcomes. It also discusses how monetary policy should respond to asset price developments and whether there are grounds for changing the Riksbank's target. The chapter then reviews key issues facing the financial system during the crisis and turns to policies that will help make the system more resilient going forward, including changes in regulation and more generally in the supervision framework.

Monetary policy during the crisis and issues going forward

The Riksbank responded forcefully to the crisis

In the wake of the global financial crisis that began in the second half of 2007 and intensified in the second half of 2008, Sweden suffered an extreme economic downturn (Chapter 1). International financial market turmoil and the sharp fall in world trade hurt the export-dependent Swedish economy. The Riksbank, which had been in tightening mode through mid-September 2008,¹ started to aggressively cut its main policy instrument, moving from 4.75% to 0.25% by mid-2009, the lowest level since the introduction of inflation targeting in the mid-1990s. The Riksbank, in conjunction with other government bodies, also took a number of unconventional measures to support the economy (Box 2.1), even though it refrained from using some of the non-conventional instruments deployed by other central banks (Table 2.1).

Table 2.1. **Non-conventional measures taken during the crisis by selected central banks**

	RB	Fed	ECB	BoJ	BoE	BoC	SNB
Increased liquidity provision to financial institutions	X	X	X	X	X	X	X
Direct intervention in certain financial market segments		X	X	X	X		X
Purchase of government bonds		X	X	X	X		
Support to specific institutions	X	X		X	X		X

Notes: RB refers to the Riksbank, Fed to the US Federal Reserve, ECB to the European Central Bank, BoJ to the Bank of Japan, BoE to the Bank of England, BoC to the Bank of Canada and SNB to the Swiss National Bank.

Source: ECB (2010) and Minegishi and Cournède (2010).

The Riksbank has subsequently stopped many of its unconventional measures and it started to gradually raise interest rates from July 2010. To assess the effectiveness of these policy actions, it is useful to first look at how monetary policy decisions have been transmitted to the money market and the retail borrowing market during the crisis.

Box 2.1. Special measures taken in response to the financial crisis

Unconventional measures taken by the central bank

- Longer-term credit facilities

In October 2008, loans were given with a fixed rate decided through a single price auction. From February 2009 the liquidity supporting loans started to be given at a variable rate with a maturity of three and six months. In May 2009 it was decided to add loans with a maturity of 12 months to the programme. In February 2010 the Riksbank announced that it would cease to offer loans with a maturity of 12 months, and the last auction offering loans with a maturity of 12 months loans was held the same month. At the same time the Riksbank increased the premium for loans with maturities of three and six months. In April 2010 the Riksbank announced that it would cease to provide loans at maturities of three and six months. These loans were replaced by loans with a maturity of 28 days.

Since July 2009 fixed-rate loans with a maturity of 11 and 12 months have been provided. All these loans have matured during 2010 and not been renewed.

- Credit facility against commercial paper as collateral

To facilitate the supply of credit to non-financial companies, a credit facility where counterparts could use commercial paper with a maturity of up to one year as collateral was started in October 2008. The facility was closed in September 2009 due to lack of demand.

- Reduced collateral requirements

In September 2008 the limitation on the share of covered bonds that can be used as collateral in the payment system was relaxed, and in October 2008 it was removed altogether. Also the minimum credit rating requirement for long-term securities was lowered.

- Extension of eligible counterparties

In April 2009 the group of eligible counterparties was extended to give financial institutions with a registered office in Sweden the opportunity to have access to the temporary credit facilities.

- Swap agreements were made with the US Federal Reserve, the European Central Bank and other central banks.

- Longer-term credit facility in US dollars

In September 2008 the Riksbank offered counterparties loans in US dollars for a term of both one and three months. This was stopped in 2009 due to lack of demand.

- Special liquidity assistance

Special liquidity assistance was provided to Kaupthing Bank Sverige AB and Carnegie Investment Bank AB of up to SEK 5 billion each in October 2008.

- Strengthening of foreign exchange reserves

The Riksbank in May 2009 borrowed the equivalent of SEK 100 billion in foreign currency to be able to provide sufficient foreign currency to Swedish financial institutions.

- Issuance of Riksbank Certificates (debt certificates)

The Riksbank in October 2008 started issuing debt certificates with a maturity of seven days, to absorb the liquidity surplus in the money market; subsequently it has issued certificates of longer maturity.

Box 2.1. Special measures taken in response to the financial crisis (cont.)**Measures taken by other government bodies**

- Increased deposit guarantee

The government increased the deposit guarantee for current accounts from SEK 250 000 to SEK 500 000. The guarantee was extended to cover all types of deposits.

- Bank guarantee and capital infusion programmes

Certain financial institutions were permitted to contract with the government to guarantee part of their borrowing (i.e. for a charge the government promised to intervene if institutions could not pay their lenders), though not all major banks participated. The National Debt Office (NDO) has been permitted to advance capital to banks. This programme is limited to SEK 50 billion. The government guarantee and recapitalisation schemes are scheduled to end in 2011.

- Stabilisation fund

To finance any government measures to support the financial system, a stabilisation fund has been established financed by a special stability fee for all credit institutions. In 2009 and 2010 the annual fee is 0.018% of total liabilities minus equity capital and some other adjustments and it does not apply to foreign subsidiaries. Fees will double in 2011. The aim is that this fund will amount to an average of 2½ per cent of GDP within 15 years.

- Special support to exporters and smaller firms

The government increased its support to Swedish companies by injecting funds into ALMI (a government-owned financing and business development agency) and providing various forms of support to the export credit corporation (Svensk Exportkredit). The purpose was to facilitate borrowing for exporters and for small and medium-sized enterprises in general. In addition the government increased credit guarantees through the Export Credits Guarantee Board (Exportkreditnämnden).

- Treasury bills were issued by the National Debt Office to satisfy the increased demand for high quality securities.

- The government also changed the statutes of SBAB (a state-owned company involved in mortgages) to enable it to broaden its activities. However the changes came too late to have an effect on the provision of credit during the crisis (NDO, 2010).

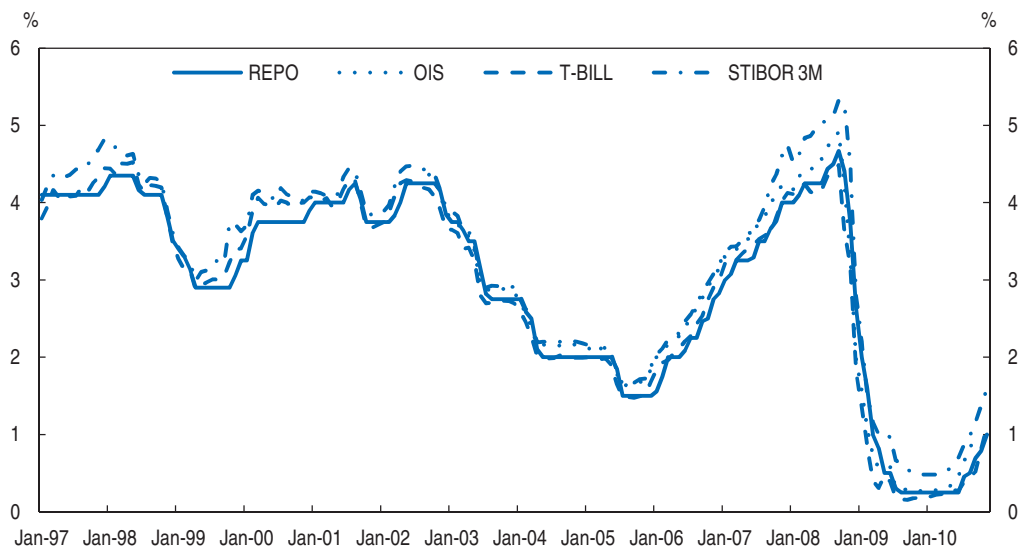
- The government also introduced an action plan for the automotive industry including credit guarantees.

Money markets were stressed during the crisis

Money market rates had moved closely together over the decade preceding the global financial crisis with occasionally larger deviations, such as during the international financial turbulence in 1997-98 and the bursting of the dotcom bubble in 2000-01 (Figure 2.1). Sizeable deviations have also occurred since the beginning of the recent financial crisis. This reflects market stress, as illustrated by the spread between unsecured interbank lending and Treasury bill rates (the TED-spread), which measures the extra return that an investor requires for lending to a bank rather than to the government. Stress in money markets increased from the summer of 2007 onwards, culminating in October 2008, after the bankruptcy of Lehman Brothers, when the TED-spread widened to over 160 basis points, as against an average of about 20 basis points over the five years to

mid-2007 (Figure 2.2). While the spread has narrowed significantly since late 2008, it has widened somewhat more recently, possibly associated with the market adjusting to the withdrawal of the Riksbank's extraordinary policy measures. However, the spread between the interbank rate and the overnight indexed swap rate has not risen, suggesting that perceived risk has not increased significantly.

Figure 2.1. **Swedish money market interest rates**

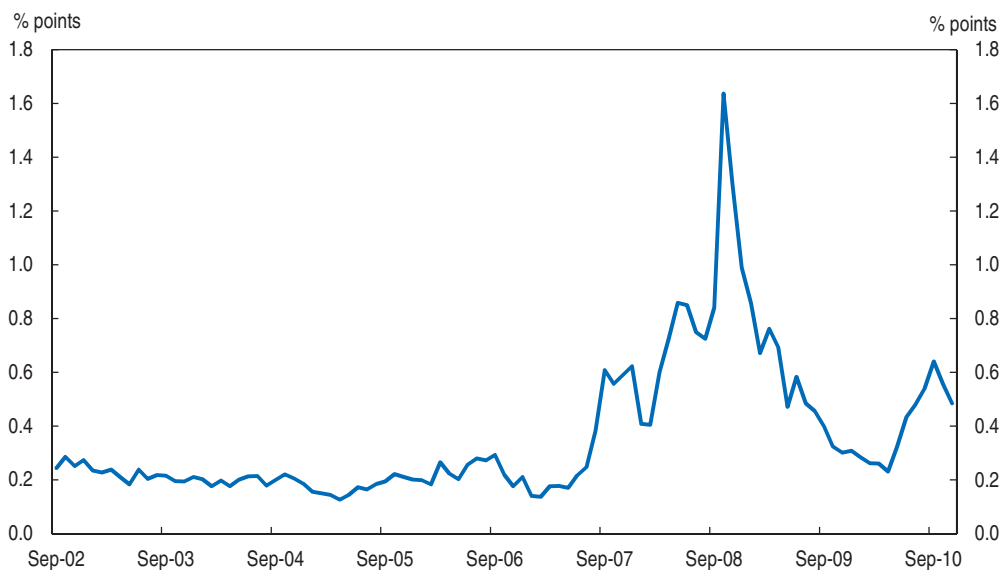


Note: STIBOR 3M is the 3-month unsecured interbank rate (the Stockholm Interbank Offered Rate), T-bill is the 3-month treasury bill rate and OIS is the overnight index swap rate with 3 months maturity (a measure of the expected policy rate).

Source: Reuters and Riksbank.


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Figure 2.2. **TED-spread**



Note: TED-spread is the spread between the 3-month STIBOR and the 3-month Treasury bill rate.

Source: Riksbank.

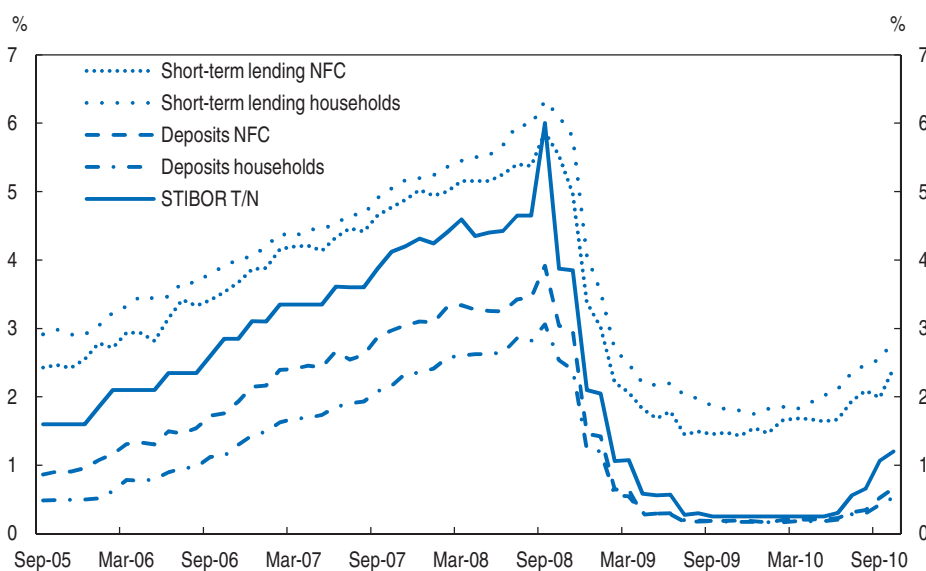
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During this period of heightened stress, there was an unwillingness to accept anything except government securities (such as Swedish T-bills), which amongst other things made it difficult to conduct repo (repurchase agreement) transactions for covered bonds. In response, the Swedish National Debt Office (NDO) released a large number of T-bills onto the market via repos and new issues. The NDO then used the funds from these transactions to conduct reverse repo transactions in covered bonds, which improved the funding situation for these securities (Riksbank, 2009). The Riksbank was able to steer interest rates to stimulatory levels, despite heightened spreads, by aggressively reducing policy rates.

Some retail markets were adversely affected by the crisis

Historically, retail bank interest rates have tended to move relatively closely with money market interest rates of similar maturities (Figures 2.3 and 2.4). Up to mid-2007, banks completely passed on changes in money market rates to the retail level in the long run, though the pass-through was sluggish (Hansen and Welz, forthcoming). More recently, the pass-through into long-term funding rates has been impaired, though it improved during 2009. The pass-through into shorter maturities continued to behave normally. This suggests that there was scope for monetary policy to influence retail rates during the crisis.

Figure 2.3. **Money market and short-term retail lending and deposit rates**



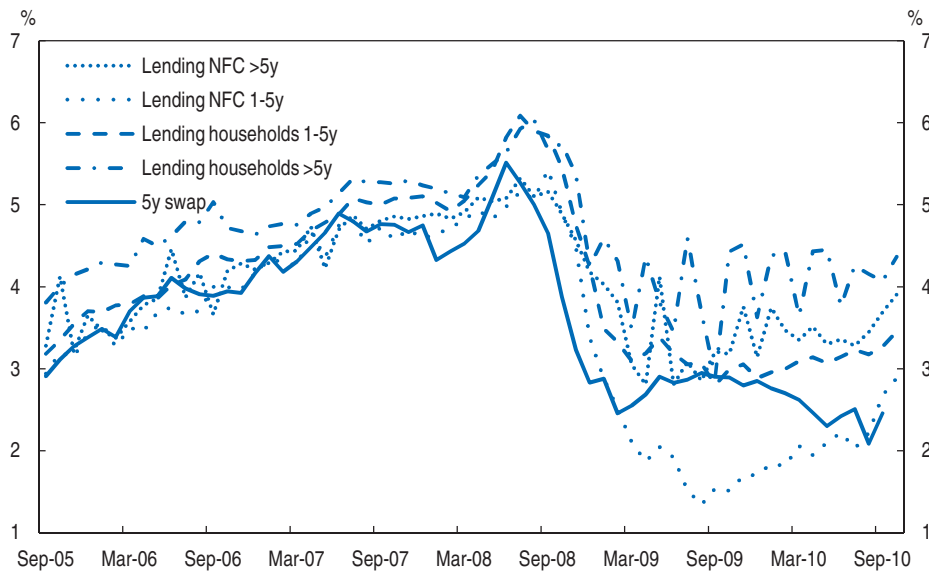
Note: STIBOR T/N is the money market tomorrow next unsecured interbank lending rate. Short-term lending rates are retail rates with an interest rate maturity below 3 months. NFC stands for non-financial corporations.

Source: Riksbank and Statistics Sweden.

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Funding has been more difficult

During the crisis many banks had funding problems and lending, especially to firms, weakened substantially. However, a slowdown in lending is unsurprising given a substantial decline in demand. Ekici *et al.* (2009) argue that there was no serious credit crunch and that the only major problem was with securities issuance in foreign currency, a problem addressed through Riksbank foreign currency lending. Moreover, a spring 2010

Figure 2.4. **Money market and long-term retail lending and deposit rates**

Note: NFC stands for non-financial corporations. 5y swap is the money market yield on the 5-year swap.

Source: Datastream, Riksbank and Statistics Sweden.

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survey of market participants suggested that the worse of the financial stress was over (Riksbank, 2010a) and some other indicators also point to an improving situation with growth in bank lending to households having picked up since mid-2009 and signs that growth in lending to firms is turning around. However, a more recent survey conducted in the autumn of 2010 suggests that only 40% of market participants thought that financial markets had returned to normal, compared with 60% in the spring (Riksbank, 2010b).

Despite near-zero interest rates, key markets have continued to operate

Another potential challenge for policy-makers was that with durably close-to-zero interest rates, market participants might lose familiarity with trading in particular markets, leading to problems in these markets. There were some technical problems as computer programmes could not handle negative rates but these could be solved. More significantly, a number of financial market instrument interest rates have been near zero or even negative and yet participants have been willing to trade them. Volumes in the spot market for government bonds have been relatively stable since mid-2008 and, while repo volumes for these securities have declined significantly, repurchase agreements for some particularly attractive Swedish securities have traded for as low as $-\frac{1}{4}$ percentage points (Beechey and Elmér, 2009, and OECD calculations). Indeed, in the July 2009 Riksbank Executive Board meeting, Deputy Governor Svensson made a case that the Riksbank policy repo rate could be reduced to zero and left open the possibility it could be reduced even further.

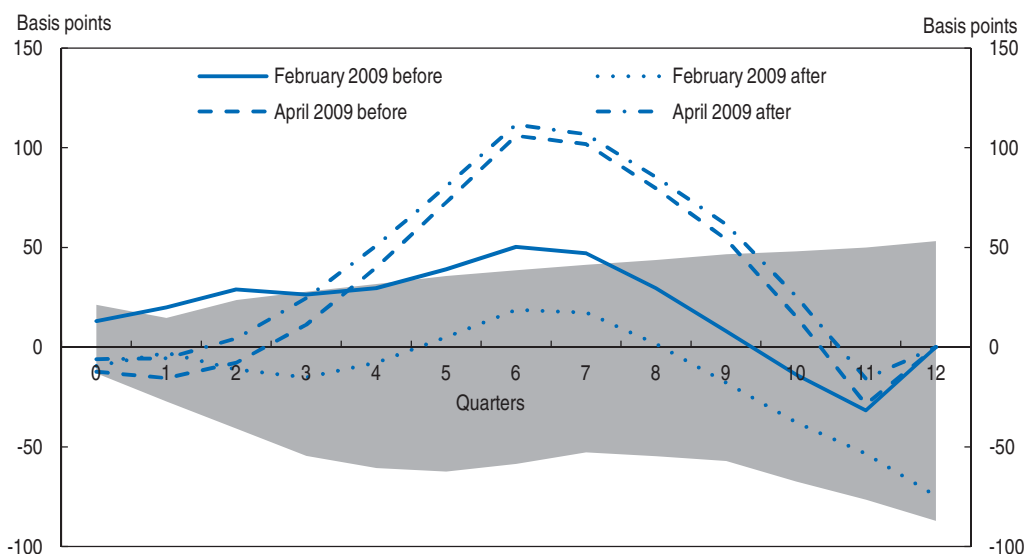
Interest rate expectations have deviated from the Riksbank's repo rate forecast

While the functioning of interest rate markets appears not to have been adversely affected by the proximity of the zero bound, the divergence in 2009 between estimated market expectations of future repo rates, as measured by implied forward rates, and the Riksbank's projections suggests that the repo forecast was not credible, possibly reflecting

lack of experience of both markets and the Riksbank with near zero interest rates. If markets and the Riksbank have a similar understanding of how the economy will evolve and how the Riksbank sets policy, market expectations and the Riksbank projections should be similar. Indeed, over 2007-08 they were usually relatively close at short horizons, even as policy interest rates approached zero, suggesting the Riksbank had managed expectations well. Around the Riksbank monetary policy publication dates during the two years to February 2009, market expectations were at most about 50 basis points away from the Riksbank projections (Figure 2.5). However, by April 2009, they were significantly higher, by over 100 basis points six quarters or so into the forecast. Over the rest of 2009, the market continued to expect a much more rapid tightening in 2010 than the Riksbank was projecting.


Figure 2.5. **Deviation of market expectations from Riksbank repo projections**

Before and after publications, quarters after forecast



Note: Shading indicates the range of deviations around publication dates during 2007 and 2008.

Source: Riksbank (2010c).

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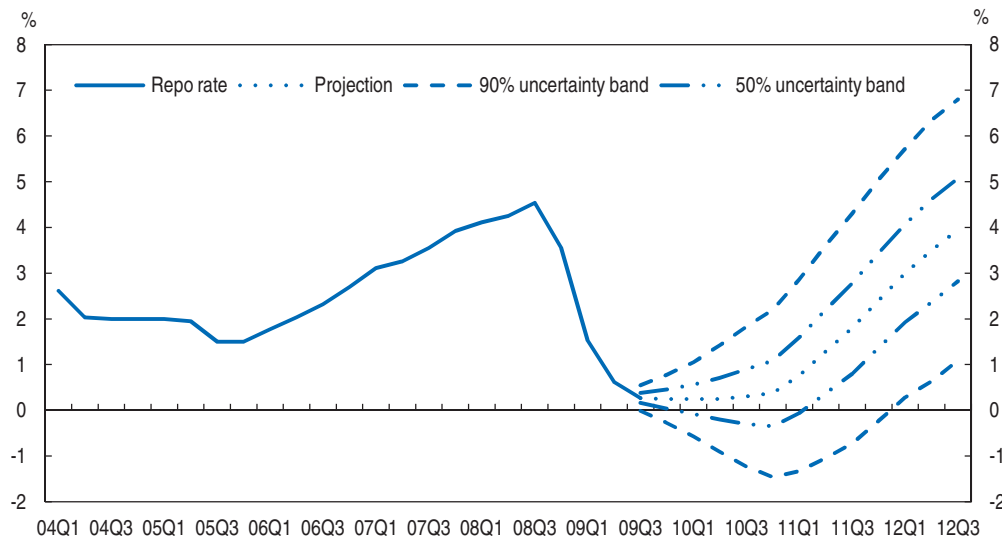
This divergence between market expectations, as measured by implied forward rates, and Riksbank projections could reflect a number of factors. First, these measures of expectations, which are inferred from futures data, could misstate true expectations due to uncertainty surrounding the risk premium (Riksbank, 2010c). However, survey measures of expectations were also elevated. Second, the expectations could reflect that markets saw more inflationary pressures than the Riksbank (as they anticipated stronger GDP growth, higher inflation or both) and/or held a different view about how the Riksbank would respond to these developments. However, it is unlikely that a more inflationary view would explain all of the difference between the repo forecasts and market expectations. One indication of this is that, in October 2009, when the market was still expecting a more aggressive tightening than the Riksbank, Consensus Forecasts had lower GDP growth forecasts than the Riksbank for 2009 and 2010 and only slightly higher inflation forecasts.

The divergence between implied forward rates and the Riksbank repo projections may have also reflected differences in what the two forecasts represent, especially with interest

rates close to zero. If there is a lower bound to interest rates around zero, the Riksbank projections of around zero may have been interpreted as a minimum (but still modal or, in other words, most likely) forecast. However, the Riksbank reported repo rate projections which suggested an over 25% chance that the repo rate would turn negative while also noting that the bands did not take into account the possibility of a lower bound (see the July 2009 Riksbank repo rate projections in Figure 2.6). In contrast, markets may have reported a mean forecast which would be higher than the Riksbank forecast, reflecting that the risks to the Riksbank's forecast were mainly on the upside. Furthermore, the Riksbank changing what was reported may not have been helpful (in the February 2009 *Monetary Policy Report* the graphs assigned zero probability to negative repo rates). The Riksbank could possibly have been clearer by presenting bands that, when relevant, better reflected the presence of a lower bound to interest rates.


In the course of 2010, market expectations, as measured by implied forward rates, have been significantly below the Riksbank's projected repo path, perhaps reflecting that the Riksbank may be continuing to experience difficulties in steering expectations. However, recent survey measures of repo expectations have not been as low as implied by forward rates. Indeed, towards the end of 2010, they have been broadly in line with the Riksbank's repo rate forecast.

Figure 2.6. **Riksbank July 2009 repo projections**



Note: Uncertainty bands reflect the x% probability that the outcome will occur within the band at any point in time, based on historical forecast errors of risk-adjusted market rates in predicting future repo rates. Unlike the original, this graph only reports the 90% and 50% uncertainty bands. The Riksbank notes that the bands do not take account of the possibility of a lower bound.

Source: Riksbank July 2009 *Monetary Policy Report*.

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As conditions improve, stimulus will need to be withdrawn

Once unconventional policies to support the economy and financial markets are no longer required, it is desirable to withdraw them as soon as practical. First, central banks have little experience in assessing and calibrating their likely effects. Second, by their non-standardness, it is more difficult to easily communicate their appropriateness and likely effectiveness. Third, prolonged use of unconventional policies, together with

extraordinary low interest rates, may lead to a distorted allocation of capital and excessive risk-taking (White, 2009). Partly because of the extraordinary nature of these measures it can be difficult to assess when to withdraw them. However, it is advisable to do so slowly and gradually, while carefully monitoring financial developments and having policy options available if there is a deterioration in financing availability.

Fortunately, thanks to the way the Riksbank designed many programmes, exit is relatively easy as some measures unwind automatically. For example, liquidity provision was undertaken through repos which can be phased out naturally when they expire. Also, the Riksbank has already made a number of other moves to unwind unconventional measures. For example, the last 12-month maturity loan has been made. The credit facility that provided loans against commercial paper as collateral has already been closed due to lack of demand, and so has the credit facility providing loans in US dollars. However, some measures, specifically the relaxation of collateral requirements, would require a more active decision by the central bank to unwind them.

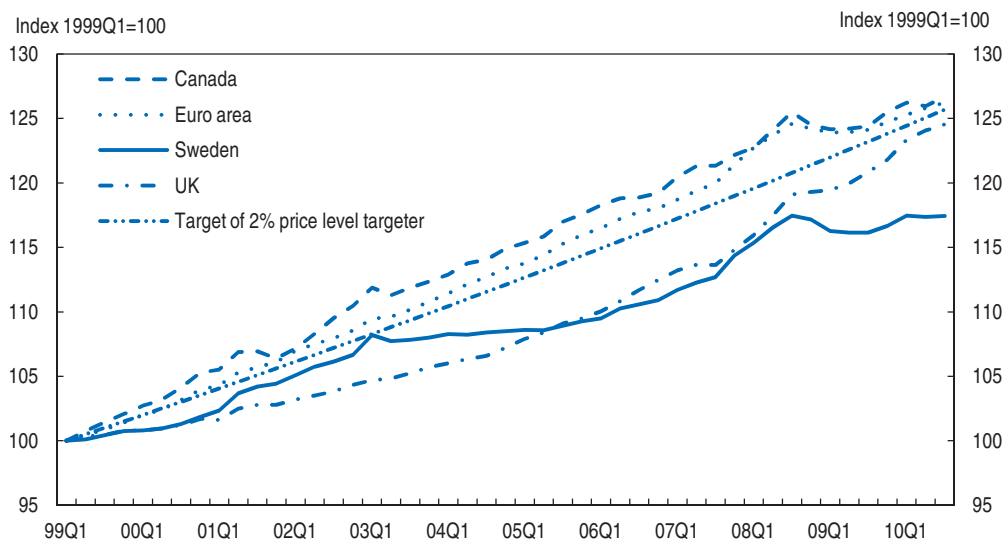
A related challenge will be at what pace to continue to raise interest rates. GDP has been growing for a number of quarters, suggesting that conditions are beginning to normalise. Household lending growth has picked up since mid-2009 and house prices have risen substantially, so possibly interest rates might need to be raised more aggressively from their still extremely low levels. However, the global economic environment remains highly uncertain. Moreover, monetary policy may currently be more potent than in the past as Swedish loan-to-value ratios are high by historical standards (Walentin and Sellin, 2010). In light of this and the absence of imminent inflationary pressures, a gradual and cautious raising of interest rates is appropriate, conditional on a normalisation of financial and economic conditions.

In many respects, the Riksbank's approach to monetary policy has been successful

Over and above these recent challenges, a fuller assessment of the Riksbank's performance should examine how it achieved its stated objectives over the longer run. The Riksbank has a headline CPI inflation target of 2%, which was long expressed with a band of $\pm 1\%$. In June 2010, however, this band was dropped. The removal of the band is not unreasonable, as inflation had been outside its target band around half the time since the mid-1990s. Moreover, the band did not serve as a formal accountability device, in contrast to the United Kingdom. Even so, there may now be a greater need for the Riksbank to clearly explain how it is trying to achieve its target and what the benchmarks are for assessing its performance.

On a number of criteria, the Riksbank has run policy well (Box 2.2; Svensson, 2009a and 2009b). It appears to have kept longer-term inflation expectations well-anchored and it has kept inflation under tight control, albeit sometimes erring on the low side, both with respect to its target and compared to inflation in a number of other countries with explicit or implicit inflation targets of 2% or so (Figures 2.7 and 2.8). Indeed, in Sweden CPI inflation averaged $1\frac{1}{4}$ per cent since 1995. Benign supply developments, like surprisingly high productivity growth, played a role in the low inflation outcomes (Riksbank, 2007). Nevertheless, persistent undershooting of the target may be a signal that economic analysis and forecasting may not be capturing why inflation is consistently lower than anticipated and hence may lead to further undershooting in the future (Giavazzi and Mishkin, 2006).

Figure 2.7. Price developments



Note: CPI for all economies except the euro area (HICP). All four economies have CPI/HICP inflation targets which could be characterised as being around 2%, though none of them pursues a price level target.

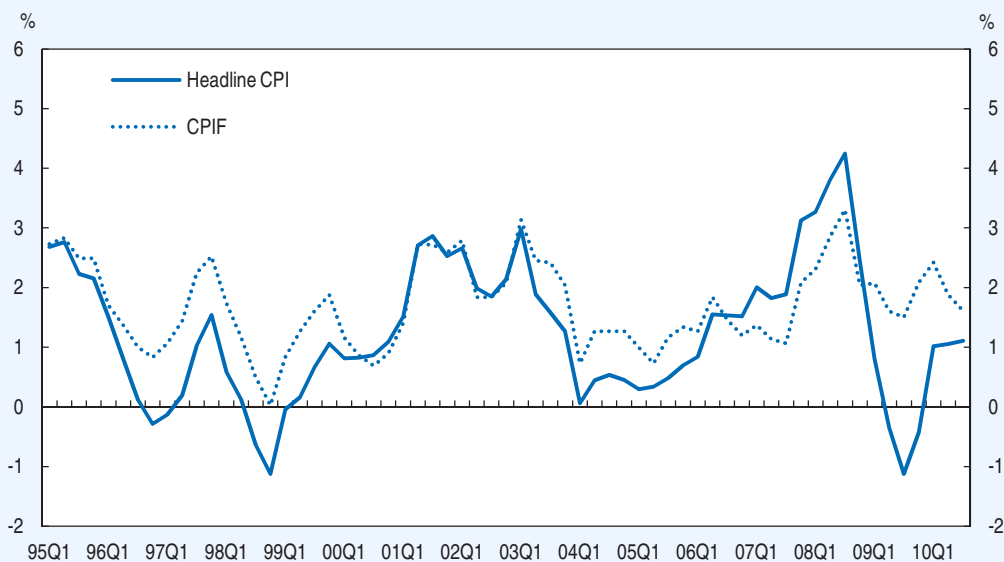
Source: OECD Economic Outlook 88 Database.

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Box 2.2. How well has the Riksbank conducted monetary policy?

Based on CPI inflation outcomes, the Riksbank has been moderately successful in achieving its 2% target (Figure 2.8). Average inflation since 1995 has been 1.2% and often quiet distant from the target with a standard deviation of 1.2. In comparison, the euro area (14) has achieved an average HICP inflation of 2% since 1999 (with a standard deviation of 0.8) compared to the ECB's objective of below, but close to, 2% over the medium term.¹

Figure 2.8. Inflation



Source: OECD Economic Outlook 88 Database.

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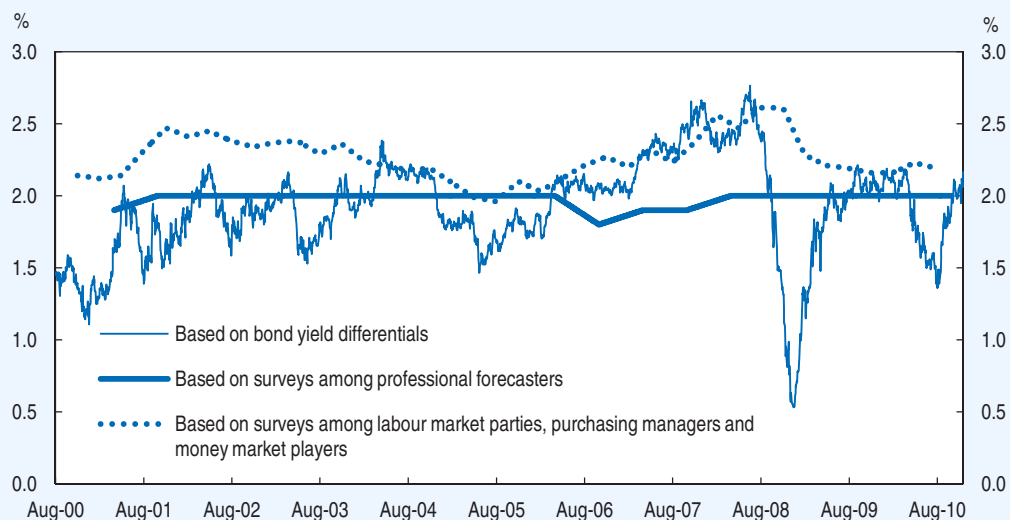
Box 2.2. How well has the Riksbank conducted monetary policy? (cont.)

However, simply looking at headline inflation outcomes could be misleading because: i) unanticipated shocks influence inflation, over which the central bank does not have complete control at least in the short term; ii) Swedish headline inflation is mechanically affected by interest rate moves; and iii) the Riksbank is a flexible inflation targeter (i.e. it is also concerned with stabilising the real economy as well as achieving the inflation target). This makes evaluation of monetary policy more difficult. However, by a number of criteria the Riksbank performs reasonably:

- CPI inflation keeping interest rates constant (CPIF inflation) has been generally closer to target and less volatile, averaging 1¾ percent since 1995 (Figure 2.8).²
- Long-term inflation expectations appear to have been fairly stable at around 2% (Figure 2.9). Survey measures have long been around 2%. Financial-market-based measures have been close to the inflation target as well, save during periods of extreme financial stress around late 2008, and to some extent in 2010, when these measures were likely less reliable (see more about inflation expectations in OECD, 2008).
- The Riksbank's inflation and GDP forecast accuracy has been similar to that of other forecasters, including at the time when all forecasters made substantial forecast errors for GDP growth and CPI inflation due to the effects of the global crisis (Riksbank, 2010c).


However, while assessing policy more positively in the past, Deputy Governor Svensson has argued on a number of occasions recently that a lower repo path than that chosen by the Riksbank would have been better, in terms of the mean squared deviations of CPIF inflation forecasts from target and either the forecast output gap or forecast deviation of unemployment from equilibrium (see Svensson, 2010).³

Figure 2.9. **Proxies for long-term expected inflation**



Note: Expected inflation: i) implied by the yield spread between government 10-year benchmark bonds and inflation-indexed bonds; ii) based on six-to-ten year ahead professional forecasters' expectations; iii) based on five year ahead survey expectations of labour market parties, purchasing managers and money market players.

Source: Consensus Forecasts, Datastream, Riksbank *Monetary Policy Report* July 2010, TNS SIFO Prospera.

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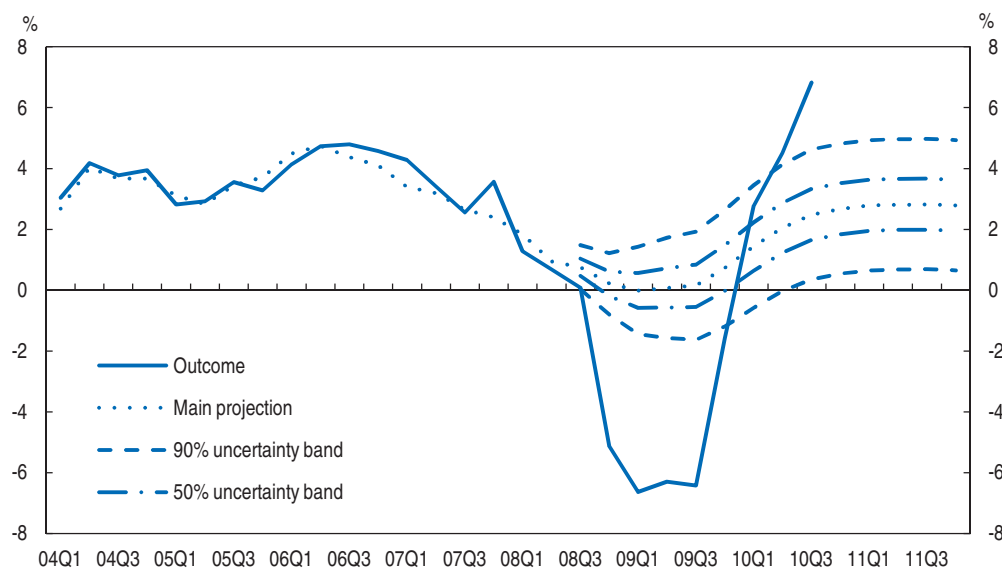
Box 2.2. How well has the Riksbank conducted monetary policy? (cont.)

1. Canadian and UK CPI inflation have averaged 1.9% since 1996 and 2.4% since 2004, respectively, both with standard deviations of 0.9, compared to their central banks' target of 2% (for Canada, 2% is the midpoint of the target range).
2. However, CPI inflation excluding food and energy, which would tend to be less affected by unexpected shocks, has on average been even lower than CPI inflation and had a slightly larger standard deviation than CPI inflation. Neither CPIF inflation nor CPI inflation excluding food and energy are the Riksbank's target, however each adjusts for one of the factors that could make headline inflation problematic. Both suggest that inflation pressures have been weak on average. As both abstract from factors which may add to inflation short-term volatility (to the extent that food and energy prices are affected by temporary shocks that have little effect on long-term inflation and that interest rates tend to respond positively with movements in inflation to get inflation back to target in the long-run), it might be expected that they would be less volatile than CPI inflation. However only CPIF inflation has been less volatile than CPI inflation.
3. Riksbank publications indicate that the bank seeks to stabilise production and employment around long-term sustainable paths in addition to stabilising inflation around the inflation target, while not neglecting that the inflation target is its overriding objective (Riksbank, 2010d).

During the early stages of the crisis, the Riksbank, like most forecasters (including the OECD), failed to foresee the severity of the downturn. Moreover, despite having correctly identified in its Financial Stability reports some of the risks facing the financial system (Box 2.3), it significantly underestimated the downside risks to activity. In October 2008 (after the bankruptcy of Lehman Brothers), it forecast a less than 5% probability that real GDP would decline at least 1½ per cent in the first quarter of 2009 on a four-quarter-ended basis (Figure 2.10). In the event, it contracted over 6%. In retrospect, it might have been more helpful to have temporarily dropped the uncertainty bands, or at least the more extreme ones which were very difficult to assess, and to have commented on the extreme uncertainty involved. Also the crisis suggests there is scope for taking better account of financial developments.

Figure 2.10. Riksbank October 2009 GDP growth projections with uncertainty bands

Four-quarter-ended percentage change



Note: Uncertainty bands reflect the x% probability that the outcome will occur within the band at any point in time, based on historical forecast errors. Unlike the original, this only reports 50% and 90% bands.

Source: Riksbank October 2008 Monetary Policy Report and OECD Analytical Database.

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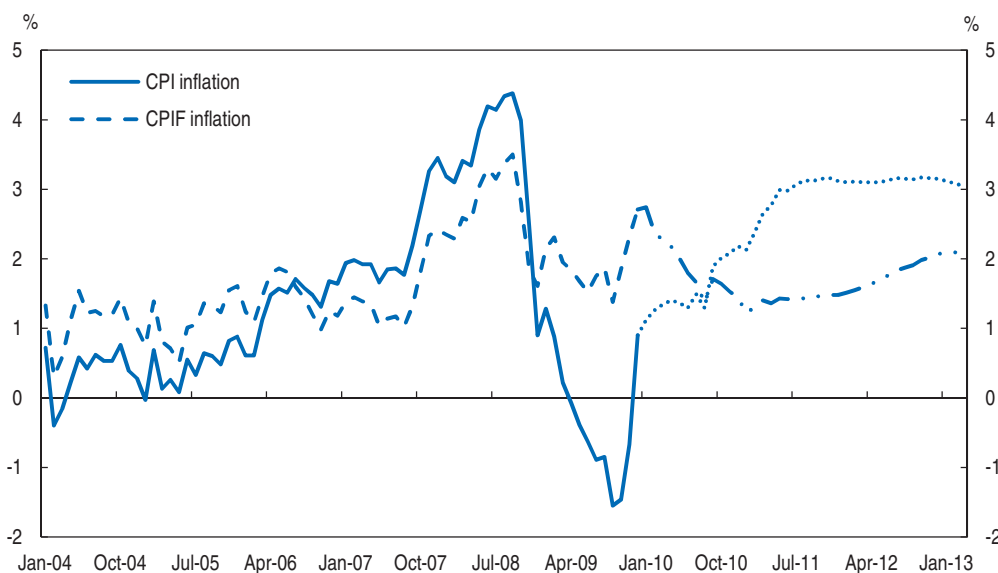
CPIF could serve as the target

There may be reasons to reconsider whether CPIF should be the formal inflation target. While the Riksbank formally targets CPI inflation, by some criteria the Riksbank's forecasts and actual inflation outcomes seem more consistent with it being a CPIF inflation, rather than a CPI inflation targeter. First, at times the Riksbank's optimal central CPI/CPIF inflation forecasts seem more consistent with a CPIF than a CPI target (Figure 2.11). In fact, since the Riksbank has begun to systematically present graphs of CPI and CPIF forecasts in Monetary Policy Reports and Updates (in October 2009), three-year ahead forecasts of CPI inflation have averaged 3.0% while CPIF inflation forecasts have averaged 2.1%.² Second, average CPIF inflation since the inflation target became fully operational is 1.7%, against 1.2% for CPI inflation, and CPIF inflation has been less volatile.

In addition, targeting CPIF inflation would present some advantages. The CPIF, unlike the CPI, does not have a component that automatically rises with interest rates, which can lead to significant differences between the two inflation measures (Figure 2.8).³ As the Riksbank's own website says, in some cases "it may be problematic for the Riksbank to explain why, for example, the immediate effect of a tighter monetary policy, that is a higher interest rate, is that CPI inflation rises". The Riksbank's decision to publish the CPIF inflation forecasts and to discuss them at length together with its repo rate, CPI inflation and GDP growth forecasts also suggests the Riksbank believes CPIF inflation developments and forecasts help explain policy.

Against this, one argument for sticking with the CPI as the target variable is that it is well-known to the public, implying that changing the target index could pose communication problems of its own. Another argument for focusing on CPI rather than CPIF inflation is that it can reflect market confidence in the inflation target, to the extent that mortgage interest rates rise if the market loses confidence in the target. However, monitoring interest rate developments separately to gauge market expectations would seem a simpler and more transparent approach, especially as the relationship between

Figure 2.11. **CPI and CPIF inflation with Riksbank February 2010 forecasts**



Note: Forecasts are presented from early 2010 onwards.

Source: Riksbank February 2010 Monetary Policy Report.

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interest rates and inflation expectations is not always straightforward. An alternative to the CPIF would be to develop a CPI measure that properly accounts for owner-occupied housing costs, which would therefore not be directly dependent on interest rates, by using imputed rents or real estate prices. Whatever variable the Riksbank targets, it should carefully explain why and for how long its forecasts deviate from target. If the existing CPI target is retained, presenting a longer forecast horizon may help in this regard.

How should financial imbalances and asset price developments influence monetary policy?

Household lending is growing, loan-to-value ratios for mortgages are high and there are indications that house prices are elevated in Sweden (Table 2.2).⁴ This raises the issue of whether and how monetary policy should respond when the evolution of asset prices, credit growth and indebtedness points to financial imbalances.

A common argument for a monetary policy response is that large and sustained asset price movements or other financial imbalances, like excessive credit growth, might be detrimental to price stability and economic activity down the road, though stress testing by the Swedish Financial Supervisory Authority (*Finansinspektionen* (FI) or FSA) suggests that mortgages and household indebtedness are not major threats to financial stability (FSA, 2010a).

Table 2.2. **Real house prices are high in some countries including Sweden**

	Per cent annual rate of change				Level relative to long-term average ¹		
	2001-07	2008	2009 ²	Latest quarter ³	Price-to-rent ratio	Price-to-income ratio	Latest available quarter
United States	4.5	-6.2	-4.1	-6.7	109	93	Q2 2010
Japan	-3.4	-2.0	-1.7	-2.0	64	66	Q1 2010
Germany	-2.5	-0.7	-1.0	-1.9	74	72	Q4 2009
France	9.5	-1.6	-6.7	4.7	138	131	Q2 2010
Italy	5.4	-1.4	-3.5	-3.9	108	126	Q1 2010
United Kingdom	8.6	-3.9	-9.0	4.7	144	137	Q2 2010
Canada	8.4	-2.8	4.0	7.9	156	131	Q2 2010
Australia	7.8	0.7	0.3	13.2	163	150	Q2 2010
Belgium	6.8	1.6	0.1	3.1	163	153	Q2 2010
Denmark	7.9	-7.4	-13.2	0.6	128	133	Q2 2010
Finland	5.6	-2.8	-0.8	9.1	139	109	Q2 2010
Ireland	5.4	-11.6	-10.0	-14.8	120	93	Q2 2010
Korea	4.4	-0.5	-2.3	0.8	110	67	Q2 2010
Netherlands	2.4	1.5	-2.7	-3.6	139	148	Q2 2010
Norway	6.8	-4.5	-0.6	7.7	157	131	Q2 2010
New Zealand	11.6	-7.7	-4.0	2.3	156	159	Q2 2010
Spain	10.5	-3.2	-7.7	5.6	138	126	Q2 2010
Sweden	7.6	0.4	-0.3	7.7	144	133	Q2 2010
Switzerland	1.7	0.0	5.5	4.0	90	93	Q2 2010
Euro area ^{4, 5}	4.5	-1.4	-3.9	-1.3	114	112	
Average of above countries ⁵	3.9	-3.6	-3.4	-2.3	107	98	

Note: House prices deflated by the private consumption deflator.

1. Long-term average = 100, latest quarter available.
2. Average of available quarters where full year is not yet complete.
3. Increase over a year earlier to the latest available quarter.
4. Germany, France, Italy, Spain, Finland, Ireland and the Netherlands.
5. Using 2005 GDP weights.

Source: Girouard et al. (2006) and OECD.

However, some common arguments against using monetary policy to this end are that it is highly uncertain how assets prices and imbalances will respond and that it is difficult to assess if asset price and other developments have been excessive. In light of the detrimental effects monetary policy could have on the real economy and of the difficulty in explaining why interest rates are being altered, there is a case for being cautious about using conventional monetary policy to contain risks to a particular part of the economy.

However, the difficulties of using monetary policy to “lean” against asset price or other financial developments are, at least qualitatively, not different from those arising with standard flexible inflation targeting, where there is uncertainty about inflationary pressures, capacity utilisation and the effect of monetary policy on imbalances. Similarly with standard flexible inflation targeting, there can also be difficulties in explaining policy if different sectors of the economy are growing at different rates or if inflation and activity are going in divergent directions. On this score, asset prices and other financial developments should be taken into account in setting monetary policy, and need not be inconsistent with flexible inflation targeting. Moreover, monetary policy is not the only tool available to reduce the likelihood and consequences of asset price busts or other adverse financial developments. Specifically, appropriate financial regulation and supervision are key to containing financial imbalances.

There is evidence that at least some of the Riksbank’s Executive Board members are influenced by the role of asset price and related developments and risks in setting monetary policy (Ingves, 2007, and Ekholm, 2009). Moreover, the Riksbank has indicated that risks linked to developments in financial markets are taken into account in making decisions on the repo rate while effective regulation and supervision are the most important tools to prevent imbalances in asset prices and indebtedness. Executive Board meetings can be a useful opportunity to scrutinise and explain arguments about how asset price developments should influence policy, though the recent debate and lack of consensus reported in the Board’s minutes suggest more work may need to be done in this regard and the Riksbank’s decision to appoint a commission of inquiry into the housing market, which will report in January 2011, suggests that the Riksbank has yet to settle on a view about how housing price developments should influence policy.

Should the target be changed?

Despite recent discussion about price level targeting and raising the inflation target, a continuation of the current strategy of flexible inflation targeting with the existing numerical target seems the most judicious one, though with the potential change to CPIF inflation targeting. As previously discussed, various factors like asset prices and inflation expectations need to be monitored and analysed to assess their implications for long-term inflation and the real economy, including the risks around the central forecasts.

A higher inflation target has been suggested as a way to give monetary policy more scope to react in severe recessions (Blanchard *et al.*, 2010). As there is limited capacity for nominal interest rates to fall below zero, low inflation reduces the ability of the central bank to reduce real interest rates. So a higher inflation target can help raise inflation and give central banks more scope for stimulation using conventional monetary policy.

However, there are a number of reasons why raising the inflation target would seem less desirable, at least for Sweden. First, raising the target might unanchor inflation expectations. Second, there is some evidence for advanced economies that inflation rates higher than that of the existing Riksbank target would have detrimental effects on GDP growth (Espinoza *et al.*, 2010).

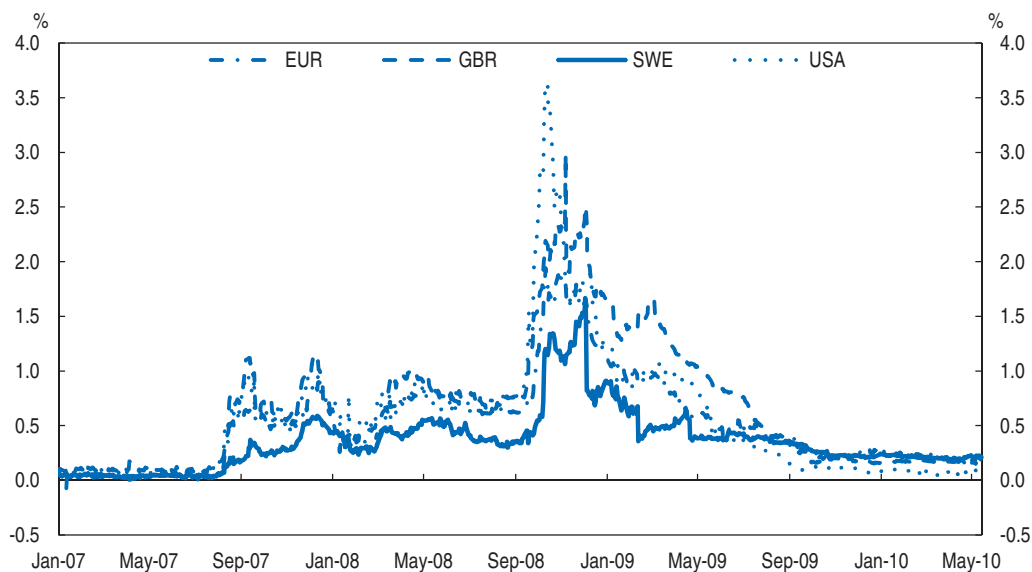
Alternatively, one could target a price level rather than inflation (Cournède and Moccero, forthcoming). If the policy of price level targeting is credible, periods of below-target prices will be expected to be offset by future spells of higher inflation, as the central bank seeks to get back to its price target. This will reduce real interest rates, thereby lessening the need for nominal interest rate decreases and reducing the likelihood that nominal interest rates will need to fall to near-zero levels. However, again it may be difficult for the Riksbank to effectively communicate the new target, especially if it is perceived to be breaking a commitment to the previous target. This is critical as the advantages of price level targeting are likely to be undermined if the central bank is not fully credible. Another disadvantage is that there has been little experience in price level targeting (Sweden did have a price level target in the 1930s, but it is difficult to assess what price level targeting would be like during less exceptional times.).

The Swedish financial system during the crisis and beyond


The global financial crisis hurt the Swedish financial system

As noted above, during the financial crisis, spreads widened. At the same time, the international demand for corporate bonds slumped, forcing large Swedish companies to seek financing from banks, which were facing difficulties in their own right with their reliance on non-deposit funding (Riksbank, 2008). However, stress has generally been more limited in Sweden than in some other economies. For example, interbank spreads in Sweden rose less sharply than in the United States or the United Kingdom (Figure 2.12). Moreover, since the peak of the crisis late in 2008, financial stress has abated, even if risk premia remain elevated by historical standards and there have been some signs of a pick-up in stress this year (discussed earlier). The initiatives taken by the Riksbank and other authorities (Box 2.1) have helped, as has Sweden's sound fiscal position.

Figure 2.12. **Three-month Libor-OIS rate spreads**



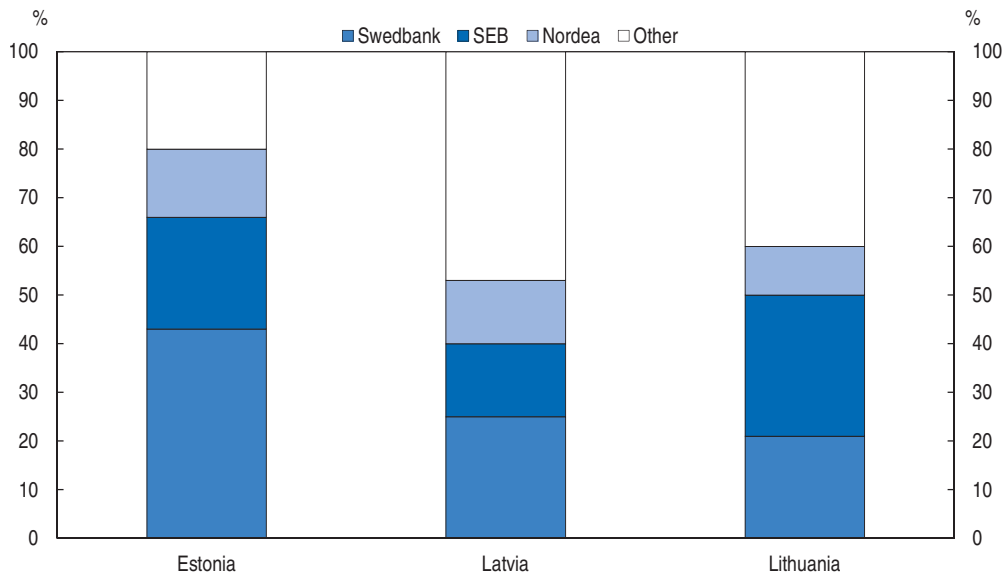
Source: Reuters.

StatLink  <http://dx.doi.org/10.1787/888932368099>

Financial stress and other factors caused net loan losses of the major Swedish banks to rise from about SEK 1 billion in 2007 to SEK 56 billion in 2009, in Q1 2010 constant prices (Riksbank, 2010e).⁵ A large portion of these losses stemmed from banking activity in the Baltic States, which experienced a very deep recession and where Swedish banks have a large market share (Figure 2.13).⁶ Even so, only around 5% of total lending by the major Swedish banking groups is to the Baltic economies (Riksbank, 2010e), so that the shock has been absorbed without adverse systemic consequences.


Figure 2.13. Lending in the Baltic states

As a share of total bank lending in each of these countries as of Q3 2010



Note: Swedbank, SEB and Nordea are Swedish banks.

Source: Riksbank Financial Stability Report 2010:2.

StatLink  <http://dx.doi.org/10.1787/888932368118>

More generally, the situation for Swedish banks looks promising, with all four major banks having improved their capital ratios. Moreover, their capital positions compare favourably with international peers, with all four having a better risk-adjusted capital ratio than some of the major international banks (Riksbank, 2010f). Stress tests conducted by the Riksbank, the FSA and European authorities suggest that the major Swedish banks would remain well capitalised even if conditions were to deteriorate (Riksbank, 2010f, FSA, 2010b, and FSA, 2010c) and the Riksbank has reported that Swedish banks' total consolidated claims on Greece, Ireland, Italy, Portugal and Spain total only 2% of GDP (or 1% of bank assets). However, there are risks. For instance, problems in these economies could lead to heightened pressures in other parts of Europe which could in turn affect Sweden. In general, foreign developments may quickly affect the Swedish financial system as over 40% of the major banks' total exposure is to foreign banks (Riksbank, 2010f). Also Riksbank liquidity stress tests suggest that the maturity of bank funding is a source of potential concern (Riksbank, 2010f).

The programmes responding to the crisis generally helped

Turning to the effectiveness of the programmes put in place to respond to the crisis (Box 2.1), the bank guarantee helped stabilise the financial system. Indeed, one bank of systemic importance was completely reliant on the guarantee for its medium-term

funding for several months. In addition, the programme provided a safety net to banks that did not participate. The government charged for these guarantees, which it would likely have felt obligated to give anyway to ensure financial stability, so the government's financial position was not made any worse (NDO, 2009). On the positive side, while the guarantee is still available, no institutions are currently in the programme, reducing the potential problems associated with distorting competition and creating incentives for excessive risk taking (Levy and Schich, 2010).

While the scale of the capital injection programme, which allows the NDO to advance capital to financial institutions subject to the government's approval, was relatively small, it ensured that banks had access to funds if they were required.⁷ This made lenders more inclined to provide credit and thereby indirectly contributed to a normalisation of financial market activity. Greater clarity on the government's intentions for this programme might have been desirable to facilitate negotiations between the NDO and the banks had circumstances warranted them.

Government support to Svensk Exportkredit (the export credit corporation) appears to have boosted funding, even if Exportkredit may have been able to do so on its cash reserves (NDO, 2010). There is a need to reassess Exportkredit's wide range of undertakings, such as lending to municipalities and corporate financing, especially given its low profitability and concerns raised by the National Audit Office about its administration.

The increase in export credit guarantees by Exportkreditnämnden improved Swedish exporters' ability to fund business despite the financial turmoil. However, it also provided indirect support for banks, without the same restrictions on executive compensation as other bank support measures (NDO, 2010).

The increase in lending by ALMI (the government-owned business development and financing agency) had a positive impact. In the first three quarters of 2009, SEK 2.6 billion of loans were granted, twice as much as during the same period a year earlier. Even if the total amount of loans was small, this increase helped small firms, which were more likely to have experienced funding problems during a financial crisis (NDO, 2010).

Overall, the government programmes have helped support credit during the crisis, showing the government has been able to use the tools at its disposal to lessen the effects of financial turmoil. Given the unusual circumstances and the need for a fast response, it is not surprising that some aspects of the programmes turned out not to be perfectly designed. To the extent that the additional government support was only meant to mitigate the effects of the crisis, the government needs to carefully evaluate the programmes, with a view to phasing out the additional support to firms as the economic environment normalises. This will help highlight that the crisis is over and return private markets to a more normal *modus operandi*. There has been good progress in this regard. No institution is currently in the guarantee scheme, the capital injection programme has been used only once and these programmes are scheduled to end. Moreover, the guarantees available from Exportkredit have been reduced and there are government plans to evaluate aspects of Exportkredit's and Exportkreditnämnden's activities.

Financial market risks remain

While there have been some positive developments, leading the Riksbank to revise down its expected loan losses for the major banks in the late 2009 and 2010 Financial Stability Reports, risks remain. Financial markets are probably not functioning normally

both due to government support measures and uncertainty about the fiscal prospects of some countries. Authorities should continue to monitor developments closely and stand ready to intervene if financial stress were to worsen substantially. It will be particularly important to monitor market funding as the major Swedish banks are particularly dependent on markets compared with a number of European banks (Riksbank, 2010f).⁸

Carefully designed regulations may help lessen the probability and extent of future crises

The global financial crisis revealed major weaknesses in financial regulation. A general consensus has emerged that minimum capital ratios ought to be substantially lifted and that changes to liquidity rules are needed. Following the Basel and EU deliberations, the FSA has proposed some liquidity and capital regulations which are scheduled to come into effect at the end of 2010. They increase common equity requirements of institutions and require more information and planning regarding liquidity risk. Further changes are inevitable following the recently announced Basel agreement, which include the phasing in of new liquidity and capital requirements gradually through the beginning of 2019, though further announcements on the detail are expected and Basel III also allows the Swedish authorities to go beyond minimal Basel requirements. Swedish authorities have been actively involved in discussions on this topic with, for example, Ingves (2009) suggesting that improvements could be achieved by introducing a capital surcharge or general charge for systemically important financial institutions, or requiring such institutions to create a debt instrument which automatically becomes capital when capital adequacy levels fall sufficiently. In principle, given the good capital position of the major Swedish banks, it would seem desirable to launch the reforms quickly and, as mentioned, the FSA is in the process of introducing new rules. However, the design and the application of the policy will matter. A possible concern is that the regulations may reduce competition due to higher costs, or disadvantage Swedish banks compared to international competitors. This may be particularly relevant as, though it is difficult to assess, there is some evidence that Swedish banks appear relatively non-competitive, based on measures using profits and non-interest income, though using other metrics Swedish banks look better (Bolt and Humphrey, 2008).

Weaknesses in the capacity and incentives to control risk of financial institutions also need to be remedied and greater emphasis on long-term profitability and transparency in remuneration is warranted. In Sweden, the FSA has uncovered weakness in internal governance and control for some small financial institutions, such as Forex Bank, HQ Bank and Carnegie Investment Bank (FSA, 2010c and 2010d). Moreover, there is also evidence that variable compensation in the Swedish financial sector has not been linked to long-term performance, with a 2009 survey indicating that 99% of all variable compensation was based on performance in one year or less, and was paid within one year (FSA, 2010d). Following EU recommendations, the FSA now requires that over half of variable compensation for employees who can materially influence risk be deferred by three years and it has provided other guidance on remuneration. However, further reforms could potentially better align incentives, such as greater ability to reclaim compensation if based on manifestly misstated results.

Consumer protection concerns are also being addressed. For example, since consumers in Sweden bear significant risk from housing loans, the FSA announced an 85% limit on loan-to-value ratios for new housing loans from October 2010 (FSA, 2010d). This is likely to enhance macroeconomic stability as well, though the change may have costs in

terms of higher interest rates (if the restriction limits the quantity provided of, but not the demand for, credit) or reduced access to housing. More generally, the FSA has been pushing financial companies to provide relevant information, good advice and comprehensible contracts to consumers (see also OECD, 2009a).

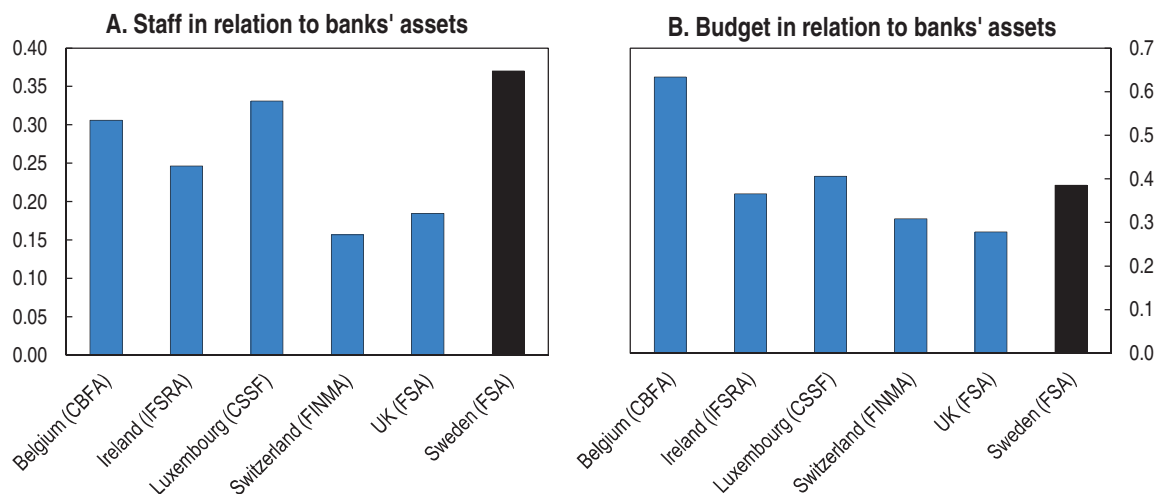
The government's plan to try to reduce risk through a risk-based fee for the stabilisation fund (Box 2.1) is a welcome development. However, the government will not set out until 2011 the details of a more sophisticated risk-based fee. Such a fee should offset the negative externality of the risks. In order to provide a market-based indicator of the appropriate fee, the government could sell "rescue bonds" for each relevant institution, which would pay out a coupon only in the event of a bailout or other government assistance (Kocherlakota, 2010). However, in practice markets for such bonds may prove to be thin and illiquid, meaning that they would send a less helpful price signal.

The introduction of a stabilisation fund could limit funding problems during financial crises but it might be insufficient to finance measures in a future crisis. An unlimited credit line is therefore available at the National Debt Office. Furthermore, there is a preparedness to adjust the levy if needed. In any event, stabilisation funds need to come with satisfactory failure resolution arrangements, as discussed further below (Schich and Kim, forthcoming).

The FSA may need more resources


Monitoring and enforcement of regulations will also be important for their effectiveness. The FSA has received a significant increase in funding over recent years and supervisory resources in Sweden are at least comparable to some other European institutions which also supervise large and/or interconnected financial sectors (Figure 2.14). However, exact comparison is difficult and there may be some debate about whether recent developments suggest that financial supervisors may need greater levels of funding. Moreover, survey evidence suggests high staff turnover and workload may be reducing efficiency (see FSA, 2010e), and the introduction of new regulations may further increase workloads.

Figure 2.14. Resources for financial supervisors



Note: Panel A reports the ratio of the staff of the surveillance authorities divided by the banks' assets (in EUR billion). Panel B reports the ratio of the budget of the surveillance authorities divided by the assets of banks expressed in basis points so a ratio of 0.01 would be reported as 100 in basis points. Older World Bank data also suggest the FSA is better resourced than the Danish supervisor and arguably comparably resourced to the Finnish and Norwegian supervisors.

Source: From OECD (2010) and Swedish data.

StatLink  <http://dx.doi.org/10.1787/888932368137>

The financial supervision framework needs revisiting

In Sweden, the FSA has responsibility for promoting stability and efficiency in the financial system, for supervising individual institutions and for ensuring effective consumer protection. However, the FSA has only restricted supervision over some non-bank financial institutions (such as deposit companies that take deposits of up to SEK 50 000). This anomaly should be addressed, as it could lead to a more general lack of trust and in the long term may distort the structure of financial markets.⁹

The Riksbank has responsibility for promoting a safe and efficient payments system, which is interpreted as encompassing safeguarding the financial system. It produces financial stability reports, which can be useful in identifying risks to the system (see Box 2.3). However having multiple authorities involved can be problematic. During the current turmoil, a Riksbank Executive Board member suggested that the impact of the Riksbank's analysis of financial stability had been limited owing to the division of responsibilities between authorities (Ekholm, 2009). The Riksbank Governor (Ingves, 2010) has indicated that while the Riksbank did try to reduce the extent of Swedish bank risks in

Box 2.3. How useful are Financial Stability Reports?*

Financial Stability Reports (FSRs) and the processes and information gathering associated with them can potentially be useful in identifying risks and evaluating their likely effects. This is helpful for policy-makers who supervise and regulate the financial system. In addition, by making these reports public, they can help financial sector participants make better decisions and help interested parties, including the general public, improve their assessment of the quality of the authorities' work.

The Riksbank's FSR identified a number of factors that became important during the subsequent financial turmoil. In 2006, it argued that the large exposures of a number of Swedish banks to the Baltic states posed a risk. In addition, in 2006, it concluded that: a) a sudden change in expectations and desire for more secure assets could lead to impaired liquidity in financial markets; b) hedge funds could allow disruptions to spread quickly between different financial markets; and c) unusually low risk premiums could rapidly correct. Once the crisis developed, a number of other risk factors were identified, including the reliance of Swedish banks on international wholesale funding.

To assess how various risks would influence the financial sector, the Riksbank also conducted a number of stress tests, including examining the effect of a substantial decline in the creditworthiness in Baltic countries and deteriorations in credit quality similar to those in the early 2000s and early 1990s downturns. The Riksbank also conducted contagion and liquidity stress tests and collected information on Swedish bank counterparty exposures for the former. The FSRs provided useful information for assessing how these risks would affect the largest banks.

However, FSRs by themselves will not necessarily ensure that financial stability is preserved. First, a FSR may make poor assessments and predictions. This would risk undermining the credibility of the authoring institution more generally and hence may make it more difficult for the central bank to conduct monetary policy. Second, Sweden's experience suggests that a problem in the financial crisis was not the FSRs themselves but putting the information in the Reports to better use, with recent experience suggesting that the Riksbank was hindered in this regard by its lack of instruments to influence bank behaviour (see main text).

* This box is based in part on Wilkinson et al. (2010).

the Baltics, through discussions with the banks, the Baltic authorities and the Swedish FSA, it failed. Moreover, only the FSA has the tools to influence financial institution behaviour directly by, say, prohibiting companies from undertaking certain actions.

A number of tools could be provided to the Riksbank to increase its influence over banks, if deemed appropriate: i) the ability to start cases at the FSA or to draw systematic risks to the attention of the FSA (which the FSA would have to act on or publicly explain why it did not do so); ii) the ability to control the cost or extent of risky behaviour at an aggregate level, such as control over liquidity ratios, capital requirements for mortgages or an adjustable mortgage interest levy; and/or iii) making the Riksbank, rather than the FSA, responsible for supervising banks (Box 2.4), which would likely involve transferring resources to the Riksbank. In light of the Riksbank and FSA's good co-operation, the first option is relatively attractive so long as it can work effectively. The second option may seem particularly appropriate given the Riksbank's expertise in macroeconomic analysis, though it may be a crude tool for addressing financial sector problems and could involve complications if new tools have to be created or existing tools have to be reallocated between institutions. A similar concern may exist for the third option (see also Box 2.4).

Regardless of whether any of these options are used, it would be helpful to clarify the responsibilities of the Riksbank and the FSA with respect to financial stability. Reflecting these concerns, the Riksbank in early 2010 called for a review of its Act to clarify its responsibilities, the tools it needs as well an analysis of the division of responsibilities and co-ordination between the Riksbank and the FSA (Riksbank, 2010g). The government has announced there will be an inquiry into the regulatory framework. Such an examination should carefully examine the operation of the financial system, elaborate policy objectives, match possible policy instruments to these objectives and consider the most appropriate institutions to implement these instruments (OECD, 2009b, and OECD, 2009c).

Box 2.4. **Should the Riksbank supervise banks?**

There are a number of pros and cons of the central bank being the bank supervisor (Goodhart, 2002, and Blinder, 2006). There may be economies of scope (benefits from combining functions) but also conflicts of interest. The diversity of financial sector supervision arrangements across countries in part probably reflects this and the fact that it is not clear that one set-up works obviously better than any other. For example, Australia, Sweden and the United Kingdom have a single financial supervisory agency, the United States has a number of agencies involved in financial system supervision, including the Federal Reserve, and New Zealand has the central bank responsible for bank supervision.

On the one hand, there may be complementarities between the central bank's macroeconomic and prudential responsibilities. Having supervisory authority would give the central bank unique access to timely information on the banking system that might be helpful to assess the credit channel transmission mechanism of monetary policy and such information may also enhance the central bank's ability to forecast the economy. In principle the Riksbank currently has full access to institution-specific data though in practice not being the supervisor may limit its knowledge of what information may be useful and hence may mean that it does not request such information or even possibly know of its existence. Moreover the Riksbank's existing expertise is likely to make it particularly well placed to assess stability issues from a macroeconomic perspective. In addition having financial supervision within the central bank may help with relationship building between the relevant individuals who would be involved in future crisis management.

Box 2.4. Should the Riksbank supervise banks? (cont.)

On the other hand, there is the scope for significant conflicts of interest where the central bank may be tempted to let sick banks continue in order to support the general economy and achieve its inflation stability objectives even though their survival may be detrimental to financial stability. This may lead to worse overall economic outcomes in the longer term. However, a possible counterargument is that the central bank is in a unique position to assess the pros and cons of letting a bank fail and can make bank supervision decisions which internalise the consequences of its actions on the macroeconomy, thereby achieving better outcomes.

Another potential argument against the central bank being the bank supervisor is that it could be difficult for the central bank to achieve systemic stability, efficiency of the banking system and, where relevant, customer protection. However, a financial supervisory authority is likely to face similar challenges with these objectives.

There could also be concerns that a central bank combining monetary policy and supervision responsibilities could be too powerful for an unelected institution, especially to the extent that it is perceived as intervening in individual institutions. However, the Riksbank is under the authority of the Riksdag, the Swedish parliament. The Riksdag has a number of ways of making the Riksbank accountable. The Riksdag currently appoints members of the General Council which itself appoints members of the Executive Board which sets monetary policy. The Riksbank is obliged by law to submit written reports on monetary policy to the Riksdag at least twice a year and the Governor appears before the Riksdag Committee on Finance to answer questions shortly after the reports are submitted. In addition the Riksdag Committee on Finance has appointed external reviewers to evaluate the Riksbank's work, most recently in 2010. They can scrutinise the work of the Riksbank and encourage open discussion about improving the work of the Riksbank. The Riksdag could impose additional requirements if it deems it necessary. While it is a political question whether an unelected central bank should be able to intervene in specific financial institutions, the Riksbank's relative independence may mean that it feels less restrained in dealing with financial sector problems.

Overall, a case could be made for the Riksbank to become the supervisor of banks. However, there may be limited benefits from also supervising non-bank financial institutions as the synergies from combining macroeconomic and prudential regulation of systemically unimportant institutions may be small.* Moreover, the Riksbank may lose the benefit of more open discussions with financial institutions if it became their supervisor. However without the ability to influence bank behaviour more directly, the value of this may be limited.

Of course making the Riksbank the bank supervisor would not ensure financial stability by itself – it would need to be effectively managed and have the necessary tools to do its work such as the ability to sanction banks. In particular interest rates alone will be poor policy instruments to try to control both inflation and supervise banks. Also a major change of supervisory structure could lead to a loss of expertise if not handled carefully. Moreover financial stability is also determined by conditions outside of the supervisor's control. Nevertheless providing the Riksbank with another tool, in addition to interest rates, would be welcome, assuming it keeps its existing inflation target and financial stability objectives, and making it an appropriately equipped bank supervisor would be one way of doing this.

* A similar argument could be made to justify the Riksbank not being the supervisor of small banks. However there are advantages if all banks are covered by the same supervisor. In general if there is any division of supervisory responsibilities, there is a risk that what is systemically important could change and this would need to be monitored.

Cross-border banking issues gained prominence during the recent financial turmoil, especially in Sweden (BCBS, 2010, Ekholm, 2010, and IMF, 2010). The desire for greater cross-country financial integration has led to tensions in maintaining financial stability within a structure of still largely national legal and institutional frameworks. These problems can be lessened by further harmonisation of supervision and crisis resolution frameworks and by ensuring there is sufficient financial and technical capacity for authorities to identify problems and provide necessary support. This will require more information-sharing and co-operation across borders during both normal and crisis times, and ultimately probably a set of binding burden-sharing agreements, which are likely to be difficult to conclude. In general, Sweden has actively tried to improve cross-country relations and has been at the forefront in this regard in the European Union, in particular with the establishment of the Nordic-Baltic Cross-Border Stability Group in 2010 based on an agreement amongst Nordic and Baltic authorities. The latter included a preliminary framework for co-operation and burden sharing between agencies in a crisis. Moreover, given the structure of the Nordic financial system, it makes sense that Nordic authorities continue to develop joint strategies for dealing with crisis situations. With existing arrangements, there may be scope for greater harmonisation of deposit insurance and greater explicitness about the rules for early supervisory intervention, though Sweden is addressing the former by introducing the amended EU deposit insurance directive. In addition, given Swedish banks' foreign exposures the Riksbank may need to further increase its foreign exchange reserves or organise contingent lines for foreign currency with the Federal Reserve.¹⁰

The Government Support to Credit Institutions Act, which gives the government a wide range of possibilities to support banks in distress and take over a troubled bank under certain conditions, was an important step in dealing with problematic financial institutions. However, more needs to be done. Specifically, the arrangements for the support, administration, reconstruction and winding up of credit institutions need to be reviewed, analysing when and how they should occur and whether the tools available to financial supervision authorities are sufficient to avoid financial turmoil (Riksbank, 2010g). Currently, the FSA cannot directly initiate an insolvency proceeding, nor co-ordinate a rescue plan before insolvency is declared. Though some tools are available to the authorities, the limited powers of the FSA may make it difficult to respond quickly and effectively to problems. For example, the inability to initiate insolvency is problematic as deposit insurance funds can only be disbursed after a bank is in bankruptcy (though bankruptcy being the trigger for making use of deposit insurance is currently reviewed by the government). Some procedural rights and current procedures in bank resolution cases may need to be curtailed or changed to ensure speedy resolution in the public interest and this may involve reviewing European law.¹¹ The previously discussed inquiry into the regulatory framework is to examine how powers should be distributed amongst the authorities so that different kinds of crises can be addressed effectively while ensuring the interests of taxpayers are safeguarded.

These issues don't involve only the FSA. The NDO can provide various types of emergency support during financial turmoil. It would be useful to clarify which of the NDO and the Riksbank are responsible for providing liquidity assistance to financial institutions and specifically when and to whom assistance can be provided. For example, it may be

against European treaties for the Riksbank to support an insolvent but systemically important bank, while the NDO determines whether there should be liquidity assistance to the bank (Riksbank, 2010g).

Lastly, in Sweden, much of the accounting supervision of listed companies has been done by stock exchanges mainly with the help of consultants. However, consultants do not have access to the European Enforcers Co-ordinating Sessions meetings or the decision database of the Committee of the European Securities Regulators, for confidentiality reasons. In addition, using consultants means that the stock exchanges themselves risk not having sufficient direct knowledge of the issues involved in regulation (FSA, 2010d).

Conclusion

The policy priority is to continue to support a sustainable recovery from the crisis. On the monetary side, this will involve raising interest rates gradually, conditional on economic and financial developments. On the financial stability side, the framework and regulation of the financial system can be further improved. Specific recommendations are summarised in Box 2.5.

Box 2.5. Summary of recommendations regarding monetary policy and the financial system

- The Riksbank ought to continue to raise interest rates gradually, removing stimulus as the expansion unfolds and financial stress lessens.
- The Riksbank could usefully clarify its repo band forecasts and the role of risks, including those related to asset prices and credit developments. The Riksbank's inflation target could be redefined in terms of a measure of inflation not directly affected by interest rates.
- The increased government support, via the capital injection and the guarantee programmes should be unwound as conditions normalise. Aspects of the government support programmes need to be reviewed to examine whether they are inappropriate or poorly designed.
- As new financial regulations are introduced, attention will need to be paid to their effect on efficiency, stability and consumer protection.
- There is scope to improve FSA funding and correct any anomalies, such as not having all deposit-taking institutions fully regulated by the FSA.
- The responsibilities of and relationship between the Riksbank, the FSA and the NDO need to be reviewed and clarified. Gaps in the toolkit to supervise and influence financial institutions need to be addressed. An evaluation of the resolution framework for banks is needed. If the FSA remains the supervisor, its toolkit may need to be strengthened. If the Riksbank retains financial stability responsibilities, it could be given more effective instruments to influence banks' behaviour.
- Cross-border financial supervision co-ordination and co-operation need to be further nurtured. Memorandums of Understanding between cross-border institutions generally could be more specific.

Notes

1. Within the Riksbank Executive Board, there were mixed views about the need to tighten, with three members expressing reservations about the September 2008 hike.
2. An article at the end of the July 2010 *Monetary Policy Report* suggests that CPI inflation will reach the 2% target by 2016, well beyond the forecast horizon of the most prominent graphs in the report. Similar to the recent *Monetary Policy Reports*, earlier reports have cases where the forecasts of inflation not directly affected by interest rate movements also seem more consistent with an overriding concern with 2% inflation than the CPI inflation forecasts. For example, in the October 2007 *Monetary Policy Report* the CPI inflation forecasts appear to stabilise at 2¼ per cent in 2010 while the reported UNDI1X (CPI excluding household mortgage interest expenditure adjusted for direct effects of changes in indirect taxes and subsidies) inflation is at around 2%.
3. The US CPI uses imputed rents for housing costs and so is not directly affected by interest rate changes. The European Central Bank and the Bank of England also have a definition of price stability or an inflation target in terms of an HICP/CPI which excludes mortgage interest charges. However the latter does have the potential disadvantage that it excludes a significant share of the cost of living (Cournède, 2005). Eurostat is working on including housing in the HICP.
4. While low real interest rates, strong income growth and the low supply of housing may explain these high house prices, there are risks. Recent analysis (Walentin and Sellin, 2010) suggests that housing demand shocks, specifically shocks to the relative preference for housing which could reflect *inter alia* the availability of mortgage credit, play an important role in the recent run-up in house prices.
5. The major banks are Handelsbanken, Nordea, SEB and Swedbank and following Riksbank practice the term major banks refers to their banking groups.
6. Estonian GDP, for example, contracted around 14% in 2009.
7. The programme was used to finance the purchase of a new issue of Nordea bank shares of SEK 5.6 billion. This is relatively modest in comparison to Nordea's assets, which amounted to around SEK 5 000 billion in March 2010 (Riksbank, 2010e). The small amount of financing through this programme suggests the government has safeguarded tax payers' money through the design of this programme, though banks may have used other programmes to get support.
8. Swedish banks receive a significant amount of funding from the covered bonds market. Covered bonds are likely to be less risky though the market did have problems during the recent financial turmoil. Another risk is that a prolonged period of low interest rates could lead to problems for life insurance companies (FSA, 2010d).
9. The FSA has only restricted supervision powers over providers of SMS (micro) loans although the recent reform of the Consumer Credit Act is welcome as it should provide greater protection to SMS borrowers. Perhaps reflecting this, unpaid SMS loans have dropped significantly recently.
10. The Riksbank has a swap agreement with the ECB.
11. Previous experience with a credit market institution, Custodia, suggests that lengthy judicial reviews after the revocation of its FSA licence contributed to higher costs (IMF, 2010). "Living wills" which lay a framework for the breaking up of an institution may also help facilitate winding-up and re-organisation.

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