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The Committee on Finance

Evaluation of the Riksbank's monetary policy and work with financial stability 2005–2010

Charles Goodhart and Jean-Charles Rochet

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Foreword

In 2006, as part of the Riksdag's work of follow-up and evaluation, the Committee on Finance carried out its first external and independent evaluation of Swedish monetary policy. This evaluation covered the period between 1995 and 2005 and was carried out jointly by professors Francesco Giavazzi and Frederic Mishkin (2006/07:RFR 1). When the Swedish Parliament considered the results of Giavazzi's and Mishkin's evaluation in the spring of 2007, the Committee on Finance also decided to implement an external in-depth evaluation of monetary policy every fourth year (report 2006/07:FiU27).

In the spring of 2010 the Committee on Finance decided to undertake a new evaluation of monetary policy for the period 2005–2010. At the same time professor Charles Goodhart of the London School of Economics and professor Jean-Charles Rochet of the Toulouse School of Economics and the Institute for Banking and Finance at the University of Zurich were jointly appointed to perform the evaluation.

The main emphasis in the previous evaluation was on the design of the inflation target and whether the Riksbank had achieved this target in the ten years in which inflation target policy had been in operation. Among other things, the evaluation resulted in a number of changes in both the Riksbank's monetary policy process and the Swedish Parliament's evaluation and handling of monetary policy and the Riksbank's activities (see report 2007/08:FiU24).

The main emphasis of the current evaluation is on examining and analysing the lessons to be learned for monetary policy and work on financial stability from the global financial crisis of recent years. Briefly stated, in accordance with its directive the evaluation is to concentrate on the following questions (the directive is set out in greater detail in an annex to the report):

- Is the flexible inflation target policy correctly designed and what significance has it had for the monetary policy decision-making process?
- What lessons may be learned from the financial crisis from a monetary policy perspective?
- How has the Riksbank carried out its task of promoting a safe and efficient system of payments during the financial crisis?
- Should the Riksbank's task of encouraging financial stability be changed, clarified or supplemented?
- What division of roles and responsibility should there be between various agencies and authorities in relation to the work of ensuring financial stability in the Swedish economy?

Goodhart and Rochet began the process of evaluation in the autumn of 2010 and over the past year they have visited Sweden on a number of occasions to gather information and discuss Swedish monetary policy and work on financial stability with various actors in Swedish society. Among others they have

met representatives of the Riksbank, employers and labour, Finansinspektionen (the Financial Supervisory Authority), the National Debt Office, higher education, the banks, the Government and the Swedish Parliament. A delegation from the Committee on Finance met Charles Goodhart in London in the spring of 2011. Senior economist Gabriela Guibourg has worked with Goodhart and Rochet as evaluation secretary.

The results of Goodhart's and Rochet's evaluation are presented in this report from the Riksdag. The Committee's hope is that the evaluation will further stimulate the already vigorous debate on Swedish monetary policy and make a valuable contribution to the various enquiries which are now being carried out as a consequence of the financial crisis of 2008 and 2009.

Stockholm, 30 August 2011

Anna Kinberg Batra
Chair of the Committee on Finance

Tommy Waidelich
Deputy Chair of the
Committee on Finance

Introduction

On June 4th, 2010 the Riksdag Committee on Finance appointed Professor Charles Goodhart and Professor Jean-Charles Rochet to evaluate Swedish monetary policy between 2005 and 2010. This report presents the results of this evaluation, undertaken between August 2010 and August 2011.

The objectives of the evaluation, as set by the Committee, were to examine the design and the results of Swedish monetary policy during the period 2005-2010, to analyse the lessons that could be learned, in relation to monetary policy, from the recent global financial crisis, and finally to scrutinise Riksbank activities aimed at promoting a safe and efficient system of payments.

The Terms of Reference for the evaluation (which are given in Appendix 4) described the specific topics to be addressed in the report:

Monetary Policy 2005-2010:

- Meeting the inflation target and supporting Swedish economic development.
- The design of monetary policy.
- The global financial crisis and monetary policy.
- The Riksbank's forecasts and models.
- The Riksbank's openness and transparency.

Promoting a safe and effective system of payments:

- The Riksbank's remit.
- Instruments and competencies.
- Activities 2005-2010.
- Background materials and methodology.
- Communication.

We started working on the evaluation in August 2010. Charles Goodhart first visited the Riksbank on August 24, 2010. Then Jean-Charles Rochet and Charles Goodhart made together several visits to Stockholm: on September 27-28, and November 10-11 2010, and on March 15-16 2011. During these visits, we met with the Chair, Vice-Chair and Secretariat of the Committee on Finance in the Riksdag, the Minister of Financial Markets, the State Secretary of the Finansdepartementet, members of the Financial Crisis Committee, the Director General and Chief Economist of the Swedish Supervisory Authority, the Director General, the Chief Economist of the Swedish National Debt Office (hereinafter SNDO) and the Director General at the National Institute of Economic Research. In the Riksbank, we met with the Governor (on sev-

eral occasions), several Deputy Governors, the heads and deputy heads of the Monetary Policy and Financial Stability Departments, as well as the head of research and many other staff members. Finally, we met with several high rank representatives of the large Swedish banks, several Swedish academic economists, the Chief Economist of the Swedish Corporation of Professional Employees (TCO) and a former Governor of the Riksbank. The detailed list of these meetings is given in Appendix 3.

We wrote an incomplete and preliminary draft of the report in February, which was only circulated to a very limited set of interested parties: the Chair of the Riksdag Committee on Finance, the Minister of Financial Markets, the Heads of the SNDO and the Finansinspektionen (hereinafter the SFSA) and the Governor of the Riksbank. Using the comments of these parties, we wrote the final version of the report in May 2011 (this version).

We would like to thank Pär Elfvingson at the Riksdag Committee on Finance, and especially Gabriela Guibourg and Katarina Wagman at the Riksbank for their invaluable assistance in organizing this work and helping us preparing this report.

The Crisis Background

A golden age for Central Bankers came to a sudden halt on August 9th, 2007, with the onset of the financial turmoil.¹ The necessity for a review and re-consideration of the roles and functions of Central Banks in all countries was then reinforced by the panic and financial crisis that engulfed the developed world after the failure of Lehman Bros on September 15th, 2008. Prior to those events the general belief had been that the role of a Central Bank could, and should, be limited to the crucial task of using its independent operational powers to vary interest rates in the pursuit of a flexible inflation targeting policy. The meaning and definition of such a flexible inflation targeting policy is that “monetary policy aims at stabilizing both inflation around the inflation target and the real economy, whereas strict inflation targeting aims at stabilizing inflation only, without regard to the stability of the real economy...”² As considered further below in Section 3, we concur that this is the proper objective for all inflation targeting banks, including of course the Riksbank.

Most Central Banks also had a duty to maintain financial stability, or some such requirement about facilitating the smooth operation of the payment system, which could be broadly interpreted as equivalent (and was so by the Riksbank in Sweden).³ But the general belief had been that the combination

¹ On August 9th, 2007, the European Central Bank (ECB) felt the need to inject an unprecedented amount of additional cash into the Euro-zone banking system, alerting everyone in financial markets that liquidity and solvency concerns that had been previously simmering for several months had now suddenly erupted into a full-scale crisis.

² See Svensson, 2009, ‘Evaluating Monetary Policy’, in Koenig, E., Leeson, R. (Eds.), *From the Great Moderation to the Great Deviation: A round-trip journey based on the work of John B. Taylor*, www.larseosvensson.net, and the references therein; also see Svensson, 2011, ‘Inflation Targeting’, Chapter 22 in *Handbook on Monetary Economics, Vol. 3B*, Eds. B. Friedman and M. Woodford, (Amsterdam: North Holland), 1238-95, and references therein; and Svensson, 2010, ‘Inflation Targeting after the financial crisis’, speech, prepared for the Reserve Bank of India’s International Research Conference, ‘Challenges to Central Banking in the Context of Financial Crisis’, Mumbai, February 12-13, 2010.

³ “The Sveriges Riksbank Act does not describe in detail what is meant by promoting a safe and efficient payment mechanism. However, it is clear that the Riksbank has a responsibility for the supply of cash and for supplying a central payment system. A safe and efficient payment mechanism requires a stable financial system so that payments and the supply of capital function smoothly. The Riksbank, like other central banks, must also be able to manage financial crises and other serious disruptions in the financial system to ensure the payment mechanism is safe and efficient. In this respect, the Riksbank plays a special role as Sweden’s central bank, because it can quickly supply money to the financial system if the need arises.

A stable financial system is a necessary condition for the Riksbank to be able to conduct an effective monetary policy. This is because the financial markets and their functioning affect the impact that monetary policy has through the interest rates that

of macro-economic stability, to be maintained by pursuing a flexible inflation targeting policy, and of sufficient capital, to be achieved by adherence to the Basel II capital adequacy requirement (CAR), would almost always allow commercial banks to maintain access to sufficient liquidity, via the broad world-wide wholesale markets. If, nevertheless, financial markets did start to malfunction, the belief was that sufficiently aggressive reductions in interest rates, and measures to expand liquidity, could rapidly restore equilibrium, as had happened in 1987, 1997/98 and 2000/1. All these comfortable assumptions were exposed as potentially invalid in the crisis of 2008. Moreover, once the interest rate instrument had been taken to its limit, Central Banks were left without any other conventional measures for tackling the crisis.

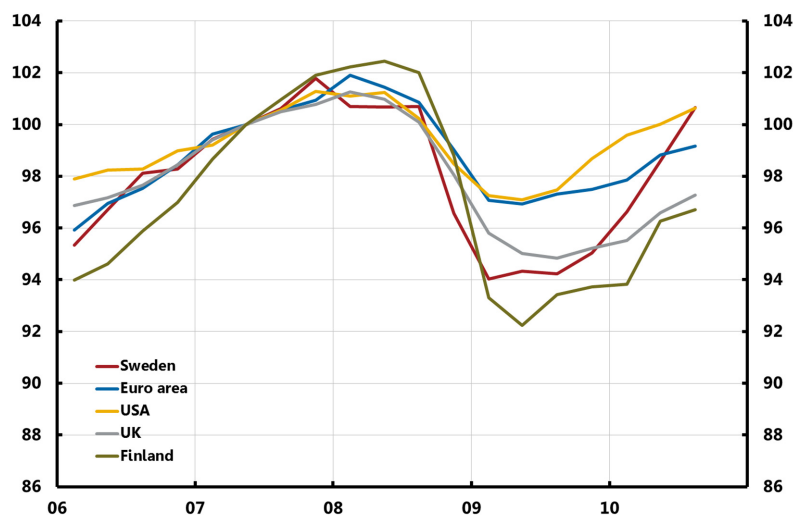
While they did then adopt a range of other unconventional measures for the injection of liquidity into the system, in the guise of measures both to expand and to alter the composition of their own balance sheets, attention has since turned to the issue of whether additional powers/instruments ought to be put in place both to make such crisis events less likely (crisis prevention tools) and, should they nevertheless occur, easier to resolve (crisis resolution tools). And if such additional (macro-prudential and resolution) instruments are to be made ready, which institutions should control their use? All this has led to a continuing flow of legal measures, the Dodd-Frank Act in the USA, July 2010, the Banking Act in the UK, February 2009, and Regulation (EU) No 1092/2010 of the European Parliament and Council of November 24, 2010, in the European Union.

Compared to many other developed countries, Sweden suffered relatively little direct damage from financial disruptions. There were few losses arising from domestic credit expansion. Such financial losses as did occur were rather connected with problems in other countries, notably in the Baltics, discussed further below, and in Iceland, especially when such lending was in foreign currencies. Its output (GDP) fell as, or more, sharply in Q4 2008 and in 2009 than in most other developed countries, but this was mainly because of the world-wide fall in international trade, to which Sweden was particularly exposed, rather than to the effect of a domestic credit crunch and/or associated housing collapse.

households and companies pay on their loans. Moreover, the economic consequences of a financial crisis have a direct impact on price stability, growth and employment. Promoting a safe and efficient payment mechanism thus has a fairly broad meaning. In practice we have a responsibility to promote stability in the financial system. But unlike the monetary policy task, the Riksbank is not alone in having responsibility for safeguarding financial stability. The Riksbank shares this responsibility with Finansinspektionen (the Swedish Financial Supervisory Authority), the Swedish National Debt Office and the Government, through the Ministry of Finance. All of these authorities have different roles in promoting financial stability.” From the *The Riksbank and Financial Stability 2010*, p. 3.

Figure 2:1. Output 2006 Q1 – 2010 Q3

Index 2007 Q2 =100



Source: Macrobond

Indeed, housing prices barely faltered, in stark contrast to several other countries. Banks in Sweden did run into severe liquidity problems in 2008/2009, in some large part because of their exposure to the Baltic countries, (see Appendix 1 on Swedish bank involvement in the Baltic countries). Whether as a result of that, or of a drop in demand, bank lending to corporates and broad money growth decelerated as fast in 2008/9 as elsewhere. But bank loans to households continued stronger than in most other countries. Only two small banks, Carnegie and Kaupthing, needed targeted support in the crisis in October 2008, and the fall of Kaupthing was a by-product of the separate Icelandic crisis. One of the reasons for providing such support in this manner was that the pay-out period for deposit insurance was excessively lengthy, so depositors' concern whether they could always access their money could have been disturbed.

Figure 2:2. Broad Money (M3)

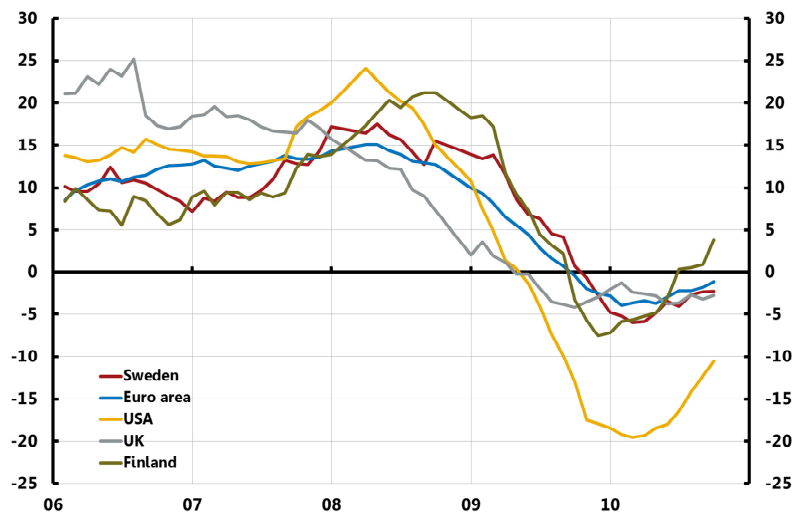
Annual percentage change 2006 Q1 – 2010 Q4



Source: Macrobond

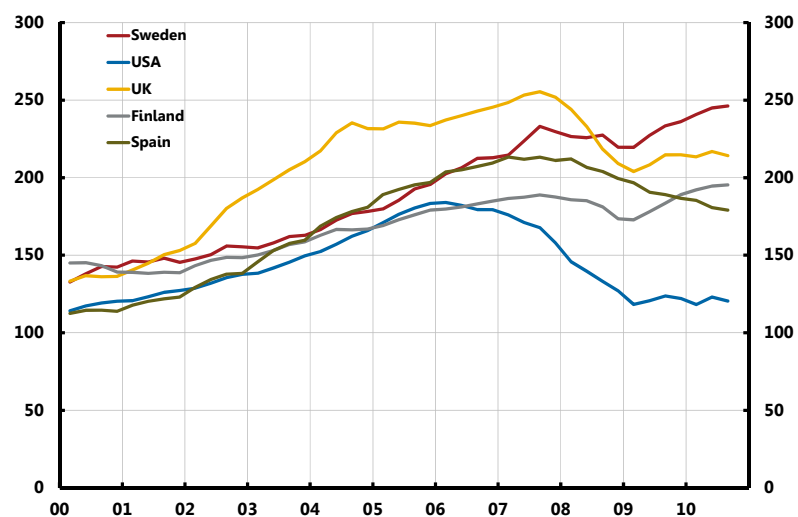
Figure 2:3. Lending to non-financial corporations

Annual percentage change 2006 Q1 – 2010 Q4



Sources: USD - Reuters EcoWin (Federal Reserve), UK - BoE, Euro Area - ECB (Statistical Data Warehouse), Swe - the Riksbank, Finland - ECB (Statistical Data Warehouse)

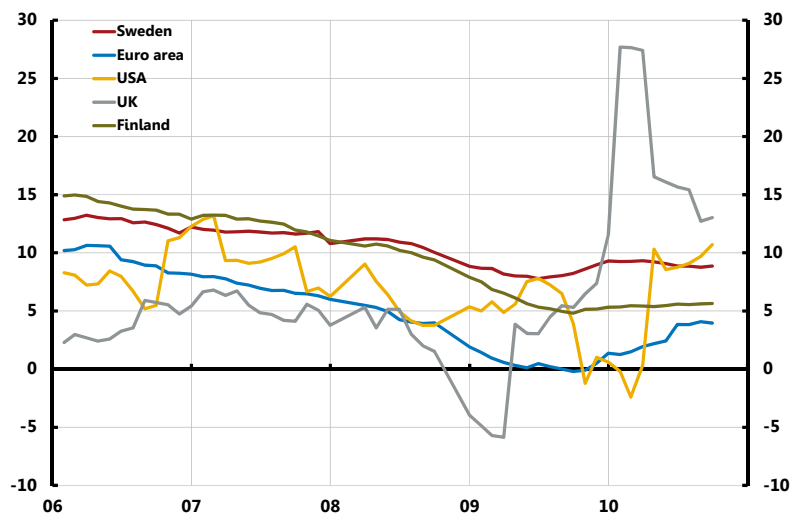
Figure 2:4. Real house prices for US, UK, Sweden, Finland and Spain
Index 1995 = 100



Sources: Sweden – SCB, Finland - BIS/ Statistics Finland, UK - Reuters EcoWin/ Nationwide, Spain - Reuters EcoWin/ Bank of Spain, US - Reuters EcoWin/The Office for Federal Housing Enterprise Oversight

Figure 2:5. Bank lending to households for US, UK⁴, Eurozone, Sweden and Finland

Percentage changes 2006 Q1 to 2010 Q3



Sources: US - Reuters EcoWin (Federal Reserve), UK – Bank of England³, Euro area - ECB (Statistical Data Warehouse), Sweden – The Riksbank, Finland - ECB (Statistical Data Warehouse)

In their article on ‘No serious credit crunch in Sweden’ Ekici, Guibourg and Åsberg-Sommar, (Economic Commentaries, No. 8, 2009) conclude by emphasising, “the importance of the measures undertaken by the Riksbank and other Swedish authorities to ensure successfully-operating credit markets. Without these measures, the range of credits available for Swedish households and companies would probably have become heavily restricted. At present, we see no signs of any credit crunch, either for households or companies.”, p. 5. An account of the special measures taken by the Riksbank in response to the financial crisis, is given in the OECD Economic Survey of Sweden, January 2011, Box 2.1, pp 41/42, reproduced here:-

⁴ The rapid increase in bank lending to households in the UK at the end of 2009 and beginning of 2010 looks odd compared to all other countries. This has been noted elsewhere, notably in the Bank of England Working Paper 424 on ‘How did the crisis in international funding markets affect bank lending? Balance sheet evidence from the United Kingdom’, by S. Aiyar, (April 2011), who writes, pp 28/29, “To the extent that the securitisation model of household mortgage lending was unwinding during the shock period – with securitised assets held off balance sheet in special purpose vehicles (SPVs) coming back onto banks’ balance sheets – this would appear in the data as an increase in lending to the household sector, offsetting the impact of other falls in lending to the sector.”

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.

- 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 programs

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 Swedish National Debt Office (SNDO) 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 doubled in 2011. The aim is that this fund will amount to an average of 2 1/2 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 Swedish National Debt Office (SNDO) 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 (SNDO, 2010).

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

Whilst this was, indeed, a comparatively excellent outcome and has contributed greatly to Sweden's much stronger recovery, than has been achieved elsewhere in Europe, it does not imply that the Swedish authorities can just rest on their laurels and maintain the status quo, in respect to financial stability issues, while the rest of the developed world agonises about how to reform their own systems. There are, at least, three reasons why the Swedish authorities need to consider reform in this field, urgently, now.

First, as a member country of the European Union, Sweden's regulatory framework will be largely determined in Brussels. Unless the Swedish authorities develop their own plans and ideas, they will find the plans and ideas of other players in this exercise simply imposed upon them. The Swedish authorities should put themselves in a position to contribute to, and help to shape, the developing ideas on crisis prevention and crisis resolution both within the EU and worldwide, for example in the Basel Committee on Banking Supervision (BCBS). Moreover, even apart from the direct role of such international fora, the context in which all Central Banks act is strongly influenced by the framework of ideas, analysis and thought (both practical and academic) about their proper role; there should be Swedish viewpoints on such wider issues.

Second, our view, a view shared by the Riksbank, is that the comparative success of the Swedish monetary and regulatory authorities in avoiding financial disaster was despite a relatively poorly designed institutional and legal structure. Even after the experience of the Nordic crisis in the 1990s, there was no proper legal basis for crisis resolution, and it was necessary to rush through a brief act in October 2008, the Support to Credit Institutions Act (2008:814), which was unsatisfactory as a permanent measure. This needs to be rectified.

The Riksbank is, as we would have expected, fully aware of these concerns. In February 2010, it submitted a letter to the Riksdag,⁵ 2009/10: RB4, which stated that, "Although Sweden underwent a serious banking crisis at the beginning of the 1990s, we do not have a coherent arrangement for the support, administration, reconstruction or winding up of credit institutions."

Its overall Summary was that, "This submission proposes that one or several commissions of inquiry be appointed as soon as possible to review the financial regulatory framework. The purpose of the inquiry's work should be to establish a coherent and effective framework that can contribute to maintaining financial stability and to minimising the costs to both the economy and consumers. The approach should be comprehensive and include, for instance, the division of roles between public authorities, provisions for financial supervision that can be taken at an early stage, the activation of the

⁵ Also see, 'Urgent need for new financial regulations and tools', Statement by Gerandt, Pagrotsky and Ingves, *Economic Commentaries*, no. 1, 2010, February.

deposit guarantee, the Riksbank's tools in the field of financial stability and the management of financial undertakings in distress."

We strongly support those proposals, and in Section 3 set out our own views and recommendations of what might be done. In the Sveriges Riksbank Act, (1988: 1385), the mandate of the Riksbank for the maintenance of financial stability is, arguably as we shall discuss below, insufficient and it has no preventative powers, or instruments, that bear directly on such financial stability.⁶ The SFSA has the ability to use powers to require banks and other financial intermediaries to alter their activities in order to achieve financial stability and consumer protection. It is doubtful whether the SFSA could use such powers for macro-economic and/or macro-prudential, (systemic and counter-cyclical), purposes; thus the recent adoption of a maximum loan-to-value (LTV) ratio was introduced primarily as a consumer protection, not as a macro-economic measure.⁷ Moreover, the SFSA does not now have, and is, we would expect, unlikely to obtain, sufficient resources to undertake appropriate macro-economic and macro-prudential analysis and research to carry out a fully satisfactory macro-prudential role of its own. And, if it did, it would overlap with the Financial Stability Department in the Riksbank. We have, however, taken the present mechanisms and arrangements for financing the operations of the monetary authorities, e.g. Riksbank, SFSA, the SNDO, etc., in Sweden as given, for the purpose of this Report. To go any further towards discussing such financing arrangements was, we felt, beyond our own assignment.

Moreover, the institution with the mandate (supposedly) to maintain financial stability (the Riksbank) would not have the macro-prudential instruments to do so, whereas the institution with such putative powers would neither have the analytical resources nor the mandate. To cap it all, there is no formal mechanism, or committee, wherein the assessments of what is needed to be done by both the Riksbank and SFSA could be addressed, let alone a mechanism for resolving any differences of views between them. To put it

⁶ "In its preventive work, the Riksbank has no binding statutory tools to influence financial market participants. Instead, the Riksbank primarily acts (in public and in dialogue with financial system participants) by calling attention to and warning of risks and events that may threaten financial stability." From the *The Riksbank and Financial Stability 2010*, p. 13.

⁷ "Finansinspektionen is proposing General Guidelines for credit institutions that issue loans using residential real property as collateral (mortgages). The Guidelines stipulate that the total loan should not exceed 85 per cent of the market value of the property when the loan is issued. In Sweden, the households' debts are dominated by loans for housing purposes. Excessive indebtedness makes borrowers vulnerable to a situation in which real estate prices decline and the borrower simultaneously is compelled to sell his or her home. The purpose of the General Guidelines is to stem an unsound trend in the credit market where credit institutions would use ever-increasing loan-to-value ratios to compete. There is a risk that such a development will expose consumers to unacceptable risks and eventually damage the confidence in the credit market as a whole." Press release by the Swedish FSA on 'Limitation on loan-to-value ratios for mortgages on residential property', dated 2010-05-05.

bluntly the present legal and institutional structure in Sweden for the maintenance of financial stability needs a thorough overhaul.⁸ There is a Memorandum of Understanding about cooperation between these agencies, but MOUs have little force should disagreements develop.

On issues relating directly to influencing commercial bank (or other financial intermediary) behaviour, the SFSA has all the powers, the Riksbank has no formal powers. The Riksbank could still influence decisions in those cases when the SFSA was reluctant to act (as may have been the case with commercial bank lending to the Baltic countries, see Appendix 1), either by appealing to the relevant Minister or by going public in the Press. But these latter options are somewhat nuclear, and would run the danger of entrenching bad feelings between the SFSA and Riksbank. Perhaps for such reasons, the Riksbank did not use these options in the case of bank lending to the Baltics. In so far as the Riksbank has overall responsibility for financial stability,⁹ is it appropriate that they not only cannot use such powers, but do not even have access to a regular formal forum where such issues can be discussed and proper records maintained? We review such issues further in Section 3.2.

One factor that helped to save the day in this latest crisis was that the top management in all the main agencies involved the Ministry of Finance, Riksbank, the Swedish FSA and the SNDO knew each other well, and worked cohesively and closely together throughout the crisis. Whenever a major problem arose, ad hoc meetings of these leading participants were called and they managed to reach consensual responses (as far as we know) throughout. It is, we understand, a feature of Swedish society that it is comparatively small so that the elite usually know each other well and are generally prepared to act together for the common good. While that is all to the good, legal structures and institutions are necessary precisely to deal with occasions when there may be conflicts of interests or differences of view. Even in Sweden, one cannot just hope that in the event everyone will agree on a course of action. Someone has to be in charge.

Third, the world-wide financial crisis, we believe, came uncomfortably close to leading to a potential financial disaster in Sweden,¹⁰ probably much

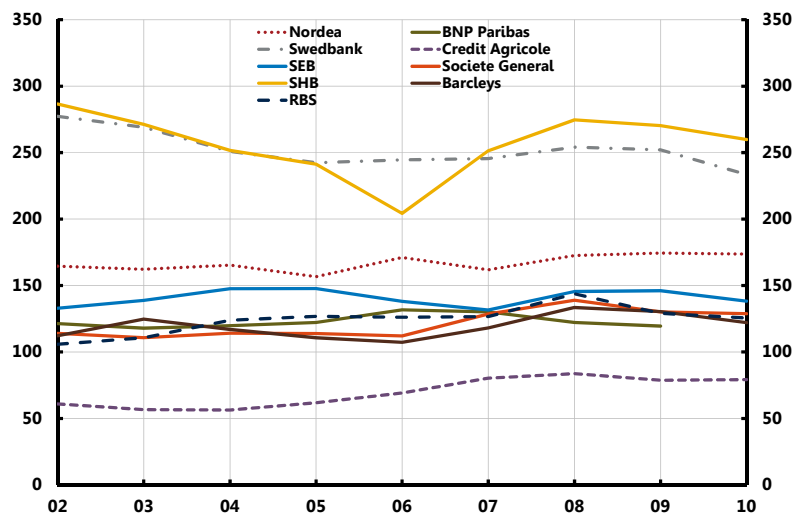
⁸ “There are thus strong reasons for closely examining allocation of responsibility, aims, working methods and new tools in the field of financial stability. The financial crisis has, like earlier crises, shown that the constant development of financial activities requires constant new thinking in the field of financial stability. At present there are increasingly intensive discussions on the need to further develop macro-prudential policy and tools to better oversee and counteract the build-up of financial systemic risk.” From the *The Riksbank and Financial Stability 2010*, p. 26.

⁹ It should, perhaps, be noted that currently the SFSA explicitly has “financial stability” in its mandate (http://fi.se/upload/90_English/10_About/whowere_2009_ny.pdf). The Riksbank does not. So the issue where “overall responsibility” has been placed by the Riksdag (and the Government) is not that clear cut.

¹⁰ “When the Swedish banks’ market funding possibilities declined drastically in autumn 2008, there was an imminent risk that funding problems could threaten the banks’ survival.” From the *The Riksbank and Financial Stability 2010*, p. 25.

closer than the majority of the population realises, since it was in practice averted. Thus, for example, the OECD Economic Survey Report on Sweden (January 2011) noted that “one bank of systemic importance was completely reliant on the guarantee for its medium-term funding for several months”, pp 56-57. The basic problem was one of liquidity, in particular a shortage of foreign currency, especially US dollar, liquidity. The Swedish banking system had, like many others, increased its credit expansion much faster than its (domestic) deposit base; indeed it had done so somewhat faster than in many other countries.

Figure 2:6. Loan to deposits ratios for selected banks in Sweden, UK, and France for 2002-2010



Source: Liquidatum

Moreover, many of such loans and other assets were in foreign currencies.¹¹ For example a large proportion of loans in the Baltics were in euros, and virtually none of them in kronor. Although the Swedish banks held relatively few, so-called ‘toxic’, US assets, such as CDOs or MBS, much of their borrowing in wholesale markets, to meet the gap between loans and deposits, was in dollar form (and then swapped into euro or kronor) and at relatively short maturity. From the autumn of 2007 onwards, such wholesale markets became more fearful of European banks, in the aftermath of Northern Rock, IKB and Sachsen LB, and, after the demise of Lehman Bros in the autumn of 2008, the availability of dollar funding to many, perhaps most, European banks fell sharply. From the end of 2007 until the end of 2008, interbank dollar wholesale funding for the four main Swedish banks rose from 337 to 531 billion SEK; but the change in sentiment in the market, after the collapse

¹¹ “About half of the Swedish banks’ funding consists of market funding. Of this approximately two thirds is in currencies other than Swedish kronor.” FSR 2010/1, p. 27.

of Lehman Bros, was so great that the banks had to switch from borrowing from commercial market sources to borrowing dollars from the authorities; US dollar loans from the Riksbank rose from nothing in 2008 Q3 to 124 billion SEK in 2008 Q4 and then to 180 billion SEK in 2009 Q1. In addition Swedish banks also turned directly for assistance to the US Fed. According to a news article¹² Swedish banks borrowed approximately SEK 100 billion from the Fed at this time. Most of these loans were repaid by 2009 Q4, by which time wholesale dollar interbank funding had fallen from 531 billion SEK to 285 billion SEK.

US dollar liquidity was hoarded, so much so that even covered interest parity ceased at times to hold. The withdrawal of short-term dollar (and to a lesser extent euro) funding was particularly acute for those European banks whose solvency was thought by the market to be at some risk. In the Swedish case this was particularly so for the two banks most involved in lending into the Baltics, Swedbank and SEB (see Appendix 1: Swedish banks' involvement in the Baltic States).

During the crisis there have been numerous problems for Central Banks in the process of injecting liquidity into their own financial system, (e.g. lack of sufficient high grade assets to act as collateral), but a key problem for the Riksbank, was that it could create kronor (domestic) liquidity, but not dollar or euro liquidity. And in the panic that ensued after September 15, 2008, markets become so dysfunctional that the ability for banks to swap (or sell) kronor for dollars became abridged, while the cost of doing so rose sharply as the kronor depreciated against the US dollars; there was a panic demand for US dollars. A failure by a main Swedish bank to meet its due repayment in dollars could have been disastrous, and was not all that far from occurring.

So what saved the day? Initially the banks' need for foreign currency was met by foreign currency loans from the Riksbank and by the guarantee program. Recourse to this latter peaked in June 2009 at SEK 354 billion, of which more than two thirds was in foreign currency. But this depleted the available foreign currency reserves of the Riksbank, and beyond the Riksbank, the reserves of the SNDO. What really turned the adverse tide was the willingness of the US Fed to make large scale swap lines available to all the other major Central Banks.¹³ And subsequently, after the panic had subsided somewhat in May 2009, the SNDO borrowed the equivalent of 100 SEK billion in US dollars to replenish the foreign currency reserves of the Riksbank. There were arguments about the scale and principles involved in such a

¹² "Svenska banker lånade av Federal Reserve", Dagens industri, 9 December 2010, available at http://di.se/Default.aspx?pid=222181__ArticlePageProvider&epslanguage=sv

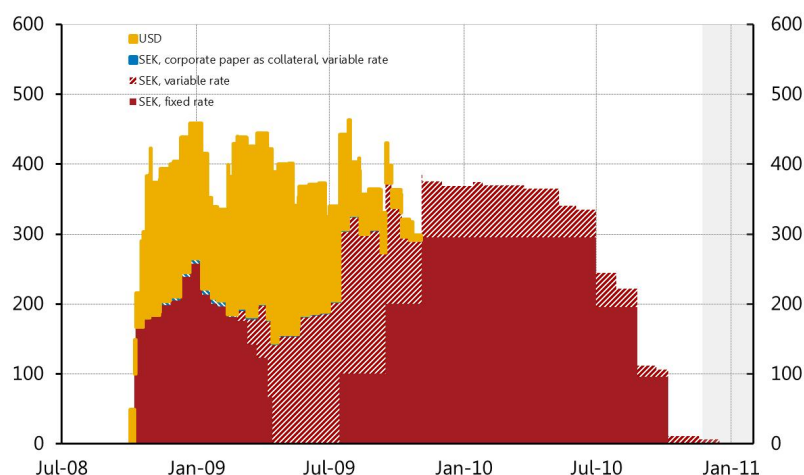
¹³ See Allen and Moessner, Central Bank Co-operation and International Liquidity in the Financial Crisis of 2008-9, Bank for International Settlements Working Paper No. 310, 2010. See also Committee on the Global Financial System (CGFS), *The Functioning and Resilience of Cross-Border Friendly Markets*, CGFS Papers No. 37, 2010; CGFS, *Funding Patterns and Liquidity for Internationally Active Banks*, CGFS Papers No. 39, 2010.

foreign currency borrowing exercise. While this experience does flag the question of the appropriate management of foreign currency reserves in Sweden, we felt that this was beyond our own remit to pursue.

The scale of the liquidity crisis in Sweden can be broadly appreciated by noting how much and how quickly the Riksbank needed to expand its own balance sheet, and the size of the foreign currency element in that. As a proportion of GDP, the balance sheet expansion by the Riksbank was initially greater than that of the ECB, Fed or Bank of England. While this indicates the scale of the problem facing the Riksbank, (and the Ministry of Finance), the fact that the outcome was successful is a testimony to the flexibility and efficacy of the monetary authorities both in Sweden and in the Euro area and the USA.

Figure 2:7. The Riksbank's lending to the banks

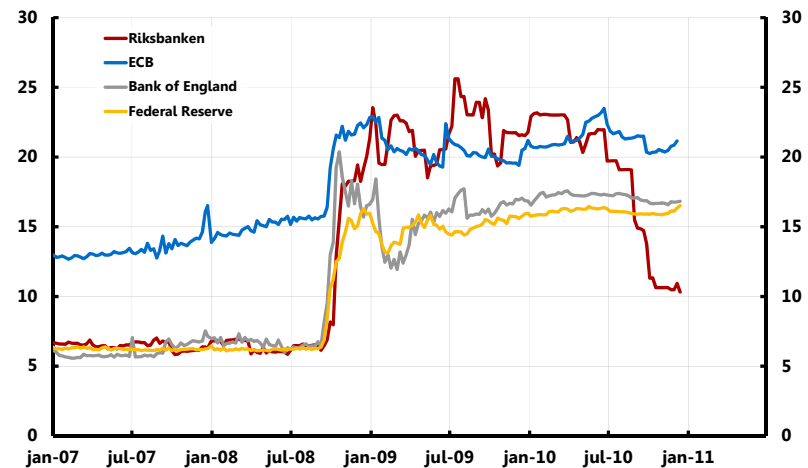
SEK, billions



Source: The Riksbank

Figure 2:8. Central banks' balance sheet totals

Percentage of GDP



Sources: Bureau of Economic Analysis, Eurostat, Office for National Statistics, Statistics Sweden and the respective central banks

But herein lies a problem. Financial disaster was primarily averted because of the beneficent actions of authorities outside Sweden. So, the business plan of Swedish commercial banks put them, and Sweden, at the mercy of foreign authorities. Can they, and the Swedish authorities, always rely on the Fed and the ECB to provide the necessary foreign currency liquidity in a crisis? What would happen if politicians abroad came to the (mistaken) view that loans to foreign banks imposed a cost on domestic taxpayers, or for some other reason limited the provision of foreign currency liquidity? Our first recommendation is that the Riksbank runs a stress test (or 'war game') in which wholesale markets close down and Fed (ECB) swap lines in US dollars are not made available, and/or that the Riksbank arranges a contingent contract with the relevant authorities in the USA and the Eurozone to provide stand-by swap lines, the cost of which should be met by the industry.

The Riksbank has already now undertaken two liquidity stress tests, one on the adequacy of banks' short-term liquidity reserves and the other on the structural relationship between banks' (stable) funding and illiquid assets, see FSR 2010/2, Section on 'Method for stress tests of the banks' liquidity risks', pp 77-91. We welcome this latter, while noting at the same time that the analysis, and data presentation, of liquidity risks had, we believe, been deficient, both amongst the commercial banks and in the Riksbank, prior to July 2007. Thus the Riksbank notes that 'The banks present very little information on their liquidity risks', (ibid, p. 77). While the Riksbank records (ibid, p. 78) that "For almost three years the Riksbank has gathered weekly, at times daily, liquidity reports from the major Swedish banks and at the same time maintained regular contact with the banks' risk and treasury departments."

We surmise that such reporting and analysis was insufficient and inadequate prior to the crisis, as it was also in virtually every other Central Bank.

But the Riksbank records (*ibid*, p.78) that, in the public information on which these stress tests have been run, there is no information “on the level of liquidity risk per currency”. There is also no information on “the types of security that makes up the liquidity reserves”, but that is a much less important issue, since the Riksbank can choose what assets it can lend against in kronor. But it cannot create euro or dollars. Thus it needs to focus on foreign currency liquidity risks. In the language of the BCBS, “Basel III: International framework for liquidity risk measurement, standards and monitoring”, (BIS, December 2010), the Riksbank should focus on liquidity coverage ratio (LCR) by significant currency, (Section 111.4, pp 36-37). The SFSA will be doing so from July 2011, following an overhaul of its liquidity reporting standards. We hope that we are correct in presuming that such information will be fully shared between the SFSA and Riksbank.

In view, therefore, of what we perceive as an urgent need to review and to reform the legal and institutional structure of the system in Sweden for maintaining financial stability, we begin our Report with a survey of what might be done. We start, in part because the issue is easier and should involve less institutional change, with a review of the system for resolving crises, once a Swedish financial institution or group of institutions might run into problems potentially threatening its survival, (Section 3.1). This mostly involves questions concerning the legal powers of, and relationships between, the Riksbank and the SNDO.

We then move on, in Section 3.2, to the much more complex problem, at least in the Swedish case, of how crisis prevention should be handled. This mostly revolves around questions concerning the respective legal powers of, and relationships between, the Riksbank and the SFSA. The problematic nature of the relationships between Central Banks and specialised supervisory institutions is clearly indicated not only by the fact that there is no international consensus on what structure is best, (and none performed notably well in the crisis), but also by noting that many other countries have been dissatisfied by their existing framework for crisis prevention and have been trying to change this. Moreover there are always historical, social, constitutional and cultural national factors that influence the decision and outcome. This is certainly so in the Swedish case, and so, as outsiders, we doubt whether we can, or should, do more than set out a menu of alternatives, noting the pros and cons of each option.

Next, in Section 3.3, and following our assessment of the likely and desirable development of the role of the Riksbank, we discuss whether there is a need for a revised legal mandate, or whether the Riksbank can, and should, continue to operate under its present Act, the Sveriges Riksbank Act (1988:1385). Finally, in this part of our Report, in Section 3.4, we discuss whether the structure of the Riksbank, and its communications, might need to be adjusted in the light of such functional changes as may be forthcoming.

So far we have focussed entirely on the financial stability function of the Riksbank. This is because we believe that this is where there is most need for change. It is an indication of the revision in thinking that the financial crisis has brought in its trail that the Report by our predecessors, Giavazzi and Mishkin (2006), had virtually nothing to say on these topics. They concentrated almost entirely on the Monetary Policy function of the Riksbank, its role of aiming to attain an inflation target. Like Giavazzi and Mishkin, we find that the Riksbank has been at the leading edge of professional competence in this primary and essential task. Nonetheless there are some issues that can be usefully raised, and we do so in Section 4. In particular, during these last five years, 2005-2010, which it is our remit to cover, the Riksbank adopted, in February 2007, the practice of basing its forecast on its own predicted future path for the policy rate (rather than on a constant, or an implied forward market path). We found it interesting that both the arguments in favour, and against, such an approach have suffered from experience; perhaps some re-assessment is needed.

Box 2.2**Overlap with other studies on responsibilities for financial stability in Sweden**

Examination of the procedures and structure for the maintenance of financial stability in Sweden is becoming a crowded field, to which this Report is but one contribution. The main study is likely to be done by a new Financial Crisis Committee which has been set up to ensure that the design of the regulatory framework in Sweden is appropriate, both with respect to preventive measures to alleviate different types of financial crises, and also measures effectively to resolve any crisis that should occur, while simultaneously protecting the interests of taxpayers.

Our own work, especially in Section 3, may be regarded as an input into this longer and more authoritative study on the need for the reform of the mechanisms in Sweden for the achievement of financial stability. The mandate and assignment for this Committee covers much of the field that we have discussed in Section 3 of our own Report here.

In addition to this main Committee, the Swedish National Audit Office (NAO) has already issued a report on the Swedish Authorities' responsibilities and contribution to financial stability, with a focus on the Riksbank's and the SFSA's operations during the period 2005-2007. Late in our own work, we received an English translation of the NAO's report. In general, it can be stated that our analysis and recommendations overlap to some considerable degree with those that they have put forward. As is clear, and set out in our own Section 3, we agree with their main recommendation that "The Government should review and clarify the Riksbank's and SFSA's mandates, and their instruments for safeguarding financial stability.

An appropriate framework for macro-prudential policy should be developed, and the respective responsibilities of all those involved should be clarified." We would also agree that having clarified both the mechanisms and respective responsibilities, there should be accountability and transparency with respect to the Finance Committee of Parliament, or some other parliamentary body. We would also agree that the Swedish authorities, like many others in other countries, focused too much on banks' capital ratios instead of looking at liquidity and operational risks, especially with respect to banks' foreign currency funding. Again, as we have also noted, there do appear to be different views on the Riksbank's communications about the build-up of risks in the Baltics. To this extent there were communication problems, but we believe that the solution to these lies primarily in the achievement of a clear structure of responsibility for the maintenance of financial stability, rather than in the techniques of communication themselves.

Financial Stability

3.1 Crisis Resolution

Although crisis prevention logically precedes crisis resolution, we shall start with the latter, since the issues are more straightforward, and there is less need, in our view, for any institutional change. So we can get the subject out of the way before turning to the more complex issues relating to the operation and organisation of crisis prevention in Section 3.2.

Until now, when a bank, or other financial intermediary, has got into difficulties, the authorities in any country have essentially had three alternatives:

- (i) To arrange a merger with a stronger bank/intermediary, with or without some sweeteners in the form of fiscal subsidy;
- (ii) To liquidate via standard bankruptcy arrangements; or
- (iii) To take on the loss burden by recapitalisation, either by buying the equity/debt of the bank, or via temporary nationalisation.

As was dramatically evidenced in the case of the failure of Lehman Bros, the liquidation of a systemically important financial institution (SIFI) is hideously disruptive. Hence the relevant authorities in almost all countries have, and rightly so in our view, been in the event most reluctant to adopt option (ii). Not only, however, does the choice of option (i) and (iii) lead to moral hazard (too big to fail, TBTF), but it also may involve in (i) and does in (iii) the use of taxpayers' money, and hence involves fiscal, rather than monetary policy.¹⁴

Thus we concur that the Swedish practice of having such bank recapitalisation and rescues done via the SNDO, rather than by the Riksbank, is appropriate. Nevertheless the legal powers under which the SNDO may do so, and their relationship with the Riksbank in such an exercise, remain somewhat unclear.¹⁵ During the earlier Swedish bank crisis in the early 1990s, when both options (i) (Gota Bank, subsequently merged into what is now Nordea) and (iii) were utilised, the Bank Support Agency, whose powers later became subsumed under the SNDO, acted under emergency powers given in the Bank

¹⁴ For an assessment of the options available, see 'The importance of being savvy – lessons on European crisis management', speech by Governor S. Ingves at the Fundacion Rafael del Pino, 15/04/2010, available at the Riksbank's website: <http://www.riksbank.com/templates/ItemList.aspx?id=43012>.

¹⁵ Even before the financial crisis took hold, "The Riksbank has pointed, for example, to defects in the Swedish rules for the management and closure of distressed institutions. These defects were highlighted by the course of events connected with the failure of Custodia, a credit market company. The ongoing intensive work in the Government Offices will hopefully emanate in a bill with new legislation for the public administration of banks in distress." FSR 2007/2, p. 75. Also, see Ingves, 'The need for a strengthened insolvency and resolution framework for banks – A central banker's perspective', speech at the International Bar Association in Stockholm, 19/05/2008, www.riksbank.se.

Support Act of December 1992. After the crisis was over, one of the main recommendations of the final report of the Banking Law Committee¹⁶ was that a “Special scheme for the reconstruction and winding-up of banks” be put in place. But nothing was done. So, once again, when the current crisis erupted, in October 2008, another emergency Act, the Support to Credit Institutions Act, had to be rushed through to give the Government means to deal with, and the fiscal mandate for, all aspects of the crisis, notably to launch the guarantee program. This is hardly best practice.

There is also the question of whether and how any of the regulatory authorities involved in Sweden can act quickly to close and to resolve a bank before it is forced to go into bankruptcy. Thus the OECD Economic Survey Report on Sweden (January 2011), noted that “Currently, the SFSA 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 SFSA may make it difficult to respond quickly and effectively to problems”, p. 63. In a similar fashion, we are unsure whether either the Riksbank or the SNDO currently has sufficient powers to act pre-emptively, when it should be necessary for the maintenance of financial stability.

In the meantime, however, international debate about crisis resolution has moved forward, and quite rapidly. While the Swedish experience, in 1990-92, with the temporary nationalisation, and subsequent resale, of failing banks was felt in Sweden to be quite favourable, compared both to available alternatives and to experience elsewhere in banking crises, this route runs into strong opposition in other countries, notably in the USA and UK. In so far as these other countries denied themselves the option of temporary nationalisation of failing banks, they were generally forced into putting in extra money into such a bank (bail out) without wiping out the shareholders, and even without putting part of the burden onto bond-holders, whether sub-debt or senior. But such latter methods of bank support have also been most strongly resented. Thus the present alternatives of liquidation or using taxpayers’ funds (whether by nationalisation or not) are felt to be intolerable.

In these circumstances, two sets of ideas have gained traction. The first is that all SIFIs should be subject to ‘Living Wills’. Such a ‘Living Will’ would typically have two parts, (see Huertas, 2010, a, b, c and 2011).¹⁷ The first

¹⁶ See “Public administration of banks in distress” (SOU 2000:66). A summary of the report was made public in the Riksbank’s Economic Review 3/2000 http://www.riksbank.com/upload/Dokument_riksbank/Kat_publicerat/Artiklar_PV/er00_3_artikel4.pdf.

¹⁷ Huertas, T.F. (2010a), *Crisis: Cause, Containment and Cure*, (London: Palgrave Macmillan). Huertas, T.F., (2010b), ‘Living Wills: How Can the Concept be Implemented?’, remarks before the Conference Cross-Border Issues in Resolving Systemically Important Financial Institutions, Wharton School of Management, University of Pennsylvania, Philadelphia, 12 February.

part, the Recovery Plan, would have the SIFI involved consider a range of acute stress conditions, such as for example exclusion from wholesale markets, and outline in each case how it could plan to recover from such a situation. In the Swedish case, we would assume and recommend that such an exercise be done jointly by the SFSA and Riksbank for all SIFIs, including of course the four main banks. Such an exercise is, of course, greatly complicated by the cross-border structure of the banks, and would have to involve a College of relevant supervisors, but the Nordic spirit of cooperation is, thankfully, strong.

The second part of the exercise involves a pre-arrangement of what structural changes might need to be done, to lessen the cost of liquidation in the event of the recovery plan being insufficient. This would involve, inter alia, ensuring that IT services could be continued, that an essential data room existed, and that the legal structure of the SIFI did not obstruct the orderly conduct of a liquidation; for further details see Huertas (op. Cit.). Also the Dodd-Frank Act considers the process of orderly liquidation, and sets up a new agency, the orderly liquidation authority (OLA) endowed with strong resolution powers (see Acharya et al. *Regulating Wall St* (New York: NYU), 2010, Chapter 8, pp 223-231). In the Swedish case, a much smaller country than the USA, it would be wasteful to establish a new independent agency, outside the SNDO, which would be inactive almost all the time. So, once again, we would assume and recommend that an exercise be done jointly by the SNDO and Riksbank, again having concern for the cross-border nature of the exercise.

The second set of ideas, currently under consideration, is whether to prevent liquidation by transferring some, or all, of the burden of loss from the taxpayer to the bond-holder, whether by some form of 'bail-in' or by contingent convertible (Co-Co) bonds. For a more detailed discussion of such proposals, see IMF Staff Discussion Note of January 25, 2011, on 'Contingent Capital: Economic Rationale and Design Features'. Much work remains to be done on these ideas, for example whether the 'bail in' would be pre-specified in the prospectus, making it akin to a Co-Co, or applied at the authorities' discretion, ex post facto. If the latter was to be the case, bond-holders would require some protection against misuse of power, and the rights and obligations of all parties would, we would expect, need to be set out clearly in legislation. Moreover, there could be adverse unforeseen consequences from this type of approach. It could, as already seems apparent from market reactions to such proposals, lead to greater uncertainty (amongst bond holders), enhanced contagion and worsened debt dynamics once difficulties appear.

Huertas, T.F., (2010c), 'Improving Bank Capital Structures', paper presented to LSE Financial Markets Group seminar on 'Modigliani-Miller in Banking, 18 January, available at http://www.fsa.gov.uk/pages/Library/Communication/Speeches/2010/0118_th.shtml. Huertas, T.F., (2011), 'Barriers to Resolution', Draft for Discussion, FSA, UK.

Besides placing part of the burden for recapitalisation on bond-holders, there is also the question whether banks should, or could, be made to insure against the costs of failure, including pay-outs under the deposit guarantee scheme, by paying a tax, or fee. This could either be done in advance (ex ante) or, to some extent, related to the risk profile of each bank, or after the event (ex post).¹⁸ This issue also remains under discussion, though bank taxation has, more recently, been advanced as a means of deterring ‘excessive’ remuneration, rather than of insuring against bank failure.

Nevertheless such new ideas are much in evidence in international fora, and will surely be discussed in the EU, perhaps at the European Systemic Risk Board, as well as at the BCBS and FSB. It seems to us quite likely that all developed (European) countries will be encouraged to establish Special Resolution Regimes by Act of Parliament, which could well include aspects relating both to Living Wills and to Bail-Ins, over the course of the next few years. Our expectation is that Sweden will be required to do so, as part of a European/international initiative in this respect, and our recommendation is that the relevant Swedish Authorities should form a working committee, consisting of the Ministry of Finance, SNDO, Riksbank (and perhaps but not necessarily the SFSA) to take this exercise forward, and to draft the necessary legislation.

3.2 Crisis prevention

3.2.1 The current role of the Riksbank

The Sveriges Riksbank Act (1988:1385) is not very precise about the financial stability mandate of the Riksbank. It only mentions (chapter 1, article 2, paragraph 3) that “the Riksbank shall also promote a safe and efficient payments system.” and that “in order to promote the function of the payment system, the Riksbank may grant credit to participants in the system” (chapter 6, article 7, second paragraph). The only prerogative given to the Riksbank (apart from the possibility to provide emergency liquidity assistance to banks in distress) by this act is the ability to require information from financial institutions (chapter 6, article 9).

¹⁸ In his speech to the IBA, 19/5/2008, (ibid, p. 8), the Governor, S. Ingves stated that, “The trick is to make the banks internalise the cost of the guarantee not at the industry level, but at the level of the individual bank. The way to do it is to set up a state-administered system to which all the banks pay a fee in relation to their risks, much like an ordinary insurance policy. Sure, the state still stands the risk in the event of a large failure. But in this system, it is duly compensated for the risk. And the financing is robust. If implemented widely, this solution will also make for a more level playing field between banks from different countries competing partly on the same markets. I therefore hope that the proposal will get more international attention than it has so far.”

In practice the Riksbank has interpreted its responsibility for promoting “a safe and efficient payment system” in the broader sense of “promoting stability in the financial system”, recognizing however that this responsibility is shared with other public bodies: the Swedish SFSA (Finansinspektionen), the Swedish National Debt Office, and the Ministry of Finance. A crucial aspect of our discussion will be to examine the allocation of responsibilities between these different institutions.

In the domain of crisis prevention, the role of the Riksbank has so far been limited to collecting and analyzing information on the stability of the Swedish financial system, and communicating these analyses through the bi-annual Financial Stability Reports and other channels, such as the regular speeches of the member of the Executive Board of the Riksbank.

It seems that the performance of the Riksbank in this dimension has been quite satisfactory¹⁹. In particular the FSRs of 2005 to 2007 clearly identified the risks associated with the large credit exposures of two Swedish banks in the Baltic States, see Appendix 1.

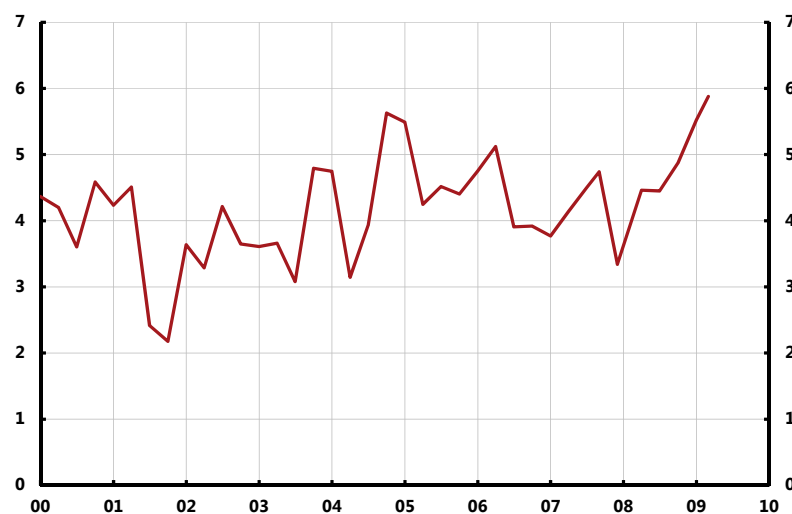
The reports also rightly identified the risks related to the dependence of large Swedish banks on wholesale funding denominated in dollars. However, as we shall see below, the Riksbank did not have any regulatory instrument that could have curbed the behaviour of the Swedish banks in these respects, whether, or not, the Riksbank would have actually used them in the case of commercial bank loan expansion in the Baltics. In the absence of any power or instrument to wield, it is harder to establish a policy culture.

The Riksbank also did a good job in analyzing the stability of the Swedish banking and financial systems. For example, the Riksbank regularly performed detailed evaluations of the capital and liquidity situations of large Swedish banks, of their counterparty exposures (so as to assess contagion risk) and has regularly organized stress tests. In particular, the Riksbank developed an interesting method for analyzing the importance of large counterparty risks for the 4 largest Swedish banks. Since 1999, each of these banks is required to report its gross exposures to its largest counterparties, as well as all the methods (such as collateral requirements, purchase of market protection such as CDSs, or netting arrangements with some of the counterparties) used to mitigate these risks. Then the Riksbank stresses the balance sheets of the large banks by assuming that one of them defaults. The resulting losses are deducted from the core capital of these banks. The following chart represents the resulting core capital ratio for the least capitalized bank (among the 3 survivors) for each quarter from 1999:1 to 2007:3: it illustrates well the

¹⁹ See for example the analysis of Christensson, Spong and Wilkinson (2010) “What can financial stability reports tell us about macro-prudential supervision?”, Working paper, FRB of Kansas City. These authors compare the assessment of risks in the FSRs of 5 European countries: Netherlands, Norway, Spain, Sweden and the UK, and conclude that the Riksbank did pretty well in this respect.

high variability of contagion risk in a concentrated banking system such as Sweden.

Figure 3:1. The lowest core capital ratio (in per cent) among the top 4 Swedish banks in the event that one of them defaults.



Source: The Riksbank FSR 2009:1.

Our main concern is that even if the Riksbank was able to identify the build-up of serious risks, it had no power to prevent this build-up. This is recognized in the report “The Riksbank and Financial Stability 2010” (p13): “in its preventive work, the Riksbank has no binding statutory tools to influence financial market participants. Instead, the Riksbank primarily acts...by calling attention to and warning of risks and events that may threaten financial stability”.

This hypothetical power of “moral suasion” might sometimes be insufficient to curb the behavior of exuberant financial institutions. For example the Riksbank recalls (in the same report) that it issued warnings about excessive lending in Baltic countries by some Swedish banks as early as 2005, without any effect: “A clear example of this type of problem is the recent economic downturn in the Baltic countries, where Swedish banks conducted expansive lending. The Riksbank issued warnings as early as 2005 in its Financial Stability Report that this was not a sustainable development. Despite an even sharper tone in later reports, this warning and other similar measures did not have the intended effect.”²⁰ To be fair, these warnings were not accompanied

²⁰ See for example: “As stated before, the strong economic growth in the Baltic states could pose a certain risk. The fact that these countries are becoming increasingly important for some of the major Swedish banks, above all for income, also means that the consequences would be greater if economic growth there were to slacken.” FSR 2005:2, the Riksbank. “Swedish banks are becoming increasingly active in the Baltic states, with corporate as well as household credit. However, credit is growing in these countries at a rate that is not sus-

by any precise recommendations to the SFSA in terms of corrective measures to adopt.

The report “The Riksbank and Financial Stability 2010” claims that “more powerful measures would have been necessary to remove the threats to the stability of the Swedish financial system that were building up with the banks’ commitments in the Baltic countries”. This issue will be examined below.

Like other central banks, the Riksbank also has the power to expand liquidity and to undertake Emergency Liquidity Assistance (ELA) to banks in trouble. This is explicitly allowed by the Sveriges Riksbank Act (1988:1385). In particular, Chapter 6, Article 7 second paragraph of this act states that “In order to promote the function of the payment system, the Riksbank may grant intraday credit to participants in the system. Credit may only be granted against adequate collateral.” Article 8 of the same act adds that “In exceptional circumstances, the Riksbank may, with the aim of supporting liquidity, grant credits or provide guarantees on special terms to banking institutions and Swedish companies subject to the supervision of the Financial Supervisory Authority”. This is what happened for example in the Autumn of 2008 when Carnegie Investment Bank AB encountered severe difficulties. On October 28, 2008, the Riksbank extended the 1 billion kronor line of credit it granted Carnegie to 5 billion kronor (the actual loan was 2.4 billion kronor). This was justified by a public statement according to which “Both Riksbank and the SFSA assess Carnegie to be solvent but that the ongoing financial crisis has created liquidity problems for the bank.” The Riksbank loan was later replaced by a support loan extended by the SNDO. However, the SNDO took over Carnegie on November 10th 2008, after the SFSA revoked its banking license. The decision by the Swedish government for a (temporary) nationalization by SNDO was motivated by a desire to avoid a systemically disruptive liquidation, and – most likely – bankruptcy, while minimizing the cost to taxpayers. The Government Support to Credit Institutions Act (2008:814) specifies the conditions under which the SNDO can provide emergency support for banks in trouble, and in particular offer government guarantees on part of the bank’s debt. However the Riksbank’s ELA activities are not fully protected against the risk of insolvency of the assisted bank.

More generally, we consider that the Swedish legislation is not sufficiently precise about the exact conditions under which the Riksbank may be allowed to provide ELA to an illiquid financial institution, especially in the current

tainable in the longer run. The economic situation in the Baltic states therefore calls for particular attention. “...the Riksbank again draws attention to the risks associated with the rapid growth of lending in The Baltic States. These risks are accentuated by a large proportion of the loans being denominated in euro, so that some borrowers are exposed to exchange risk. SEB and Swedbank are the major banks with the largest exposures in this region and their operations there are contributing a growing share of the total operating profit, about 14 and 16 per cent, respectively, in the latest four-quarter period.”, FSR 2006:2, the Riksbank.

international context where new macro-prudential regulatory tools are likely to be introduced. For example, SIFIs are not necessarily under the supervision of the SFSA. Since these SIFIs must be given access to ELA by the Riksbank, it is necessary to change the Riksbank Act to make this possible²¹. Moreover chapter 6 article 8 of the Riksbank Act allows “in exceptional circumstances” the provision of emergency liquidity assistance even if the institution in trouble does not have adequate collateral. We recommend that the nature of these “exceptional circumstances” and the way potential losses would be allocated be made explicit in a new Riksbank Act. Finally, the conformity of these ELA activities with European law, particularly concerning state support, needs to be established.

We recommend that an appropriate revision to the Riksbank Act is made to widen and clarify the conditions under which the Riksbank can provide ELA.

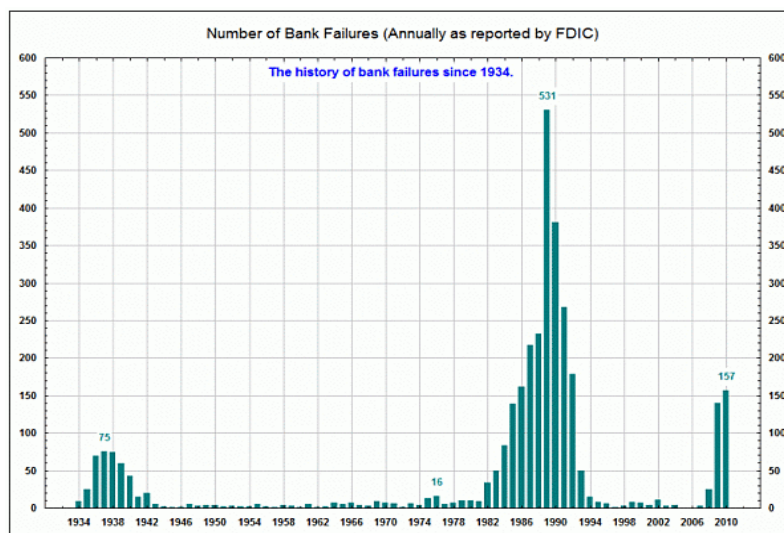
Even if it is useful, the liquidity provision instrument is far from being sufficient for preventing crises. One important limitation is that it might sometimes conflict with the monetary policy objective of price stability, even if ELA loans are generally sterilized. Second, it cannot deal with solvency problems. Finally it is inoperant against the tendency of banks to lend excessively during booms, one of the reasons why macro-prudential policy is needed, as we now explain in detail.

3.2.2 The objectives of macro-prudential regulation

One of the main lessons that can be drawn from the Subprime crisis is that the traditional, micro-prudential, approach to banking regulation and supervision was insufficient. There are essentially three reasons for this: banking crises, financial cycles and SIFIs.

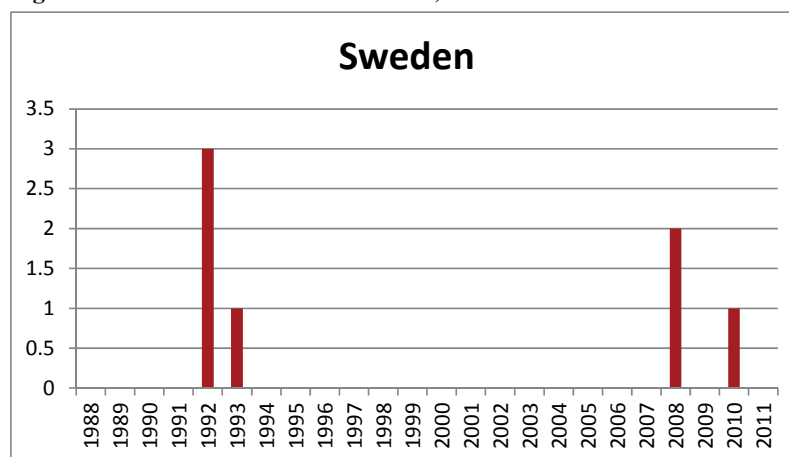
First banking crises: banks failures are not independent events. They typically occur in clusters, due to the high degree of correlation between banks' assets and to the high degree of interdependence of banks liabilities. This is illustrated by the following chart, which shows the annual number of bank failures in the United States over the period 1934-2010. These numbers are typically very small (less than 10) but they reach high peaks during three periods: 1936-1940, 2008-2010, and most impressively 1983-1993, during the Savings and Loans crisis.

²¹ For provision of intraday liquidity, the Riksbank Act requires that the bank in distress provides “adequate collateral”. This is not so for emergency liquidity assistance (we thank Lars Frisell for clarifying this point for us).

Figure 3.2. Bank failures in the USA, 1934-2010

Source: <http://thebankwatch.com/2009/07/04/us-bank-failure-tracker-1934-2009/>

In the case of Sweden, a similar pattern emerges:

Figure 3.3: Bank resolutions in Sweden, 1988-2010

Sources: The Riksbank and IMF (Drees and Pazarbaşıoğlu (1995) "The Nordic Baltic Banking Crisis: Pitfalls in Financial Liberalization?" IMF Working Paper, WP/95/61)

1992: Nordbanken is in serious problem and the state buys all outstanding shares and splits the bank into a good bank and a bad bank (Securum).

1992: The Swedish Government decides to provide a multi-billion loan at concessional rates and multi-billion in loan guarantees to Första Sparbanken.

1992: The state assumes all commitments of Gota Bank, but not those of the parent company (Gota AB) which is declared bankrupt. Also Gota Bank is split into a good bank and a bad bank (Retriva).

2008: As a result of the takeover of Kaupthing by Icelandic authorities, the Riksbank grants liquidity assistance on special terms to Kaupthing Bank Sverige AB.

2008: The Riksbank grants liquidity assistance on special terms to Carnegie Investment Bank AB. The national debt office takes over Carnegie Investment Bank AB and Max Matthiessen Holding AB.

In August 2010 the SFSA withdraws HQ Bank's bank license and applies for its liquidation. In September 2010 Carnegie Investment Bank AB (publ) is allowed to acquire the shares in HQ Bank.

Thus, focusing on the probability of default of individual banks is not enough: regulation should also aim at limiting the probability and cost of banking crises, which will undoubtedly occur again in the future.

A second reason for a macro-prudential approach is the existence of financial cycles: in theory the financial system should contribute to dampen real shocks; in practice it does quite the opposite: banks tend to lend too much in good times (credit booms) and too little in bad times (credit crunches). The charts shown at the end of this Section (taken from IMF International Financial statistics, 2000) show that in Sweden and the other Scandinavian countries (but this is also true in most developed countries) real credit fluctuations are highly correlated with GDP cycles but are more volatile.

This phenomenon generates excess volatility of credit and asset prices, potentially provoking bubbles and, then in busts, fire sales spirals. There is not yet a large consensus among economists about the deep causes of these financial cycles, but many of them²² attribute it to some form of externality. The idea is that when firms decide on their demand for credit, and when banks select the volume of their supply of credit to the economy, they do not take into account their impact on the fragility of the financial system and the possibility of creating bubbles (during good times) or fire sales spirals (during bad times).

Note in passing that the most popular micro-prudential instruments, namely Capital Adequacy Requirements, are intrinsically pro-cyclical, i.e. they tend to exacerbate financial cycles. Indeed, assume for example that a country enters into a recession: default frequencies and losses given default are likely to increase, thus generating unexpected losses for the banks, and ultimately reducing their equity, possibly below the regulatory requirement for the least capitalized banks. Since new equity issuance is costly and difficult during recessions, these banks will be forced to reduce their lending, typically to small and medium size enterprises. This phenomenon is likely to

²² See for example, among recent references, Bianchi and Mendoza, (2010) "Over-borrowing, Financial Crises and Macro-prudential Taxes" NBER working paper 16091, Stein (2010) "Monetary Policy as Financial Stability Regulation" Working Paper, Department of Economics, Harvard University and Jeanne and Korinek, (2010) "Managing Credit Booms and Busts: A Pigouvian Taxation Approach" working paper, Johns Hopkins University.

contribute to a further reduction in aggregate activity, thus exacerbating the initial negative shock. Risk weighted capital requirements such as the ones recommended by Basel 2, are even more pro-cyclical, due to the fact that some of the risk weights are based on default frequencies and losses given default, figures that increase during recessions. Thus the Basel 2 Capital Ratio decreases for two reasons: the numerator (regulatory capital) decreases (as in Basel 1) but now also the denominator (Risk Weighted Assets) increases²³. This is why the set of new recommendations issued by the Basel Committee (known as Basel 3) includes some proposals for counter-cyclical buffers. We will discuss below the implementation problems posed by such contra-cyclical mechanisms.

Another reason for initiating macro prudential regulation is the existence of SIFIs. Indeed some financial institutions, including non-banks, are major players in vital parts of the financial system, such as the payment system, money markets, stocks and bond markets, derivative markets, and securities clearing and settlement systems.

Closing down such a SIFI is likely to have damaging consequences on these vital parts of the financial system, generating another form of negative externality. Recognizing that they cannot be closed down easily, SIFIs anticipate that they are likely to be rescued even if they incur big losses. This creates a moral hazard problem: shareholders may encourage managers to take excessive risks, in anticipation of such bailouts if they encounter financial distress. This implies that these institutions must be closely monitored, even if they are not financed by insured deposits. This suggests in passing that the remit of a macro prudential supervisor should not be limited to banks, in the traditional sense of the word, but should include as well the other financial institutions that are deemed systemic.

The presence of such externalities and other forms of market failures is not sufficient by itself to warrant public intervention: the costs of such interventions must be balanced with their potential benefits. But prior to such a cost-benefit analysis, the potential instruments that could be used for macro-prudential supervision must be made explicit and precise. This is one of the roles assigned to the systemic risk councils, that were recently created on both sides of the Atlantic: the Financial Stability Oversight Council created in the US by the Dodd-Frank act of July 2010 and, more relevant to Sweden, the European Systemic Risk Board (legislated by the European Union in September 2010, and in which the Riksbank will participate²⁴) that will be in charge of “monitoring and assessing potential threats to financial stability”. We now

²³ Empirically however, this additional procyclicality due to the variation of risk weights over the business cycle does not seem to be large. This might be due to the fact that the internal models of large banks often compute probabilities of default over long periods of time and average them through the cycles, which obviously limits procyclicality.

²⁴ The FSA will also participate, like the other micro-prudential supervisors, but they will not have any voting rights.

discuss the potential instruments that could be used for macro-prudential regulation.

3.2.3 The instruments of macro-prudential regulation²⁵

Even if there is still a lot of uncertainty about what precise instruments the new macro-prudential authorities will have at their disposal, it is likely that the future reforms will fall into one of the three following categories:

- Reinforcing traditional micro-prudential tools²⁶ (e.g. imposing additional capital charges for SIFIs) for macro-prudential purposes.
- Reallocation of existing instruments between agencies.
- Creating new instruments and deciding on which agency controls them.

As for the first category (e.g. reinforcement of capital requirements for SIFIs) the immediate question is whether the control of such instruments should be given to the SFSA, who already controls these tools for financial stability purposes, or to the Riksbank, which is supposedly in charge of systemic stability. One argument in favour of the first solution is that the SFSA already has the expertise and personnel needed for supervising banks and insurance companies. Another, related, argument in the same direction is that having the SFSA in charge of these instruments would avoid inefficient duplication of monitoring activities. However there are also two counter-arguments, pointing towards the second solution: first some SIFIs might be outside the current remit of the SFSA (for example the RIX payment system)²⁷. Therefore asking the SFSA to control the macro-prudential impact of traditional micro-prudential tools would necessitate enlarging considerably its remit. Moreover the Riksbank already has the analytical competence and personnel needed for assessing the stability of the Swedish financial system. Therefore the first solution (having the SFSA control the implementation of special capital re-

²⁵ For further discussions of these instruments, see for example Barrell, R. (2010) Financial regulation and the European policy architecture, NIER REVIEW No. 214, Borio, C. (2003): "Towards a macroprudential framework for financial supervision and regulation?", CESifo Economic Studies, vol 49, no 2/2003, Borio, C. (2009): "Implementing the macroprudential approach to financial regulation and supervision", Financial Stability Review, Banque de France, September 2009. Borio, C., C. Furfine and P. Lowe (2001): "Procyclicality of the financial system and financial stability issues and policy options", BIS Papers, no 1, March, pp 1–57, Brunnermeier, M., A. Crockett, C. Goodhart, M. Hellwig, A. Persaud and H. Shin (2009): "The fundamental principles of financial regulation", Geneva Reports on the World Economy, no 11 and Goodhart, C. (2010) "The Emerging New Architecture of Financial Regulation".

²⁶ We do not discuss the reinforcement of traditional micro-prudential tools as suggested for example by Basel 3 (more and better quality capital, leverage ratio, liquidity ratios...) since these instruments are under the full control of the SFSA. Our discussion focuses on the use of these instruments for macro-prudential purposes.

²⁷ One of the difficult tasks for the new macro prudential authorities (whether or not they lay within the Riksbank) is to determine exactly which the SIFIs are.

quirements for SIFIs) would require a substantial increase in the staff and the budget of the SFSA so as to be able to supervise more institutions and to assessing systemic stability, an activity already performed by the Riksbank.

The same arguments apply for the second category of reforms (reallocation of existing instruments between agencies). Consider for example the decision of the SFSA in May 2010 to impose a maximum collateralised loan (beyond which a penalty rate would be applied) to value ratio (LTV) of 85% for residential mortgages. As we already commented in the introduction, the SFSA justified this decision by a desire to protect individual borrowers against foreclosures, but such a cap on LTVs can also be a powerful instrument for macro-prudential regulation. But then the decision whether and when to employ this instrument must be based on macro-financial models allowing an assessment of the stability of the Swedish financial system as a whole. Such modelling work is in the province of the Riksbank, rather than of the SFSA. So, for this and other reasons, on balance we would recommend transferring the control of maximum LTV ratios from the SFSA to the Riksbank.

Finally, the third category of reforms involves new instruments, yet to be created. The most frequently discussed of these new instruments are the countercyclical buffers²⁸ that have been recommended in particular in Basel 3. Roughly speaking, the idea is to require banks to put down more capital during booms, so as to be able to use an additional buffer during recessions. This would force the banks to lend less during booms and encourage them to lend more during recessions, thus contributing to dampening business cycles. The most important question about these anti-cyclical mechanisms is what triggers the change of regime. Several academic articles²⁹ have examined the possibility of using automatic stabilizers based on the deviations from trends of some macroeconomic indicators such as GDP growth, or Credit to GDP ratios. But it is highly unlikely that such automatic rules, where capital requirements would vary almost constantly, based on some complex formulae, would be applicable in practice. It is likely that any such rule is both too simple to be efficient and too complex to be transparent and immune from manipulations. But such decisions cannot be left to the discretion of a single supervisor, whatever his or her competence and integrity. A natural compro-

²⁸ These countercyclical buffers will be largely substitutable to the discretionary capital add-ons that the FSA can impose, as part of the pillar 2 of Basel 2. The Swedish FSA plans to make these discretionary add-ons public, so as to clearly distinguish them from the countercyclical buffers of Basel 3. This may present certain drawbacks. However, be it as it may, this substitutability between micro and macro prudential instruments suggests the need for a Financial Stability Committee comprising members of the different institutions involved (here the SFSA and the Riksbank) and able to arbitrate possible conflicts between them.

²⁹ In their paper "Mitigating the Pro-cyclicality of Basel 2", Repullo, Saurina and Trucharte (2009) compare alternative procedures to mitigate the pro-cyclicality of Basel II. Based on Spanish data for the period 1987-2008, they estimate that the best procedures are either to smooth the inputs of the Basel II formula by using through-the-cycle PDs or to smooth the output with a multiplier based on GDP growth. They conclude that the latter is better in terms of simplicity, transparency, and consistency with banks' risk pricing and risk management systems.

mise between these two polar cases of rules and discretion would be to create a “Financial Stability Committee” (FSC) in charge of deciding whether or not capital requirements for banks and SIFIs (as well as other quantitative tools such as maximum LTV ratios) need to be adjusted. The functioning of this committee would be similar to that of the Monetary Policy Committee: “normal” meetings would be organized on a regular basis (with the possibility for organizing exceptional meetings if needed) where the committee members would determine by a vote whether or not the macro-prudential instruments discussed above should be adjusted. The Committee could also decide on which financial institutions are designed as SIFIs. The Committee would benefit from the expertise and support the Financial Stability Department of the Riksbank. This department would have in particular the responsibility for developing calibrated models of the Swedish financial system, which together with the existing stress tests methodology could help the members of the FSC making their decisions on macro prudential instruments. The composition of the FSC would reflect the need for coordinating its actions with those of the other agencies involved in financial stability tasks: the SFSA, the SNDO and the Ministry of Finance. We recommend that the establishment of such an FSC be given consideration by the authorities.

An additional question is whether, and if so how, taxation on banks should be used as a further instrument of macro-prudential control. It is generally possible to substitute, or supplement, direct regulation on bank behaviour by the application of taxes which penalise behaviour that the authorities wish to deter. The use of taxes and fees as policy instruments was, for example, raised by the Norwegian Financial Crisis Committee, which published their report in January 2011. The relative advantages, and disadvantages, of the use of bank taxes, both for macro-prudential and other purposes, is, however, a large subject, and one that we felt lay outside our immediate mandate.

We now discuss in more detail the difficult question of the allocation of responsibilities between these different agencies.

3.2.4 Possible allocations of responsibilities between agencies

In contrast with the conduct of Monetary Policy, there is no dominant model for the Financial Stability role of Central Banks and its coordination with other public agencies. A recent report by the BIS (“Central Bank Governance and Financial Stability”, 2010) compares the financial stability roles of 13 different Central Banks (including the Riksbank) and classifies them into different models. It basically identifies 4 possible models for the governance of the macro prudential function:

- Macro-prudential policy as a shared responsibility between several agencies.
- A separate macro-prudential agency.
- The Central Bank in charge of macro-prudential regulation, with a separate micro-prudential regulator.

- The Central Bank in charge of both macro- and micro-prudential regulation, with a separate financial product safety regulator.

The first organization corresponds, more or less, to the reform envisaged in the US and Europe, where a Systemic Risk Council (SRC)³⁰ would be in charge of coordinating the actions of several specialized agencies. In the case of Sweden these agencies would be the SFSA, the NDO, the Ministry of Finance and the Riksbank³¹. Organization (i) would probably be the one that requires minimum change over the present situation in Sweden. The only new elements would be to specify the precise powers, mandate and governance of the SRC and the allocation of the new supervisory instruments between the four agencies. Each agency would have complete control on its own instruments, but the Systemic Risk Council could issue recommendations so as to prevent inefficient conflicts between agencies and would organize the exchange of information so as to improve coordination between these agencies. One advantage of this organization would be to protect the Riksbank from the reputational and legal risks that micro-prudential supervisors and resolution authorities inevitably bear. There would be a clear separation between monetary policy decisions and ELA activities, made by the Riksbank alone, decisions about restrictions of activities and sanctions imposed on non-complying banks, made by the SFSA alone, decisions on banks closures or reorganizations made by the SNDO alone, and finally decisions about fiscal policy and emergency support to SIFIs³², made by the Ministry of Finance alone. In practice however, such an organization is not without difficulties, concerning in particular the management of conflicts between the different agencies in charge of the different aspects of financial supervision. Would the SRC be allowed to issue public recommendations, or would the internal conflicts be managed confidentially? Who would provide the SRC secretariat? Would the SRC be chaired by the Governor of the Riksbank, the Head of the SFSA or the Ministry of Finance?

The second organization would require creating a new agency from scratch, which is probably unreasonable. There is indeed a non-negligible cost involved in setting up such an agency and also organizing mechanisms guaranteeing its necessary independence and accountability. Moreover the US experience shows that a complex supervisory architecture is likely to be inefficient to prevent and manage crises.

³⁰ In the US this corresponds to the Financial Stability Oversight Council or FSOC, and in the European Union this corresponds to the European Systemic Risk Board or ESRB.

³¹ There is already a Memorandum of Understanding between these four agencies, to cooperate and exchange information, to promote financial stability and facilitate crisis resolution. The Systemic Risk Council that would be set-up under organization (i) would basically consist of a permanent framework for organizing this cooperation and exchange of information.

³² In case of a systemic crisis, the government could decide to provide liquidity or capital injections to the institutions under stress. This would require the active collaboration of the Riksbank and the SNDO, but would be entirely financed by the government budget.

The third organization would have a certain number of advantages: it would build upon the expertise and staff already present in the Financial Stability Department of the Riksbank. As such it would economize on resources and personnel. The recent report by Howell E. Jackson and James S. Reid, Jr ("A Report on the Mandate, Structure and Resources of the Swedish Financial Supervisory Authority" Prepared under the Auspices of the Stockholm Centre for Commercial Law at Stockholm University Faculty of Law ,November 9, 2010) ³³ argues that "the leading role that the Riksbank plays in overseeing Swedish financial stability relates, at least to some extent, to the staffing challenges facing the SFSA,..., one of the FI's challenges is attracting and retaining... financially sophisticated economists....the overall size of the Riksbank and its overall mandate allow it to maintain a much larger critical mass of economic talent".

This third organization would also enhance the influence of Sweden within the newly created European Systemic Risk Board, since the governor of the Riksbank automatically has a voting right within this organization, while the representative of the SFSA (and other national micro-prudential supervisors) in the ESRB does not have any voting powers. The main arguments against giving to the Riksbank prime responsibility over macro-prudential supervision are first that it may conflict with monetary policy objectives, or with micro-prudential objectives, and second that it may give too much power to an institution (the Riksbank) that is not under direct democratic control. The second argument is a matter of judgment, as it depends a lot on the idiosyncracies of each country. But the first argument is easy to refute:

- macro-prudential supervision can be organized through a Financial Stability Committee (FSC), independent from the Monetary Policy Committee, and whose objectives and instruments would be independent from those of monetary policy. On the contrary, if proper instruments for macro-prudential regulation are put in place, there would be much less pressure for using repo rates for other objectives than inflation targeting, namely financial stabilization (a policy also known as "leaning against the wind").
- Conflicts with micro-prudential objectives would be settled within the FSC, which would comprise high ranked representatives of the SFSA, the SNDO and the Riksbank.

The issue of the composition of the Financial Stability Committee would be very important in several respects: coordination with other agencies in charge of different aspects of financial stability, and limitation of the powers of the Riksbank. If this option were chosen, we would recommend that the FSC should comprise, together with independent members selected for their com-

³³ This report is available at available at http://www.fi.se/upload/43_Utredningar/40_Skrivelser/2011/howells_rapport_final.pdf

petence, high level representatives of the SFSA, the SNDO and the Ministry of Finance.

Concretely, the FSC could be chaired by the governor of the Riksbank, and be composed of a vice governor in charge of financial stability, the head of the SFSA, the head of the SNDO, a high level representative of the ministry of finance and two external members.

De facto, the situation could be very similar to the solution chosen in France and in Finland, namely that the decision-making body for macro prudential supervision, namely the FSC, would be housed by the Riksbank, and would benefit from the competence and assistance of the Financial Stability Department of the Riksbank, but would be run as a separate entity.

However, this option would require a review of the division of responsibilities within the Executive Board. When the primary responsibility of the Executive Board involved the achievement of a single objective, the inflation target, primarily by the decision on the interest rate path, it was entirely feasible and sensible for all members of the Executive Board to focus equally both on that, and on the other more routine duties of a central bank, e.g. note issue and the operations of the payment system. Our proposals imply a considerable extension and widening of the Riksbank's remit and responsibilities, giving greater importance to the financial stability objective, and the possible adoption of a Financial Stability Committee.

Dealing with financial stability issues will involve an expertise that is somewhat wider and different from that required for dealing with monetary policy issues. Moreover, there must be somebody within the Riksbank who is in a position, and has the authority, to chair the FSC in the Governor's absence. That suggests to us the need for, at least, one of the members of the Executive Board to have such a specialist role.

This would go some way to reversing the decision that was made earlier to leave every member of the Executive Board in an exactly equal position. The Riksbank is unusual, indeed, we believe, unique, in emphasising the absolute equality of all members of the Executive Board. As the range of responsibility of the Riksbank increases, so the possibility of maintaining this absolute equality must come under question.

It is, of course, an internal matter for the Riksbank's Executive Board to decide amongst itself. One possibility would be to select one member of the Executive Board to be the Deputy Governor, and to have particular responsibility for financial stability issues. Another possibility would be to revert to the previous arrangement with two Deputy Governors having particular responsibility for financial stability on one hand and monetary policy on the other. Yet another possibility would be for each member of the Executive Board to get line responsibility for some facet of the Riksbank's activities.³⁴

³⁴ With this being an internal issue for the Riksbank, we would not wish to make any recommendation, but we do think that the Executive Board ought to consider carefully its own

Finally the fourth option (the Riksbank in charge of both micro and macro prudential supervision) would have a certain number of advantages, in terms of economies of scale and scope (it would avoid duplication of supervisory activities, since overall financial stability obviously depends, albeit not exclusively, on the stability of individual institutions: the instruments of micro-prudential regulation such as capital requirements and liquidity requirements also play a fundamental role for systemic stability) and prestige and strength (it would facilitate recruiting and hiring of high quality staff, it would also reinforce the power and independence of the supervisory authority vis à vis the banking industry and different kinds of lobbies). But this would also probably be unacceptable by the Swedish public, as it would give too much power to an institution that is not directly under democratic control, especially when decisions involving taxpayers money are at stake.

So we would recommend that the final choice should be between options 1 and 3. This latter choice depends on so many fine details of Swedish political history, culture and norms that we are reluctant to suggest any preference ourselves.

3.3 Is there a need for revising the mandate of the Riksbank?

As already discussed, the Sveriges Riksbank Act (1988:1385) is not very precise about the financial stability mandate of the Riksbank. It only mentions (Chapter 1, article 2, paragraph 3) that “the Riksbank shall also promote a safe and efficient payments system.” We understand that the word “payment system” (betalningsväsende) may have in Swedish a wider meaning than in English, and may also be understood as “financial system”, but we think this interpretation would need to be made more explicit.

In particular it would be important to define precisely the notions of “macro-prudential policy” and “financial stability”. A classical definition of “macro-prudential policy” is given in a recent report of the Committee on the Global Financial System³⁵: “macro-prudential policy focuses on the interactions between financial institutions, markets, infrastructure and the wider economy. It complements the micro-prudential focus on the risk position of individual institutions, which largely takes the rest of the financial system... as given”. As for the definition of financial stability, a good starting point could be the

organisation and allocation of responsibilities. Equally, the appointments to the Executive Board should take into consideration the need to appoint at least some members who have particular expertise in the financial stability field.

³⁵ “Macroprudential instruments and frameworks: a stocktaking of issues and experiences” working paper 38, CGFS.

definition by the Riksbank itself³⁶: “The Riksbank has chosen to define financial stability as meaning that the financial system can maintain its basic functions and also has resilience to disruptions that can threaten these functions”. It would be useful to clarify the meaning of the most important terms in this definition.

The term “financial system” refers to a large set of institutions, which is not restricted to the set of commercial banks alone. It includes other financial intermediaries like insurance companies, but also financial markets and infrastructure such as payment systems and clearing and settlement systems.

The “basic functions” of the financial system are mediating payments and securities trading but also channelling savings into credit and reallocating risks optimally.

“Disruptions” to these functions can be of several types: “gridlocks” in the payment system, serious perturbations to money markets and financial markets such as liquidity dry-ups, asset price bubbles and fire sales spirals, or finally credit crunches.

One could envisage restricting the goal of macro-prudential regulation to the narrow mandate of “limiting the frequency and cost of financial crises”, but the fulfilment of this objective is hardly measurable. Completely avoiding financial crises is, for sure, unrealistic, but it is reasonable to hope that the frequency of these crises can be reduced to less than one every 25 years. In such circumstances, it may be politically difficult for an independent macro prudential supervisor to take unpopular decisions based on the hypothetical risk of a crisis that may not (or rarely) materialise.

Somewhat paradoxically, it may therefore be politically easier to endow the Financial Stability Committee with a more ambitious (but also more measurable) objective of dampening financial cycles and reducing excessive volatility of some key variables such as credit to GDP ratios.

In effect this objective covers the previous one, since reducing the amplitude of financial cycles is very likely to reduce as well the frequency and cost of financial crises. Moreover this second objective is easier to quantify, which would facilitate the ex-post accountability of the FSC with respect to the Riksdag.

As already discussed, one difficulty in defining the new mandate of the Riksbank vis a vis financial stability is the overlap of responsibilities between agencies. Other public institutions also have duties and instruments to promote financial stability. The SFSA has the responsibility for supervising financial companies, financial markets and infrastructure companies. The SNDO runs the deposit guarantee system (a crucial element of the banking safety net) and finally the ministry of finance is in charge of fiscal policy (another potentially important stabilization tool). We have the feeling that the

³⁶ In “The Riksbank and Financial Stability 2010” available at www.riksbank.com/upload/Dokument_riksbank/Kat_publicerat/Rapporter/2010/the_riksbank_and_financial_stability_2010.pdf.

difficulties related to this overlap of responsibilities can be solved in a satisfactory fashion if high level representatives of these different agencies are de jure members of the Financial Stability Committee.

We recommend that the Riksbank Act be modified in the following directions:

- Specifying in more detail the exact mandate of the Riksbank in terms of “promoting financial stability”;
- Specifying in more detail the instruments that the Riksbank is entitled to use for this matter, e.g. to apply varying reserve ratios and to control foreign exchange swaps;
- Specifying in more detail the internal governance of the Riksbank on financial stability activities and the sharing of responsibilities and tasks with other public agencies also in charge of some aspects of financial stability, in particular the SFSA; the SNDO and the Ministry of Finance.

One possibility would be to set-up a Financial Stability Committee comprising top representatives of these institutions and chaired by the Governor of the Riksbank or alternatively by a Deputy Governor specifically in charge of financial stability missions of the Riksbank. We return to these organizational issues in the next sub-section.

3.4 Riksbank Structure, Organisation and Communication

The structure of responsibility in the Executive Board of the Riksbank is unusual, although, of course, in line with the current Riksbank law. In most other central banks, ECB, BoE, Fed, the internal Board members are designated certain particular areas of responsibility, and oversight of certain Departments or Divisions within the Bank. That has not been so in the Riksbank, since the internal reorganisation in 2008-01-01. Before that date one Board member, other than the Governor, took the lead on monetary policy, and another on financial stability. But such earlier attempts to create line responsibilities were not considered successful. Since the reorganisation, all the Division heads report directly to the Executive Board; none of the members of the Board has any special responsibility (Lars Nyberg, because of his special expertise, remains spokesperson for financial stability issues for the rest of his term, ending 2011); but all are jointly, and severally, responsible on all Riksbank matters.

This structure was well designed for circumstances in which the main focus of the Riksbank was overwhelmingly on the single, primary task of achieving the inflation target; when the tasks of monetary operations, managing the payment and note issue, etc., and of maintaining financial stability were somewhat routinised and perceived as of lesser importance; and when the Governor in person was not too much deflected from domestic oversight

by his international commitments. All this may change, especially if one of the proposals set out in Section 3.2 is adopted.

The first proposal is to share the responsibilities for macro-prudential policy between four institutions: the Riksbank, the SFSA, the SNDO and the Ministry of Finance. This organizational choice would require minimal change with respect to the present situation in Sweden and would be quite close to the spirit of current financial architecture reforms in the US, the UK and continental Europe. The two main elements of structural reform that would be needed are:

- To specify precisely the allocation of regulatory instruments (including possible new ones) to the four institutions involved.
- To create a Systemic Risk Council (SRC) in charge of coordinating the actions of these four institutions.

The second organizational option that we propose would involve allocating all macro-prudential responsibilities to the Riksbank, while restricting the duties of the SFSA to micro-prudential aspects. This would require deeper institutional reforms than the previous option. In particular it would require creating, within the Riksbank, a Financial Stability Committee (FSC), organized in a similar fashion as the Monetary Policy Council, but independent from it. The composition of this council would probably have to include the heads of the SFSA and of the SNDO, as well as a high level representative of the Ministry of Finance and some external members. This Committee could be chaired by the Governor of the Riksbank but would also comprise a high ranking representative of the Riksbank, possibly a vice Governor that would be specifically in charge of financial stability. This option would also require developing the Financial Stability Department of the Riksbank (and allocating more resources to the development of macroeconomic models aimed at assessing overall stability of the Swedish banking and financial systems).

While we did see all members of the Executive Board and most Divisional heads, we did not review the work of the staff below Board level in any detail. We did not review the models used, e.g. Ramses, as undertaking such a review was not our comparative advantage. The staff, whom we met, were unfailingly helpful, considerate and highly competent, but we did not seek to explore in any depth how their deployment and output compared with those in central banks elsewhere, since our own focus has been on broader issues, especially related to financial stability.

Nor did we seek to examine the perceptions of outsiders about the competence, communications and credibility of the Riksbank, beyond discussions in the limited number of interviews that are listed in Appendix 3. However the Riksbank commissioned a Target Group Analysis, from StrandbergHaage, published in June 2009. The results of this reinforce our own impression that the Riksbank is highly regarded with considerable credibility, though we note that its overall Summary, reproduced below, echoes some of our own comments.

Table 1. Summary – all target groups

STRENGTHS	WEAKNESSES
Transparency	Perceived as being elitist
Ability to use the media proactively	Technocratic communication
OPPORTUNITIES	THREATS
Increase in confidence in connection with financial crisis	Limited knowledge about financial stability
Increase in interest in connection with financial crisis	Media image shaped by a few
	Criticism of the long-term interest rate path

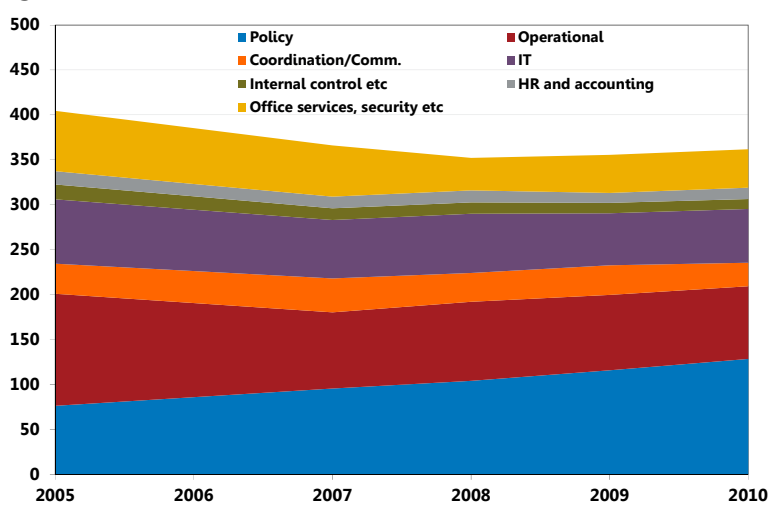
Note. StrandbergHaage has chosen to present the primary result of the target group analysis in a SWOT analysis, so as to categorise the result and, at the same time, provide an overview. A SWOT analysis charts the strengths, weaknesses, opportunities and threats affecting an organisation or company. Strengths and weaknesses are internal factors that the organisation itself can affect. Opportunities and threats are external factors that the organisation itself cannot affect

Source: StrandbergHaage

Such comparisons support our own impressions, that the Riksbank deployment of staff and their output compare well against their comparators, see Box below. If, however, the broader areas of policy concern calm down over the next five years, the Riksdag Committee of Finance might choose a team on the next occasion of such an external review that could examine the micro-level internal efficiency of the Riksbank more closely than we have done.

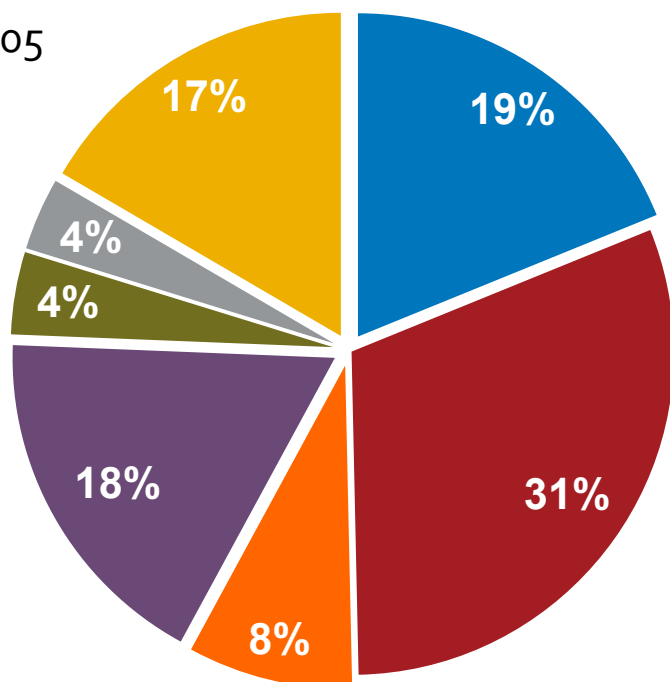
Box 3.1**Central bank specific data****Evolution of the Riksbank 2005-2010**

In the last five years the Riksbank has endeavoured to increase internal efficiency and to focus more on the tasks that the central bank is best suited to perform. As a result, there has been a competence shift with the purpose of increasing the analytical capacity of the policy areas (monetary policy and financial stability policy). This has meant that the allocation of staff has changed. The number of employees in support and operational activities has decreased while the number of employees at the policy departments has increased (see figures below). In the Monetary Policy Department the number of employees increased with 25 per cent during these years. In the Financial Stability Department the staff has almost three doubled.

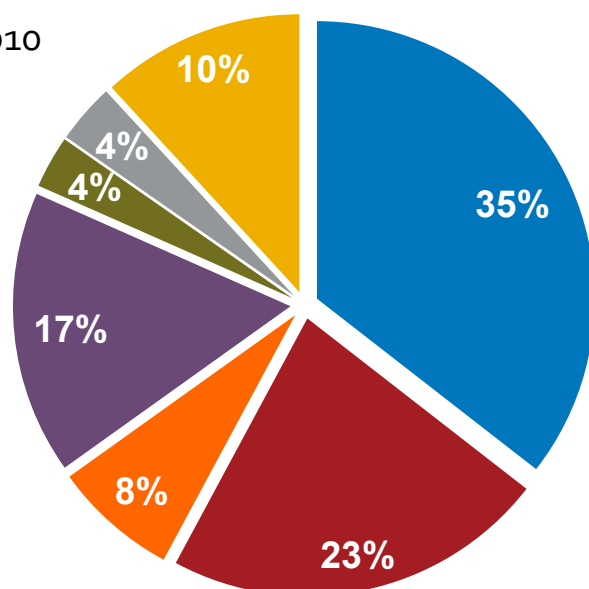
Figure 1. Staff allocation in different areas 2005-2010

Source: the Riksbank

2005



2010



Source: the Riksbank

3.5 Transparency and communication policy of the Riksbank 2005-2010³⁷

To evaluate the transparency and communication policy of the Riksbank during the period 2005-2010, we relied on two recent external reports. The first (J.P. Morgan Research, “Central bank communication hits diminishing marginal returns” May 11, 2007) focuses on monetary policy communication. The second (Hallvarsson & Hallvarsson for FSPOS, “Communication from the major banks and authorities during the financial crisis – 2007- 1 July 2009, 20 September 2010) focuses on financial stability and communication strategies during the crisis³⁸.

3.5.1 Communication of the Riksbank about its monetary policy

Generally speaking, central banks’ communication in the domain of monetary policy has improved dramatically over the past 15 years. This seems to have played a role in reducing volatility in inflation and financial markets. However, more gains could possibly be obtained by putting more efforts on communication and transparency. The J.P.Morgan report (2007, op.cit.) builds an index so as to be able to rank central banks in terms of transparency and checking whether higher transparency is correlated with smaller interest rate forecast errors (i.e. the gap between interest rate expectations six months ahead and actual outturns measured at a weekly frequency). Thus the idea is to see if further efforts in communication can lead to monetary policy becoming more predictable. We first describe briefly how this index is constructed and then examine the implications for the Riksbank communication policy.

The communication of central banks regarding their monetary policy is summarized along three dimensions:

1. The amount of information provided about the general strategy (primary objective and means adopted to meet it).
2. The amount of information provided about the decision-making process (minutes and votes, qualities of the minutes, speeches, testimonies to their legislatures, reports) and who is responsible for the analyses in the reports (the monetary policy committee or the staff).
3. The amount of information provided about central bank forecasts.

Tables 3.1 to 3.5 below show some of the indicators of transparency considered and how the Riksbank and some other central banks performed in terms of these indicators:

Table 3.1 Key central bank publications

³⁷ This Section owes a lot to Gabriela Guibourg.

³⁸ Hallvarsson & Hallvarsson is a Swedish consultancy company that supports companies and organisations with development of communication services. FSPOS is a cooperation entity of Swedish financial institutions from both the public and the private sector created in 2005 with the objective of strengthening the robustness of the Swedish financial sector.

	Post meeting statement	Minutes	Votes	Regular report	Ownership of report
Fed	Yes	Yes	Yes	Semi-annual	Yes
ECB	Yes	No	No	Monthly	No
Bank of Japan	Yes	Yes	Yes	Semi-annual	Yes
Bank of England	When change	Yes	Yes	Quarterly	Yes
Riksbank	Yes	Yes	Yes	3 times a year	Yes
Norges Bank	Yes	No	No	3 times a year	Yes
Bank of Canada	Yes	No	No	Quarterly	Yes
Reserve Bank of Australia	When change	No	No	Quarterly	No
Reserve Bank of New Zealand	Yes	No	No	Quarterly	Yes
Swiss National Bank	Yes	No	No	Quarterly	Yes

Ownership of report refers to whether the central bank's staff (a no in this column) or the policymaking committee (a yes in this column) own the commentary and the analysis of the report. The Bank of England and the Reserve Bank of Australia only release a post-meeting statement after policy moves.

Source: J. P. Morgan

Table 3.2 Central bank forecasts

	Policy rate	Growth	Inflation	Resource utilization	Ownership
Fed	No	Yes	Yes	Yes	Yes
ECB	No	Yes	Yes	No	No
Bank of Japan	No	Yes	Yes	No	Yes
Bank of England	No	Yes	Yes	No	Yes
Riksbank	Yes	Yes	Yes	Yes	Yes
Norges Bank	Yes	Yes	Yes	Yes	Yes
Bank of Canada	No	Yes	Yes	No	Yes
Reserve Bank of Australia	No	Yes	Yes	No	No
Reserve Bank of New Zealand	Yes	Yes	Yes	Yes	Yes
Swiss National Bank	No	Yes	Yes	No	Yes

Policy rate refers to whether the central bank provides a policy rate forecast, rather than simply conditioning its growth and inflation forecasts on either unchanged interest rates or market interest rates. Resource utilization refers to whether the central bank provides a forecast for variables such as the unemployment rate or the output gap. Ownership refers to whether the forecast is owned by the policy making committee (a yes in this column) or to the central bank's staff (a no in this column).

Source: J. P. Morgan

Table 3.3 Interest rate assumptions underpinning central bank forecasts

Fed	Forecasts conditioned on individual FOMC member's views of appropriate policy
ECB	Forecasts conditioned on market interest rates
Bank of Japan	Forecasts conditioned on market interest rates
Bank of England	Forecasts conditioned on unchanged and market interest rates
Riksbank	Forecasts conditioned on explicit policy rate projection
Norges Bank	Forecasts conditioned on explicit policy rate projection
Bank of Canada	Forecasts conditioned on internal interest rate assumptions
Reserve Bank of Australia	Forecasts conditioned on unchanged cash rate
Reserve Bank of New Zealand	Forecasts conditioned on explicit policy rate projection
Swiss National Bank	Forecasts conditioned on unchanged interest rates

Source: J. P. Morgan

These different indicators are used to construct a central bank communication index³⁹ that ranks the central banks in terms of transparency.

Table 3.4 Central bank communication index

	Index
Riksbank	10
Bank of Japan	9
Reserve Bank of New Zealand	9
Fed	8
Norges Bank	8
Bank of England	7
Bank of Canada	6
Swiss National Bank	6
ECB	5
Reserve Bank of Australia	3

Source: J. P. Morgan

³⁹ The details of the index are described by the authors of the report as follows: “we have created an index of communication by giving each central bank a point for the following: having a clear explicit inflation objective; producing post meeting statements after every meeting; publishing minutes; publishing votes; policymakers owning the analysis in the regular reports; forecasting the policy rate; forecasting growth; forecasting inflation; forecasting resource utilization; and policymakers owning the forecast. This kind of exercise makes it fairly clear what central banks should be doing in order to appear to communicate well. This simple index ranks our group of central banks pretty decisively, with the Riksbank appearing to communicate the best and the Reserve Bank of Australia appearing to communicate the worst. We then compare our index with the measure of how well financial markets anticipate central bank behavior in terms of interest rate expectations.”

Thus it appears that, according to this index, the Riksbank was the best communicator among the sample of central banks chosen by the authors of the report.

However, their index of communication focuses on quantity rather than in quality. The report recognizes this and argues that the quality of the Riksbank communication may not have been optimal: “the Riksbank does very well on our index because it produces a lot of information, but financial market participants often find the Riksbank hard to read because its views can change abruptly from one Monetary Policy Report to the next”.

Moreover, the report suggests that the performance of the Riksbank in terms of forecast errors is not great: “over the past five years and over the past three years the average errors (of the Riksbank) in terms of interest rate expectations over the next six months have been towards the top of the range”.

3.5.2 Communication of the Riksbank about Financial Stability

The report by Hallvarsson & Hallvarsson (Op.cit.) examines how crisis communication was managed by the main actors in the Swedish financial system (thus not only the Riksbank but also other public institutions and commercial banks) in the acute phase of the crisis. Their conclusion is that crisis communication in general worked well and helped avoid a more severe crisis,

These general conclusions apply also for the Riksbank. The report expresses however some concerns on how the Riksbank’s Financial Stability Reports communicated its concerns about growing risks associated with lending in the Baltic States while simultaneously stating that the Swedish financial system was stable. Three days after the Lehman Brothers crash there was a press release from the Riksbank stating “Despite the unrest of recent times, the Riksbank deems financial stability to remain satisfactory [...] our view is that the unrest on the Swedish financial markets is not affecting financial stability”. The question then is how Swedish banking customers could reconcile these statements with the fact that the State was pumping billions into the economy.

The report identifies a real problem, in that the definition of stability used at the time by the Riksbank (and the SFSA) did not really cover liquidity and confidence problems that were fundamental at this stage of the crisis. This reinforces a point we make elsewhere in our report, namely the need to specify a clear and comprehensive definition of the financial stability mandates given to the Riksbank and the SFSA. This would have important implications in terms of communication policies but also in terms of required corrective actions.

Finally the report by Hallvarsson & Hallvarsson (Op.cit.) makes concrete suggestions on how to improve the impact of the Riksbank’s Financial Stability Reports. We approve of some of these suggestions, namely:

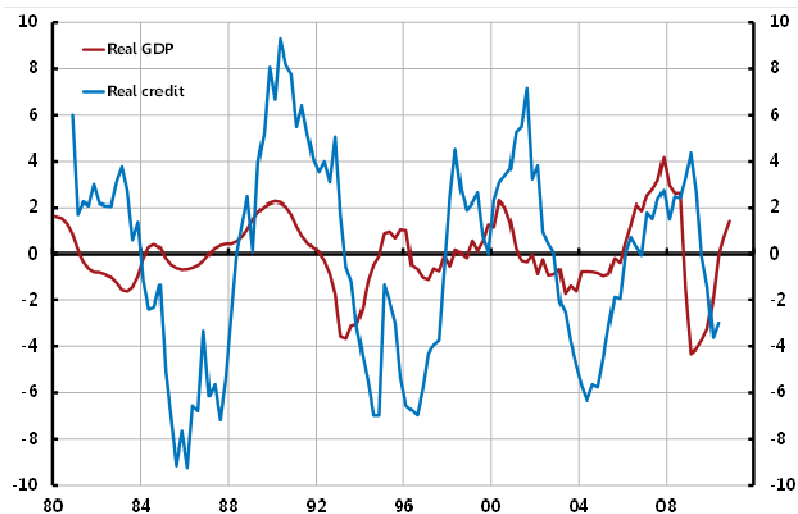
- i) More concentrated reports at more frequent intervals;

- ii) Follow-ups as with Monetary Policy Reports;
- iii) Using simple communication tools such as barometers or risk zones so as improve transparency of financial stability diagnosis.
- iv) Direct communications of specific concerns via public letters to the heads of the banks when deemed necessary.
- v) Finding methods to assess the degree of confidence of market participants.

Appendix to Section 3:**Real credit and GDP cycles in Scandinavian countries**

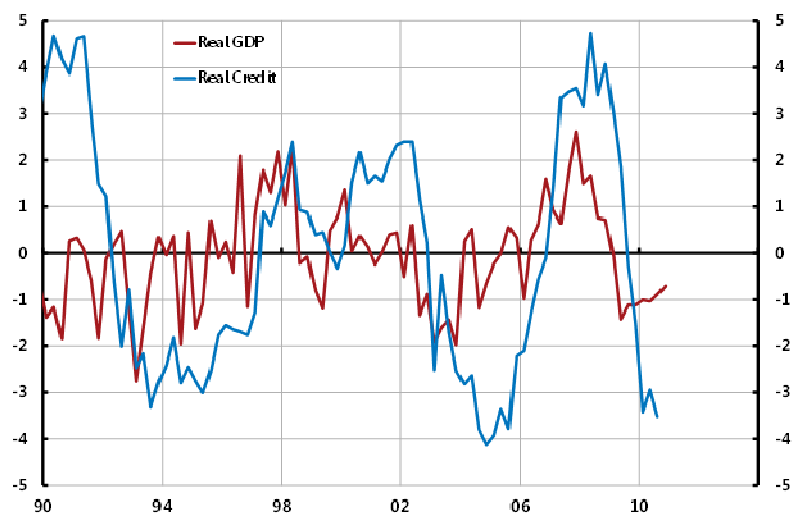
Percentage deviation from trend

Sweden

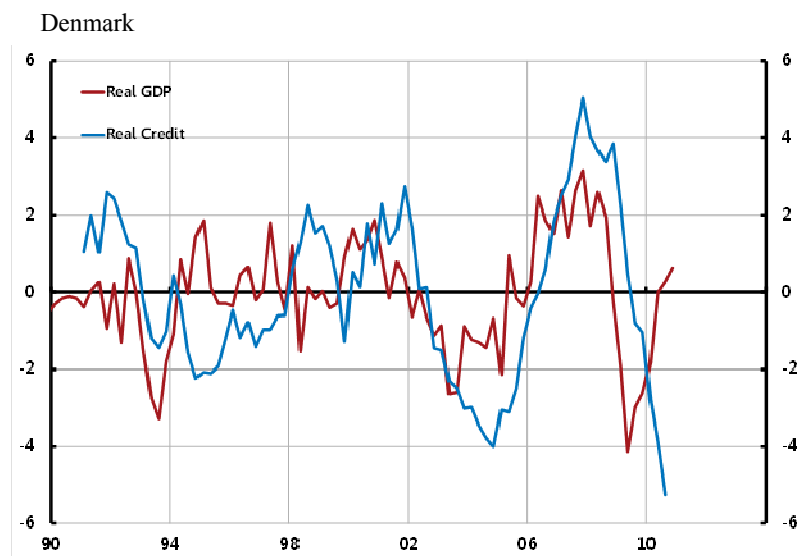


Source: OECD Economic Outlook and the Riksbank

Norway

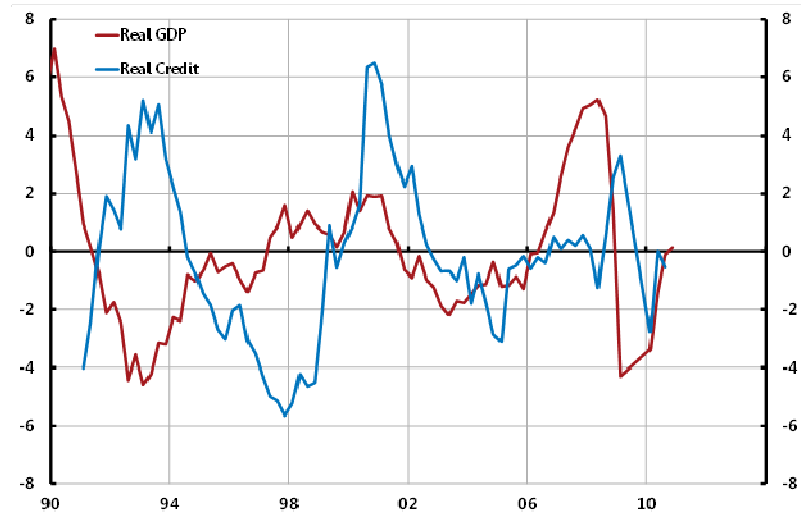


Sources: OECD Economic Outlook and Reuters EcoWin



Sources: OECD Economic Outlook and Reuters EcoWin

Finland



Sources: OECD Economic Outlook and Bank of Finland

Evaluating Macro-monetary Policy

4.1 General Assessment

The primary role of a central bank remains that of achieving price stability; in an inflation targeting country such as Sweden that involves hitting an inflation target. As Svensson (2009) reminds us one cannot assess whether the central bank has done a good job simply by comparing ex post outcomes for inflation with the target. This is so for two reasons. First the central bank is (and we agree that it should be) conducting flexible inflation targeting, in which monetary policy should aim “at stabilizing both inflation around the inflation target and the real economy”, rather than going for a ‘strict’ inflation targeting, aiming “at stabilizing inflation only, without regard to the stability of the real economy”, (ibid, p. 2). Second, and in practice more important, the economy may be hit by unanticipated shocks during the lag between policy setting and its effect on the real economy.⁴⁰

This latter caveat is particularly salient in our own case, since we cover a period which was marked by one of the most extreme, unforeseen shocks of the century (i.e. the financial crisis that ensued after the failure of Lehman Bros in September 2008), and the years for which we have been asked to report, 2005-2010, are few enough in number so that crisis effects will dominate the calculations. Moreover, not only was the downturn of real output after the onset of the crisis greater in Sweden than for most other countries, because it was more open to international trade than most comparators, but also the recovery in output has also been significantly faster, so that averages over the whole period, 2005 Q1 to 2010 Q4, are sensitive to the inclusion, and potential revision, of figures for the final quarters of 2010.

Despite such qualifications, which must be kept in mind, we nevertheless think it interesting to exhibit some comparative out-turn statistics for Sweden and a small selection of comparator countries.

⁴⁰ “As monetary policy works with a time lag, it is most effective if it is based on forecasts. In order to achieve a given inflation target rate, it is therefore best to set the policy rate so that the inflation forecast a couple of years ahead equals the inflation target. However, during the time it takes for changes in the policy rate to have a full impact on inflation the economy will be affected by new and unexpected shocks. The inflation outcome a couple of years ahead will therefore have been affected by events that could not be predicted when the monetary policy decisions were made.

A direct comparison of outcomes and targets for inflation may therefore lead to the wrong conclusions. The inflation outcome may be in line with the target even if the monetary policy decisions were incorrect because the central bank was lucky and unexpected shocks nevertheless resulted in the right inflation outcome. Alternatively, the inflation outcome may deviate from the target even if the monetary policy decisions were correct because the central bank was unlucky and unexpected disruptions resulted in the wrong inflation outcome.” Svensson, Sveriges Riksbank Research Paper Series 235, October 2009.

Table 4:1. Inflation 2005-2010 in some inflation targeting countries

CPI-inflation	Denmark	Norway	New Zealand	Sweden (CPI)	Sweden (CPIF)	United Kingdom
2005-07-01	1.8	1.5	3.0	0.5	1.1	2.0
2006-07-01	1.9	2.3	3.4	1.4	1.4	2.3
2007-07-01	1.7	0.7	2.4	2.2	1.5	2.3
2008-07-01	3.4	3.8	4.0	3.4	2.7	3.6
2009-07-01	1.3	2.2	2.1	-0.3	1.9	2.2
2010-07-01	2.3	2.4	2.3	1.3	2.1	3.3
Mean 2005-2010	2.1	2.2	2.9	1.4	1.8	2.6
Inflation target	2.0 (ECB)	2.5	1-3	2.0		2.0

Note. The measures of inflation in the various countries are the measures designated “CPI” in the official statistics of each country. However, the CPI measures in Norway, the United Kingdom, Denmark or New Zealand are not impacted by the direct effect of changes of the policy rate through mortgage costs, as is the case in Sweden.

Source: EcoWin, quarterly data

Table 4:2. Output gap 2005-2010 in some inflation targeting countries

Output gap absolute value	Denmark	Norway	New Zealand	Sweden	United Kingdom
2005	0.1	1.8	2.7	2.2	1.0
2006	1.5	1.8	0.7	3.7	1.8
2007	1.8	2.0	1.1	4.1	2.6
2008	0.6	0.5	1.2	0.4	1.0
2009	6.6	3.8	4.3	6.8	5.0
2010	5.6	3.9	3.6	4.5	4.4
Mean 2005-2010	2.7	2.3	2.3	3.6	2.6

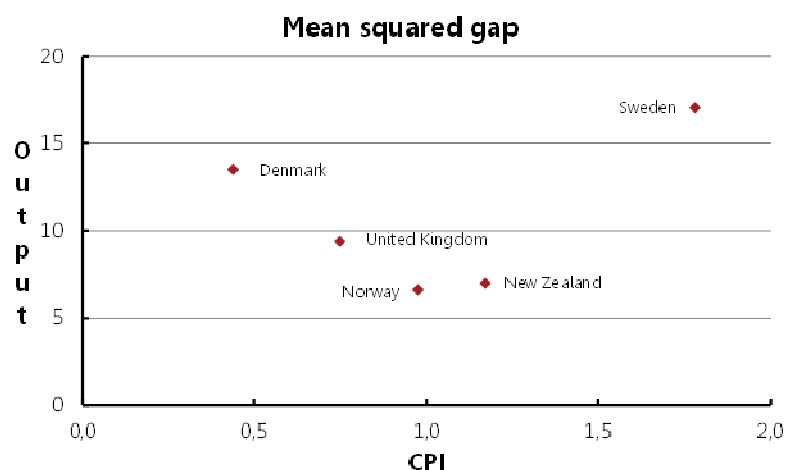
Source: OECD, annual data

Table 4:3. Unemployment rate 2005-2010 in some inflation targeting countries

Unemployment rate	Denmark	Norway	New Zealand	Sweden	United Kingdom
2005-12-30	4.8	4.6	3.8	7.7	4.8
2006-12-29	3.9	3.4	3.8	7.1	5.4
2007-12-31	3.6	2.5	3.7	6.1	5.4
2008-12-31	3.2	2.6	4.2	6.2	5.7
2009-12-31	5.9	3.2	6.2	8.3	7.6
2010-12-31	7.2	3.6	6.5	8.4	7.9
Mean 2005-2010	4.8	3.3	4.7	7.3	6.1

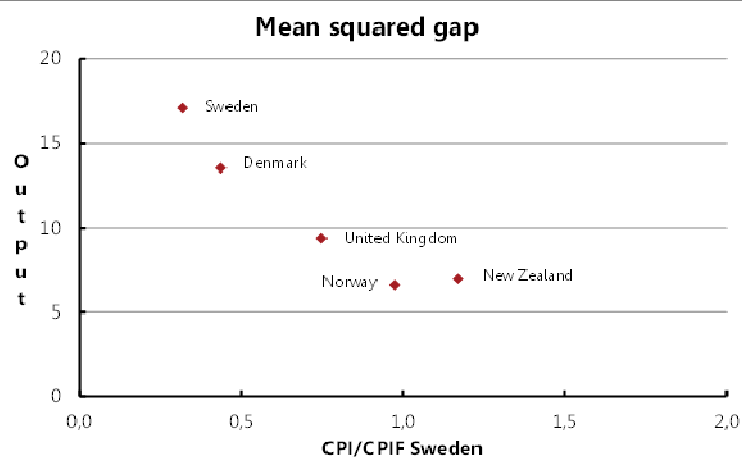
Source: OECD, quarterly data

The variability of CPI and output gap can be illustrated by the realised mean square gap for CPI and GDP (realised mean squared deviations of inflation from inflation target and realised mean squared output gaps) for the period 2005 -2010 for Sweden, Norway, Denmark, United Kingdom and New Zealand:

Figure 4:1. Realised mean square gap for CPI and GDP 2005-2010

Sources: Reuters EcoWin and OECD

However in all comparison countries the measure of CPI does not include the effects of changes in the policy rate through mortgage costs, as is the case in Sweden. The comparison of CPIIF inflation in Sweden and the other countries thus provides a more accurate view:

Figure 4:2. Mean square gap for CPI/CPIF and GDP 2005-2010

Sources: Reuters EcoWin and OECD

We interpret the salient features of the data as follows:-

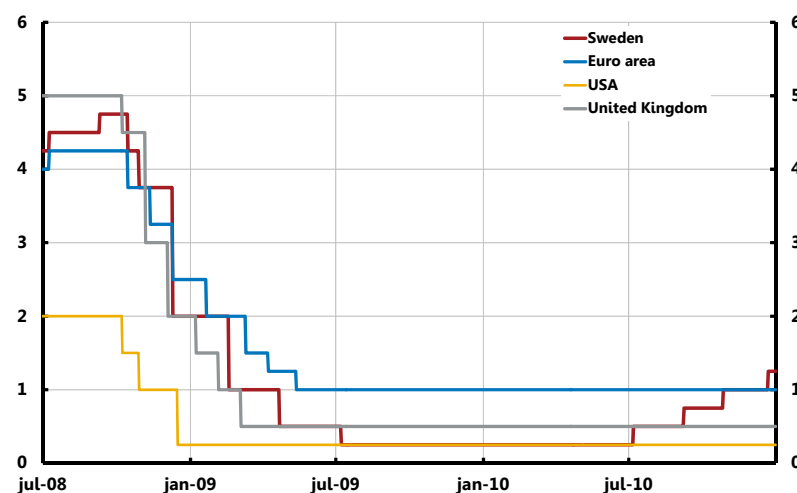
1. CPI data are much more volatile than the data for CPIF. We shall discuss the choice of which should be the appropriate index for assessing the inflation target in a box (below) on the choice of index for the inflation target.

2. The Swedish output gap has been more volatile over these years than in most comparator countries; owing both to a stronger economy (positive output gap) prior to the crisis and to a bigger downturn in the crisis. Small economies tend to be more volatile than big ones, but the comparators were chosen to include some equally small economies. In so far as the Riksbank was aiming to stabilize the real economy, alongside inflation, its ex post record in these years was patchy.
3. Inflation, whether CPI or CPIF, averaged lower than the target. On the other hand, unemployment was, on average, higher than in comparator countries, though this may have been due to structural factors. There is, perhaps, just a slight suggestion that policy might have been a little bit more aggressive, especially to counter downturns. Even should this be so, and we are not confident of it, the possible extent of improvement is not sufficient for us to recommend any change in behaviour.

Moreover, when the major crisis struck, in Q4 2008, the Riksbank reduced rates as far and as fast as comparator central banks. And once the zero lower bound to nominal rates had been reached, (and even before then), the Riksbank was in the forefront of central banks in expanding its own balance sheet, quicker and more, as a percentage of GDP, than other central banks.

Figure 4:3. Policy rates

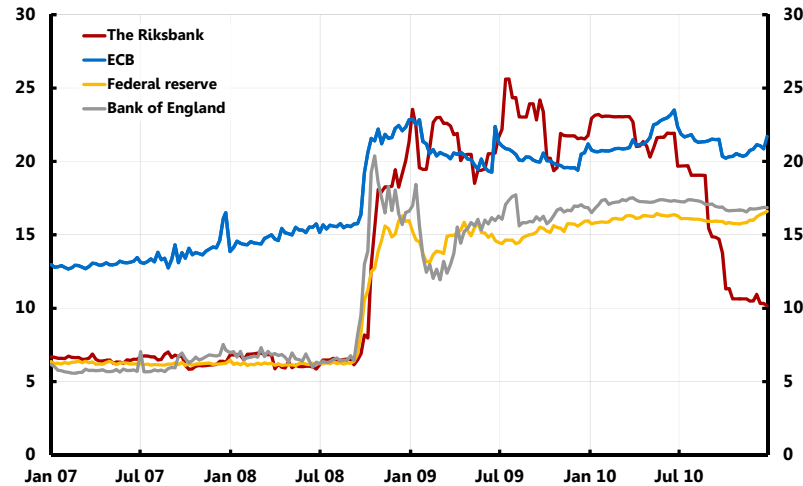
Per cent



Sources: Reuters EcoWin and the Riksbank

Figure 4:4. Central banks' balance sheet totals

Percentage of GDP



Sources: Bureau of Economic Analysis, Eurostat, Office for National Statistics, Statistics Sweden and the respective central banks

So the Riksbank did act quickly and aggressively, as was appropriate in the crisis. But like all central banks, and almost all commentators, it had not foreseen the crisis coming.⁴¹ Indeed, relative both to other forecasters in Sweden and to forecasters in other central banks, the Riksbank's forecast emphasized the danger of rising energy and commodity prices spilling over into general wage and price increases in the late summer and early autumn of 2008.⁴² This is the reason for the interest increase in September 2008.

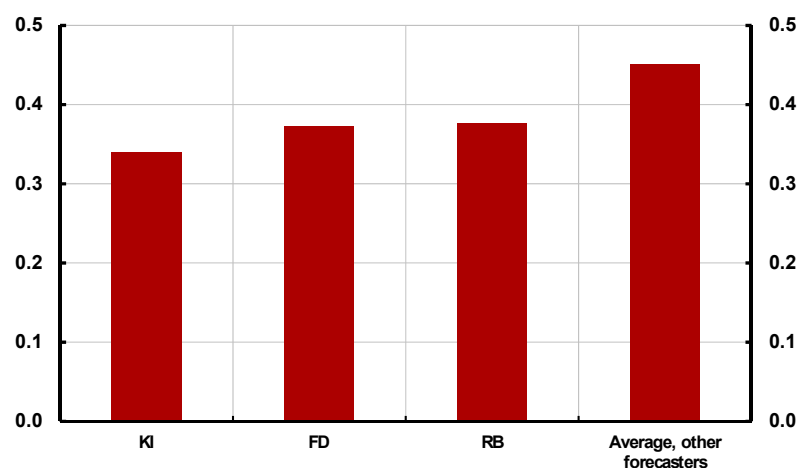
Prior to that time, the Riksbank's forecasting record had been comparatively good, see 'Material for assessing monetary policy', 2006-8, Section on 'The accuracy of the Riksbank and other forecasters', pp 30/31. Two of these Figures (31 and 32) are reproduced below.

⁴¹ See Chapter 4 in 'Material for assessing monetary policy', 2006-8, pp27.

⁴² "It can be noted that the Riksbank overestimated the outcome for inflation in 2009 to approximately the same extent as the average for other forecasters, although with the exception of July and September 2008 when the Riksbank's forecasts overestimated the prospects for inflation to a higher degree than other forecasters. In July and September 2008, the Riksbank attached great importance to the fact that energy prices had increased more than expected during the spring, which led to inflation reaching just over 4 per cent in the summer of 2008. The Riksbank thus saw a risk that the substantial increases in the prices of food and oil would also lead to rapid increases in other prices. Unusually high inflation expectations also contributed to the Riksbank's assessment." See Chapter 4 in 'Material for assessing monetary policy 2009', pp. 37, March 2010, Riksbank.

Figure 4:5. The accuracy of the forecasts for CPI among different forecasters 1999-2008

Adjusted absolute average error in percentage points

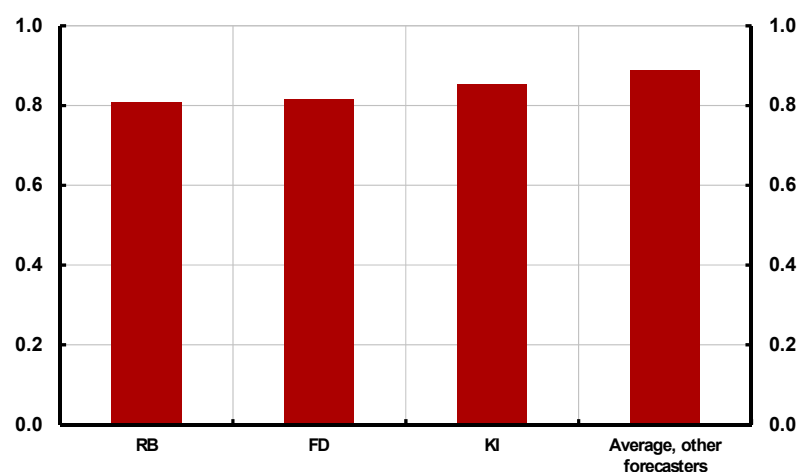


Note. KI=National Institute of Economic Research. FD=Swedish Ministry of Finance. RB=the Riksbank. Other forecasters are: Svenska Handelsbanken, Swedbank, Nordea, SEB, the Swedish Trade Union Confederation, the Confederation of Swedish Enterprise and the Swedish Retail Institute.

Sources: National Institute of Economic Research and the Riksbank

Figure 4:6. The accuracy of the forecasts for GDP growth among different forecasters 1999-2008

Adjusted absolute average error in percentage points



Note. See the note to Figure 4:5 for an explanation to the abbreviations.

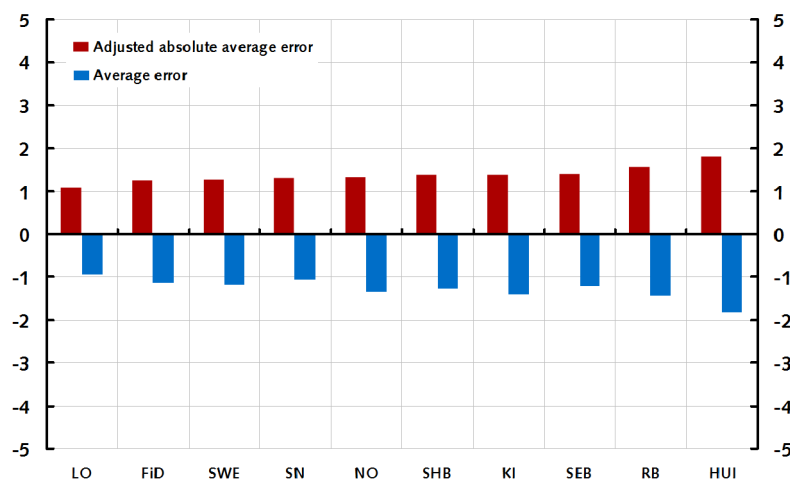
Sources: National Institute of Economic Research and the Riksbank

Even when the crisis struck, in 2008, the Riksbank's forecast for output and unemployment was in the middle of the pack, but their forecasts for inflation and the repo rate in 2009 were amongst the worst (although this is where the

Riksbank might have been expected to have a comparative advantage in forecasting).

Figure 4:7. Forecasting errors for the CPI of various forecasters 2009

Average error and adjusted absolute average error, percentage points

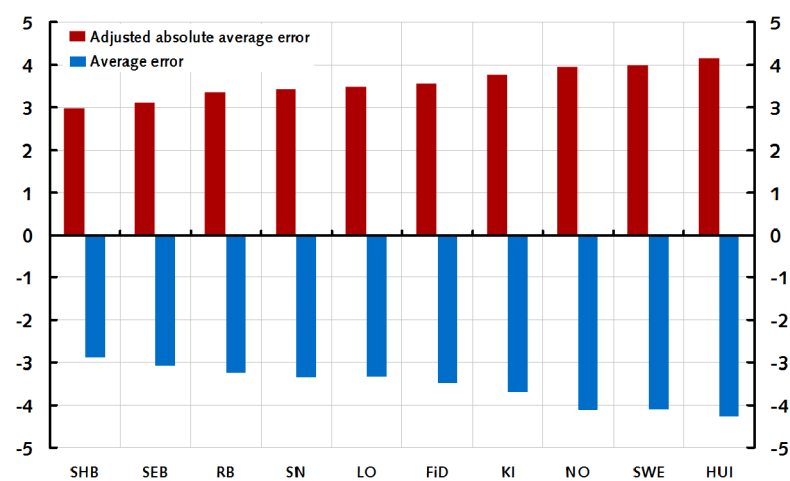


Note. LO=Swedish Trade Union Confederation, FiD=Ministry of Finance, SWE=Swedbank, SN=Confederation of Swedish Enterprise, NO=Nordea, KI=National Institute of Economic Research, SHB=Svenska Handelsbanken, RB=Riksbank and HUI=Swedish Retail Institute.

Sources: National Institute of Economic Research and the Riksbank

Figure 4:8. Forecasting errors for GDP growth of various forecasters 2009

Average error and adjusted absolute average error, percentage points

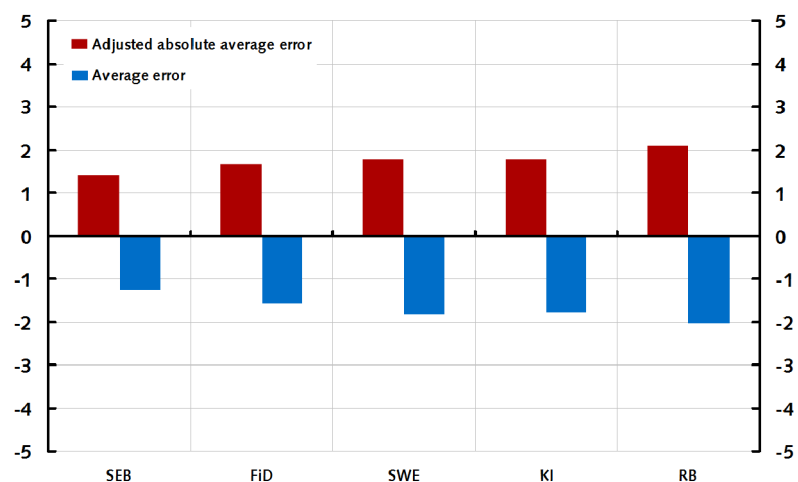


Note. See the note to Figure 4:7 for an explanation of the abbreviations.

Sources: National Institute of Economic Research and the Riksbank

Figure 4:9. Forecasting errors for the repo rate of various forecasters 2009

Average error and adjusted absolute average error, percentage points



Note. See the note to Figure 4:7 for an explanation of the abbreviations.

Sources: National Institute of Economic Research and the Riksbank

Does this experience suggest that there is something amiss with the Riksbank's forecasting model, or their procedures? In particular, the genre of DSGE models, which the Riksbank has been using, in this case the RAMSES model, has mostly assumed perfect financial markets, without frictions, without default (the transversality condition), without much need or role for banks, and with only a residual role for money. Would it not be desirable to include a role for such financial frictions in the model? For some purposes, e.g. for financial stability simulations, for top-down stress tests, such an expansion of the model would be good. So, we recommend that the Riksbank maintain a watching brief on the development of macro models that incorporate banking and financial sectors as an essential element, as well as newly developed models of systemic financial stability. Since this is being widely done elsewhere, whether, or not, it would be a good use of scarce resources for the Riksbank to play a leading role in this itself, should be a decision for the Executive Board. Moreover, some aspects of financial frictions, such as time-varying credit spreads and probabilities of default amongst non-financial corporates, can with benefit be included in the model for forecasting purposes, as has now been done, at least in part, with the development of the Ramses II model in 2010.

But we do not think that it will ever be possible to incorporate the advent of crises, such as occurred in September 2008, into a model, since such a crisis is a tail risk. The probability of such a risk occurring at any particular moment is very low, (like a natural disaster, or a war in the Middle East), but its impact if it should occur would be enormous. Even when one believes that such an event, e.g. earthquake in Tokyo, war in the Middle East, financial

collapse, is quite likely to occur sometime, one has no idea when, whether this year, in ten years time, or never. Hence one simply cannot plug such an eventuality into a standard forecasting model, which is typically based on Gaussian probability distributions that exclude the possibilities of fat tails and give too little weight to extreme events. Thus we doubt whether an attempt to include financial frictions into Ramses would have been successful in pin-pointing in advance the extraordinary sequence of events between September and end 2008.

But by exactly the same token we doubt whether it will ever be possible to incorporate tail-risk events into a standard forecasting format. This is relevant for some current arguments within the Board of the Riksbank. Thus, for example, Lars Svensson at the Riksbank has developed an excellent new metric for assessing the merits of alternative paths for policy rates. This metric allows an observer to assess the relative success of a particular policy path as a point on a chart. This point shows the cumulative squared deviations of inflation over the forecast horizon from target on one axis and the cumulative squared deviations of output from its 'equilibrium', or 'natural' rate, on the other axis.⁴³ There are, of course, some important technical issues, such as estimating the natural level of output and whether there should be some discounting of future deviations relative to present deviations, but, so far at least, these do not seem to have caused any really serious problems.⁴⁴

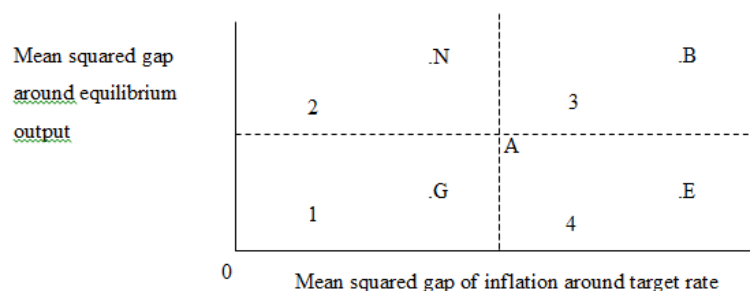
Then, of course, one can use the forecasting model, Ramses in the case of the Riksbank, to simulate the effect of some alternative policy path, and compare points. In Figure 4:10 below we divide the diagram into four quadrants, around point A, which we assume to be where current policy gets us. Anywhere one could find in quadrant 1, such as point G (good), would be unambiguously better than point A, with less deviation (from target) of both inflation and output. Equivalently anywhere in quadrant 3, such as B (bad), is unambiguously worse. In quadrant 2, the policy maker has less inflation deviation, but more output deviation, and would appeal to an inflation 'nutter' (N), who gave little weight to output stabilisation, while in quadrant 4, less weight is given to achieving the inflation target and more to stabilising output and employment (E). Politicians might tend to choose a position in quadrant 4, but because of (rational) expectations and time inconsistency, central banks were given independence and mandated to give primacy to

⁴³ See 'Principles for the evaluation of different monetary policy alternatives', in 'Material for assessing monetary policy', Riksbank (2009), pp. 27-29.

⁴⁴ Estimating the equilibrium level of output is difficult, and different estimates can be obtained from fitting a univariate trend to output, (H-P filters for example), estimating production functions or looking at data of spare capacity in the labour markets and in companies. In previous years there had been some concern, e.g. from the KI, that the Riksbank was not paying enough attention, putting enough resources, into estimating potential supply. But the Riksbank has, we understand, now applied itself more energetically to this issue, not that it, or any other research centre, has yet found a fully satisfactory way to resolve such issues.

price stabilisation, so one would normally expect them to choose a position in quadrants 1 or 2.

Figure 4:10. Mean squared gap for forecasts of the output gap and inflation

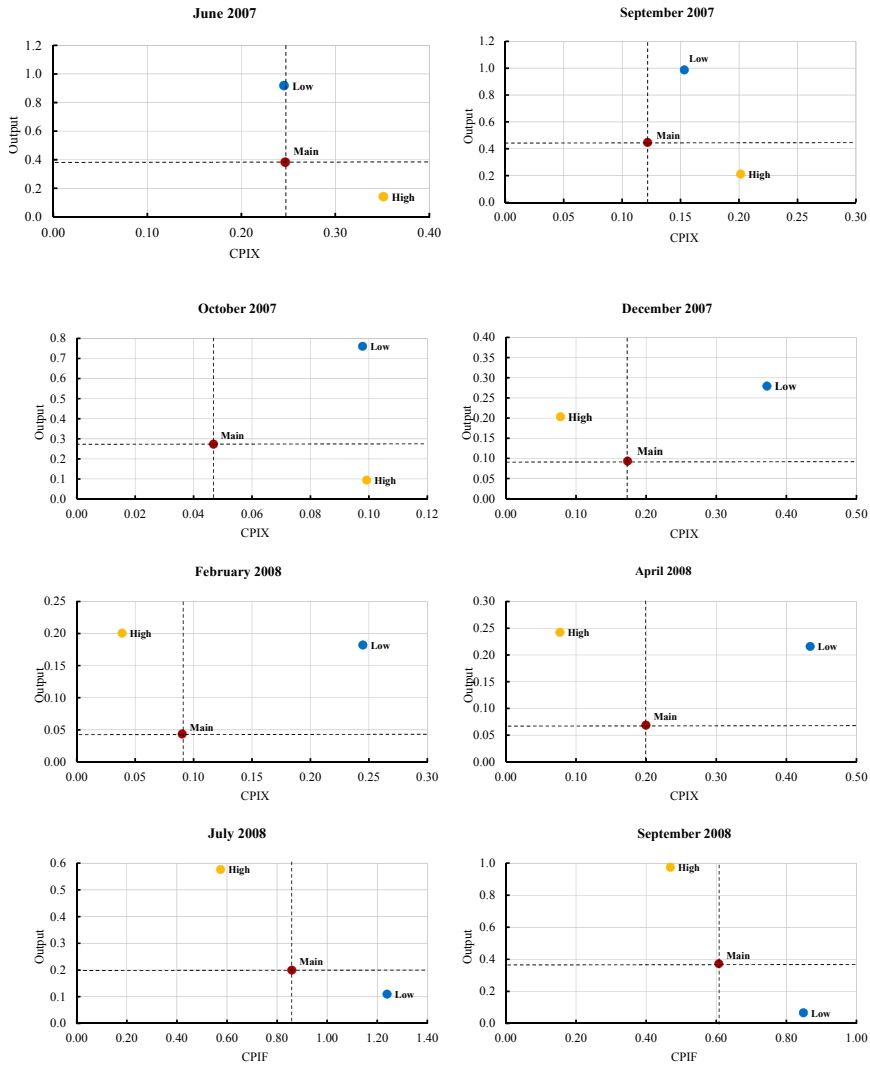


Finding a metric to describe the main implications of alternative policy paths in such a simple and clear graph is, we believe, a major step forward. But like any simple construct it has its limitations. First, it focuses on central expected outcomes, and thereby exaggerates the certainty with which such alternative outcomes can be held. Giving prominence to this diagram obscures the reality that the range of potential outcomes for any policy path, after a few quarters ahead, is very wide. So, charts of mean squared gaps should generally be accompanied by fan charts, such as produced in the Bank of England's Inflation Reports, showing the range of probability for both output and inflation of, at least, the main, and preferably one of the other two, policy alternatives. This is now done at the front of the Monetary Policy Report. This would indicate, much more clearly, that in a world of uncertainty, choices are not so clear-cut as the mean-squared deviation Chart by itself might appear to imply.

Of course under certain restrictive assumptions, one can apply a form of certainty equivalence, but in reality these assumptions do not hold. Model uncertainty (especially concerning financial factors), non-linearities (and default whether of a major firm or bank or sovereign state is just such a non-linearity) and tail risks (in part arising from such defaults) are factors, amongst others, that might make one take into account considerations other than mean squared gaps.

This has become of some importance in Sweden since October 2008. Applying this approach and metric to the early years of the Riksbank's own policy rate projections would show that the alternative policy paths (high or low) to the main policy path adopted (main) have always either been in quadrant 3 (bad) or occasionally in quadrants 2 (N) or 4 (E), so that one would only have preferred them to the main path if one had placed unusually high relative weight on either stabilizing inflation, relative to output, (quadrant 2), or vice versa (quadrant 4).

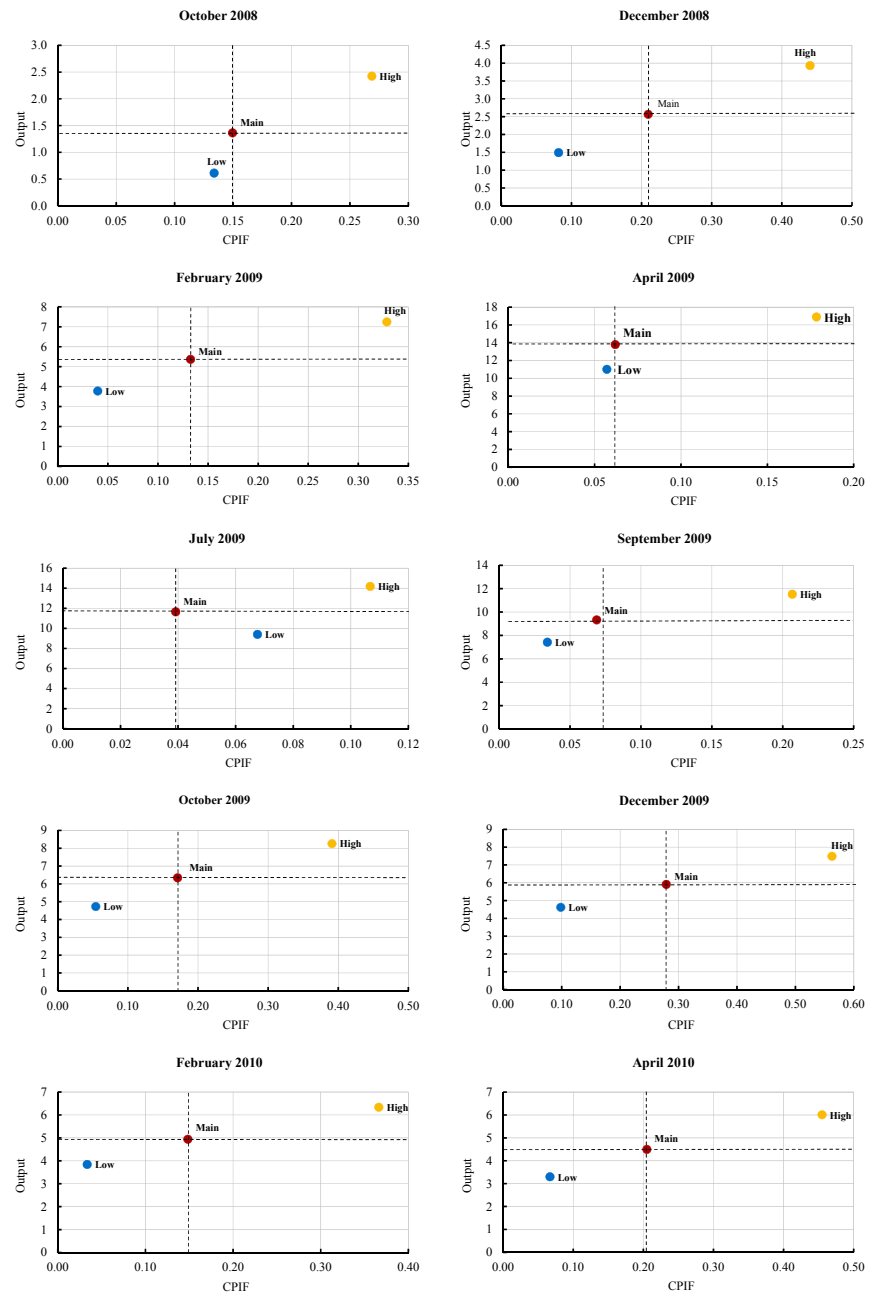
Figure 4:11. Mean squared gap for forecasts of the output gap and CPIX/CPIF inflation, June 2007- September 2008

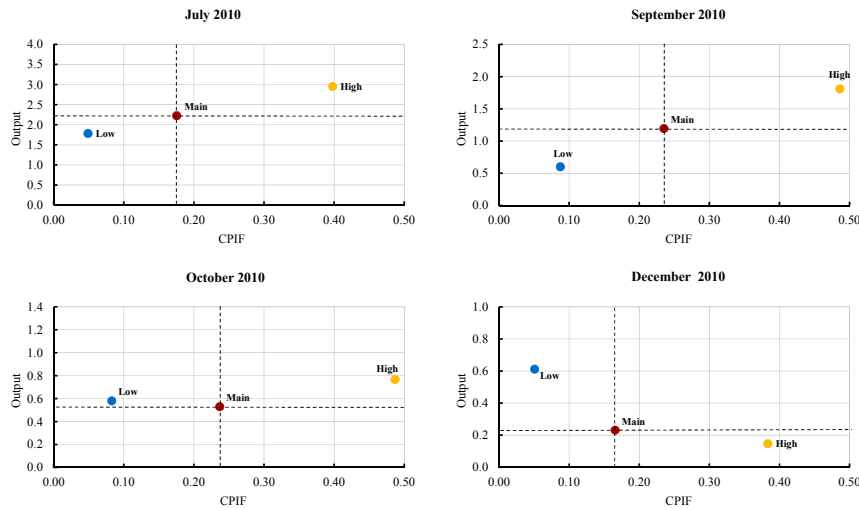


Source: The Riksbank

However, starting from around October 2008, and throughout 2010 until September, the main policy path adopted appeared to be in quadrant 3 (bad) relative to the low interest rate policy path (with three exceptions in July 2009 and in October- December 2010). This was a key cause of the persistent dissent of a minority of the Board from the majority decision.

Figure 4:12. Mean squared gap for forecasts of the output gap and CPIF inflation, October 2008– December 2010





Source: The Riksbank

The grounds for such a dissent are clear. By this metric, the low policy path is unambiguously better. Moreover, those dissenting have been challenging the majority to explain how their concerns, e.g. over continuing house price escalation, might alter the (probabilistic) forecasts for output/inflation (and/or whether they would include other variables in the loss function). But this, while an understandable argument, is something of a debating point, since it tries to keep the debate within the context of the model, whereas the alternative stand-point (of the majority) is that complete reliance on the model is not acceptable, for the reasons set out earlier. A housing price bubble and bust would be a tail risk for Sweden whose probability of occurrence cannot easily be quantified, though it probably remains small, and whose timing cannot be predicted.

Similarly there can be other, e.g. Austrian-school⁴⁵, arguments that, given uncertainty, it could be desirable to return monetary policy and interest rates back towards 'normal' more quickly than a pure DSGE model might suggest. It is not our role to assess all the various arguments set out by the majority,

⁴⁵ This school believes that the structure of production, and its capital intensity, will be a function of the level of real interest rates. Hence if interest rates are kept abnormally low for too long, the structure of production could become increasingly misallocated and excessively capital intensive; and that this, in turn, could lead to a further, future crisis. Also see First Deputy Governor Oberg's speech of March 18, 2011, on 'My view of monetary policy, 2006-2011', "Long periods with a very low interest rate can namely lead to financial imbalances. They can, for example, lead to a rapid expansion of credit which in the long term may lead to some households being unable to afford to meet the interest and amortization payments on their mortgages. The households' interest rate expectations are retrospective and long-term expectations are reduced by the low interest rates and have prevailed for a number of years. Problems arise when interest rates then rise. But this is not just about households and mortgages. As I said in the first part of the speech, a too-expansionary monetary policy can also contribute to other kind of financial imbalances."

notably in the lengthy MPC Minutes in 2010. But just as we do not criticise the Riksbank for failing to foresee the tail-risk that befell the world's financial system in Q4 2008, so equally we do not criticise the majority for being concerned about tail-risks in Sweden in 2010, risks that probably will not come about, partly as a result of the policy actions taken.⁴⁶

We would, however, also note that most, but not all, of the tail risks influencing the MPC relate to concerns about financial stability. We agree that the use of adjustments in general interest rates to constrain an asset price/credit expansion boom is an unsatisfactory and blunt instrument. In Section 3.2 we recommended that the monetary authorities in Sweden in general, and the Riksbank in particular, should have command over more focussed macro-prudential instruments, such as the ability to set and to vary LTV ratios; this could allow financial stability concerns to be addressed by more specific and appropriate macro-prudential instruments. This would enable the decision on interest rates to concentrate, even more closely than now, on the implications of that instrument for future output and inflation gaps. Even then, we would caution that, however state-of-the-art the models and metrics (e.g. of loss function) may be, the interest rate decision will, and should, remain a matter of subjective judgement for those involved, and cannot, and should not, be reduced to a quasi-mechanical formula.

4.2 Which Price Inflation Indices to use?

One reason why the analysis and conduct of macro-monetary policy, to achieve price stability with a (flexible) inflation target, is somewhat easier than macro-prudential policy to achieve financial stability is that inflation can be quantified, on a cardinal scale, whereas financial stability can, as yet, only be described on a binary, stability/instability divide. That said, however, there are numerous differences of view about the most appropriate index for measuring inflation, both in general and in particular for that index to be used for a central bank's inflation objective.

One of the few critical comments about the Riksbank's macro-monetary policy in the previous review by Giavazzi and Mishkin, 'An Evaluation of Swedish Monetary Policy between 1995 and 2005', *Sveriges Riksdag* (2006/07: RFRI) was that (Recommendation 5), "The inflation target should be defined in terms of a price index that is not directly affected by the costs of housing," p. 79.⁴⁷ Indeed they argue that "the Riksbank has recently made

⁴⁶ In the event the Swedish economy has recovered faster than earlier expected through 2010, so the main policy path is looking rather better, even purely in terms of mean squared gaps. But, even though one, or two, of the majority may have had some sense of this, it should be treated as fortuitous. We hope, but slightly doubt, that we would have written the above in exactly similar terms even if the recovery had turned out weaker than expected.

⁴⁷ "The current CPI measure includes an important component that is essentially mortgage interest rates multiplied by an index of housing prices. This measure is not the right one for

one serious mistake in its communication strategy, namely its discussion of the role of asset prices in the conduct of monetary policy.” They imply that the repo rate increases in January/February 2006, accompanying reported concern about house prices, at a time when inflation was undershooting slightly, were mistaken, (ibid, p. 72) and state that, “Furthermore, housing prices have rarely led to financial instability because it is easier for financial institutions to assess the credit risk in residential mortgages, and households are very reluctant to default on these mortgages.”

With the benefit of hindsight, (but also perhaps⁴⁸ in the light of the previous Nordic financial crises in the early 1990s), these comments now look misplaced, though they represented mainstream theory in 2006 (less so now).

Governor Ingves did not accept this recommendation at the time. Thus he stated in his comments on Giavazzi/Mishkin to the Riksdag Committee on Finance (November 30, 2006) that he believed that, “The criticism made in the evaluation concerns not only to what extent we have been unclear about whether we regard house prices as an independent target – which we accordingly do not. It also appears to stem from the authors having a somewhat different view than the Riksbank regarding how house prices should be considered in monetary policy. The authors argue that monetary policy should react to a rapid price increase in the housing market only if such a price increase is expected to lead via normal channels to problems such as overheating and excessively high inflation.

This method of reasoning is not without problems. A rapid increase in house prices and lending to households may entail risks in the long term, which are difficult to quantify and capture in conventional forecasts for the economy a couple of years ahead. If prices and the increase in borrowing were to some extent based on unrealistic expectations of how house prices and interest rates will develop in future, there is a risk of a fairly substantial correction in expectations and prices further ahead. The consequence of such

the Riksbank to target on in order to stabilize the economy. The first best solution to this problem would be for Statistics Sweden to change the definition of the CPI as has been done in other countries such as the Euro area to remove the influence of housing prices and interest rates in the CPI measure. Alternatively, the Riksbank should make clear that its inflation target uses a measure that excludes interest rates and housing prices (such as UNDEX).”, (Ibid, p. 79). Also see the discussions on pp 53-55, and in Section 4.6.4, pp 71-3.

⁴⁸ A qualification is necessary since at least in the Swedish crisis losses were caused by commercial real estate and households did indeed not default. This view is still held by the SFSA and the Riksbank, when they argue that housing does not constitute a *direct* threat to financial stability, but to macro-economic stability (a drop in private consumption as households save to repay debts). Indeed, had the SFSA taken a different view, they would have been able to justify the LTV restrictions without the detour via consumer protection. Financial stability is explicitly part of the objective given to the SFSA (see http://www.fi.se/upload/90_English/10_About/whoweare_2009_nv.pdf) so this would have been allowable. The legal problem was that macro-economic stability is not.

a correction might be that the economy developed weakly over a long period of time. It would also have effects on inflation.

It may be necessary to take these risks into account in monetary policy decisions in a different way than in the normal approach, where the forecasts for inflation and the real economy for the next two years serve as the foundation. This can be done, for instance, by beginning a phase of interest rate increases slightly earlier than would otherwise have been the case. Of course, the hope is that this will contribute to a smoother adjustment process for house prices and thereby to a more stable development of inflation and the real economy.”⁴⁹

It will be clear from our previous discussion in Section 4.1 that we side with the Riksbank on this issue, which has, of course, had a reprise in 2010, though we hope that the use of more focussed macro-prudential instruments, to control the tail-risk of asset price/credit expansion bubbles and busts, will allow a reconciliation of the differing viewpoints.

More generally, we believe that housing costs should be included in the index used to measure inflation. There are several reasons for this view. First such expenditures form a sizeable proportion of the normal household budget, so the public experience of inflation will be cum housing costs, not ex housing costs. Far from Riksbank’s statements which discuss housing cost/price inflation leading to “a weakening of the confidence that the public and markets hold for the bank”, Giavazzi/Mishkin, p. 71, we believe the reverse, i.e. that ignoring house price inflation totally could lead to a loss of credibility on the part of the public.

Next, Giavazzi/Mishkin argue, p. 39, that an appropriate inflation measure should focus on sluggish, sticky prices, disregarding more flexible prices, such as energy, food, (both affected by the exchange rate) and housing prices. While this argument for focussing on core domestic inflation is widely held, notably in the USA, we think it not only wrong but even potentially dangerous, especially for a small open economy. For example, a combination of a lax monetary policy with slow-moving domestic unit labour costs can lead to a sharp depreciation of the exchange rate and/or to accelerated house price inflation. Both can, and will, feedback eventually into core domestic inflation/output and to asset price instability more widely.

Where we do agree that there are serious problems in using housing price/cost measures as part of the inflation index is that most such measures involve an interaction between housing prices (and/or the cost of renovation) and mortgage interest rates. So, when mortgage interest rates (or indirect taxes) rise following a hike in official rates (tightened fiscal policy) aimed at

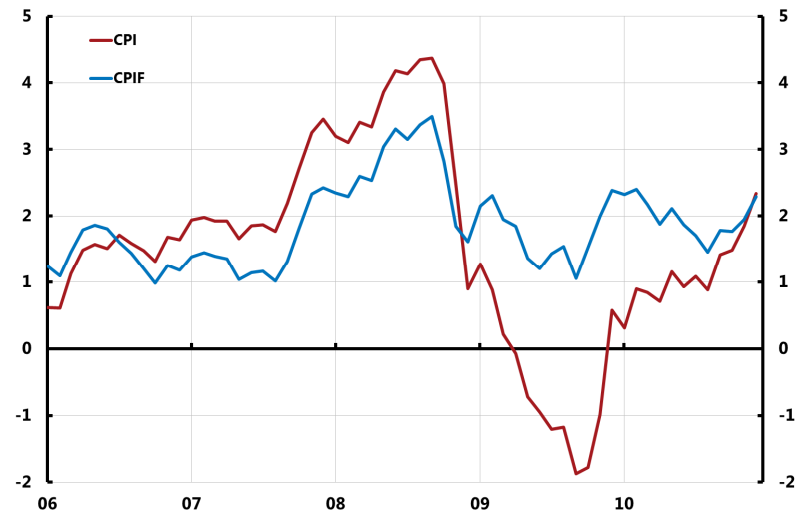
⁴⁹ The Committee on Finance report on the Giavazzi/Mishkin evaluation (report 2006/07: FiU27) also stated that, “The Committee supports the current inflation target and its level of 2% ± a tolerance interval of 1 percentage point, and notes that the target has worked well. Further, the Committee does not think that there are any compelling reasons for changing the Consumer Price Index (CPI) as the target variable of the inflation target.”

reducing the pressure of demand, and hence inflation, the direct effect of this is to raise measured inflation. This could lead to an unhelpful spiral and over-reaction. Indeed in recent years, with the boom in 2005-7 and the subsequent crisis, interest rates have been so variable (and the weight of housing in the basket sufficiently high) that it caused considerable volatility in the basic CPI series.

The right way to respond is to base the CPI measure for use in inflationary targetry on an index that assumes a constant interest rate, (and, perhaps, constant indirect tax rates). This is currently presented in the form of the CPIF index; the CPIF series has been much smoother than the CPI series in recent years. So in our view the Riksbank has approached the question of how to measure inflation for the purpose of setting and achieving their inflation target in exactly the right way. However, as documented in the Appendix to this Section the changes in nomenclature, from UNDI_X, to CPI_X, to CPIF, have been rather too frequent, especially over the years 2006-8, and may have confused some. We recommend that the Riksbank leave well alone, and stick with the current definitions of CPI (and its target rate of 2%) and CPIF for the indefinite future, and to their practice of using the CPI index as their target for medium term stability, while using the CPIF index for assessing the shorter-term progress for the achievement of the inflation target.

Figure 4:13. CPI and CPIF

Annual percentage change



Source: Statistics Sweden

4.3 The Policy Rate Path

4.3.1 Procedures

The most important innovation that the Riksbank has taken in its macro-monetary role in these last five years has been to base its forecast on its own intended path for official rates. Previously it had used the implicit forward path of short-term yields, beyond the current level decided by the Monetary Policy Committee, derived from the market yield curve. This change was introduced in the February 2007 forecasting round, having been foreshadowed earlier and approved by Giavazzi/Mishkin (Recommendation 4, p. 78).⁵⁰

One prior criticism of this procedure, that it might be difficult to reach any agreement on such a path in a multiperson committee (C Goodhart, ‘Monetary Transmission Lags and the Formulation of the Policy Decision on Interest Rates’ FRB St Louis Review, July/August 2001), seems to have been proved wrong. Moreover, this new procedure involves an additional benefit that had not been widely appreciated beforehand; this is that it involves the relevant staff of such a central bank, notably its forecasting and monetary policy division, even more closely in the policy-making process and thus should add to their job satisfaction.

Another advantage of publishing the Riksbank’s intended path for the official policy rate is that this eliminates any need to signal such future intentions to the market. How, and whether, such signalling might be done, and by whom, had previously been a somewhat contentious and difficult matter, both in Sweden and elsewhere. Publication of the proposed path makes this tricky issue disappear entirely.

When the official interest rate path in the forecast is taken, exogenously, as constant, or as the current implied path derived from market yields, the forecast can be, and generally is, constructed in a policy vacuum, without any attempt to second-guess what the response of the MPC may be. Of course, should the MPC decide on a change of rates, (beyond any change implicit in current market rates), the forecasting team will have to adjust their, ex post, forecast in line. But, while the forecasting team may have an inkling of their MPC’s intentions, the ex ante forecast and the current official rate decision are separable and independent of each other.

Such separation is no longer technically possible once the forecast becomes based on an intended/expected path for official interest rates. Indeed, the prior distinction between a forecast ex ante the MPC decision and ex post

⁵⁰ The Riksbank warned in advance of its change in procedure. See Irma Rosenberg’s speeches “Riksbank to introduce own path for the repo rate” January 17 and “Current monetary policy”, February 5 2007. There was also a press release February 5 2007 based on the latter speech,

after the MPC decision becomes virtually impossible. The whole forecasting round involves an interaction between exploring policies and outcomes. This can cause some new tension and pressures on staff. Even in most central banks where separation between forecasts and policy-decisions persist, the staff is often concerned not to appear to push their own judgements, preferences and policy prescriptions at the MPC, trying always to appear neutral and objective. This tension is even greater, we believe, in those central banks which forecast their own future interest rate path. How far should the staff seek to base their forecast/rate path on what they believe will be acceptable to (the majority of) the MPC as compared to their own best judgement? While we did hear some concern on this issue, we do not have any grounds for recommending any changes on account of it.

Where this new process does make a real change in the forecasting/decision exercise is that it effectively brings the key decision forward in time. In most central banks the interest rate decision is actually taken at the MPC (FOMC, Governing Council of the ECB) meeting. In the Swedish Riksbank that is no longer the case. In effect, the decision is taken in the second half (with limited participation) of the second large monetary policy group meeting. The decision is then ratified after the first draft of the Monetary Policy Report is prepared and discussed at the formal Executive Board Meeting “held a few days after the second large monetary policy group meeting at which the forecasts are presented”, Hallsten and Tägtström, (*Economic Review*, 1/2009, p. 83).

It takes a couple of weeks to prepare and draft the Monetary Report, incorporating the official rate path. This is published the day after the formal MPC meeting. Anyone aware of central bank procedures will realise that you cannot make an unexpected decision one day and publish a long coherent forecast description based on that decision on the next day. Of course, in theory, the Executive Board could spring a surprise on MPC day and revise its previous decision; it would then have to defer the publication of the Monetary Report, which would be something of an embarrassment. In practice the Executive Board, should an unforeseen shock occur, could change the current level, and intended future path, of official rates on any day of the year. Given the embarrassment of having to tear up all the previous work that has gone into the Monetary Report, MPC day is perhaps one of the less likely days on which to make a sudden revision.

We believe that the Riksbank’s timetable of procedures has not adapted to, and caught up with, the implications of its new forecasting mechanism. The interest rate decision is NOT made at the present MPC meeting. Rather it is provisionally made earlier at the second large monetary policy group meeting and ratified at the formal Executive Board meeting a few days later.

We think that it is wrong to continue with the fiction that the MPC meeting is the occasion for the effective decision, since it is a fiction. It also carries the disadvantage that quite a number of Riksbank staff, besides the Executive Board, are effectively privy to highly confidential and market sensitive in-

formation a couple of weeks before this is released to the general public. It is a testimony to the public-spirit, high morality, and cohesiveness of Riksbank officials that there have been no such leaks, so far. Nevertheless it is undesirable to have a system that carries such dangerous opportunities for leaks for so long. We recommend that announcement of the current level, and intended future path, of official rates be made after the Executive Board meeting a few days after the second monetary policy group meeting. This would normally be accompanied by a short statement giving the main lines of argument and identifying the voting pattern. The Monetary Report (update) would then be published on the same timetable as now.

If the current MPC meeting is not an occasion for taking decisions, what does it do? What it has become, increasingly in the last couple of years during which splits in the Board have been more common, is an arena for the members of the Executive Board to rehearse, at some considerable length, the analysis and rationale that led each of them individually to take up the positions which they actually adopted several weeks beforehand.

This has some advantages and some disadvantages. It is educational, even something of a spectator sport, for those outside the Riksbank. It forces all those in the Board to put themselves into a position where they can articulate and explain their reasons for adopting their own positions clearly and at length; it places even more discipline on Board members. Nevertheless it can be a confrontational exercise, which runs the danger of exaggerating and intensifying splits within the Board, even splits whose overall economic significance may be quite small. Amongst some groups of central bankers, less mature and sensible than the Riksbank's Executive Board, such confrontations could spill over from intellectual battles into more personal feelings. If the present MPC meeting was just abolished, dissenting members could still present their arguments in many outside fora; indeed several of the dissents expressed in the Minutes of the MPC have still been repeated, at times almost word for word, in such outside presentations.

We recommend that the Executive Board of the Riksbank should meet together to discuss what the purpose of the MPC meeting should be, under this new forecasting regime, and whether its title, function and remit should be changed, or left unaltered.

4.3.2 Experience

The Riksbank only introduced its new forecasting procedure, based on its own expectations of its future path for official rates, in 2007. The subsequent years have included the greatest unforeseen shock of the modern era. So it is far too early to come to any provisional judgement of how well this new procedure is succeeding. That said both the arguments against, and the arguments in favour of, the new procedure have been dented.

Perhaps the main argument against was that the market might give undue weight to the central bank's forecast, since the future is always difficult to forecast, so that private forecasters might coordinate on the (supposedly better

informed) official forecast, and thus disregard such private information as they had. Thus the (short-term) market yield curve would just reflect the authorities' intended path, and thus possibly provide less real information than previously (Morris and Shin, 2005). A second concern (see Giavazzi/Mishkin 2006) was that such official forecasts would normally turn out to be wrong, as conditions changed and the preferred official path needed to be revised. Such necessary revisions might, so it was thought, lessen the credibility of the central bank, (though there was no evidence, by 2007, of this having happened in New Zealand, which had based forecasts on such a policy path since 1999).

There have, perhaps, been three main arguments for publishing a forecast for the central bank's own official short term interest rate path. The first was that the central bank, supported by an array of expert modellers and with macro-economic and financial experts both among its staff and on its MPC/Executive Board, should be able to arrive at a better prediction of its own future actions in setting interest rates than anyone else. It would, therefore, represent a wilful withholding of useful information not to give such forecasts to the general public and the market. So, on grounds of transparency and proper communication a central bank should reveal its plans/forecasts/intentions publicly.

A second argument in favour, as advanced by Woodford and Eggertsson, 2003, 'Optimal Monetary Policy in a Liquidity Trap', NBER WP 9968, September, is that, in many circumstances (e.g. depending on the ratio of variable to fixed rate mortgages), a longer-term interest rate is more important in influencing economic decisions than a short rate. Longer term interest rates depend on expectations of future short rates. So, the publication of an expected/intended/forecast path of official short rates should allow the central bank to influence expectations, and hence long rates, more closely, thereby strengthening the transmission mechanism through which the central bank can affect the economy. This is, perhaps, the mirror image of the Morris/Shin argument against. Because people, and the market, will coordinate on the central bank's forecast path, it gives the latter a powerful additional instrument.

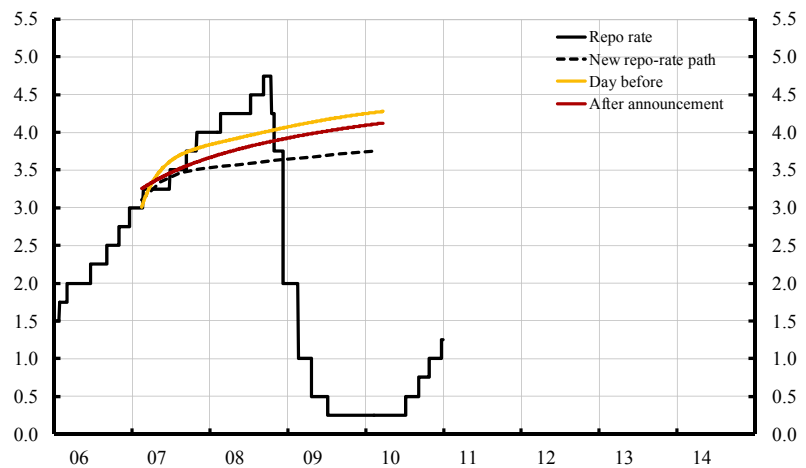
The third, and to our mind less important, argument is that it makes the forecast internally consistent. The main alternative to using the central bank's own projected path is to use the implied path taken from the money-market yield curve. But it is impossible to tell what general assumptions the market might have been making about the other elements in the forecast. Thus the output/inflation projections that the central bank might reach, on the basis of the market's yield curve, might be quite inconsistent with those that the market participants might have had in mind.⁵¹

⁵¹ 'Are Central Banks' Projections Meaningful?', CEPR DP 8027, October 2010, Gali argues that there are various ways of making a market yield curve consistent with a central bank's own behavioural rules, but these give a variety of outcomes. "In the present paper I

On the first seven occasions of the use of this new forecasting procedure, figures shown below, the relationships between the official path and the market yield curve were exactly as might have been expected, given both the Morris/Shin argument against and the Woodford/Eggertsson argument for this procedure. In June 2007 and then again in July 2008, the announcement of the new repo-rate path caused the market yield curve to jump closely into line with the newly announced official rate. There is a smaller reaction of market rates, but in the expected direction, to a reaffirmation of the expected official repo-rate path in February 2008. On the remaining forecast occasions in this earlier period, the projection for official rates and market yield curves are closely aligned.

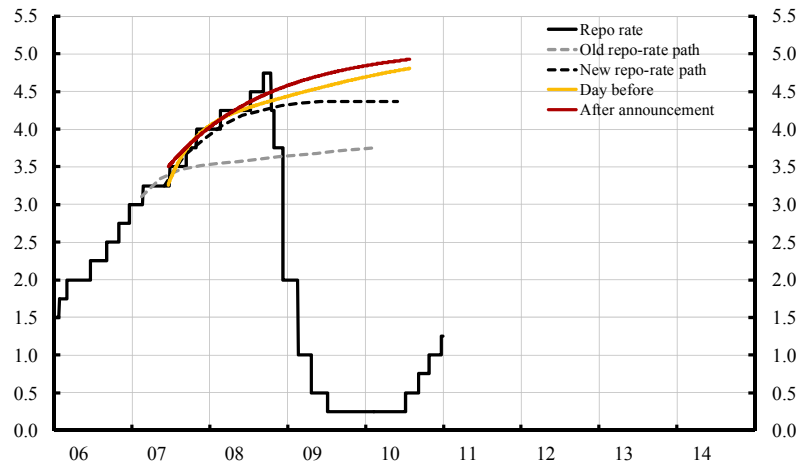
Figure 4:14. The repo rate, the repo rate path and monetary policy expectations, February 2007– July 2008

February 2007

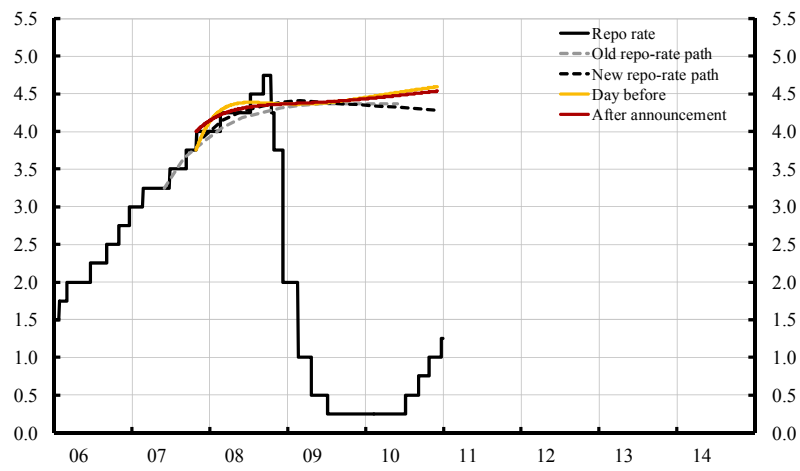


have provided an additional argument for the adoption of projections based on the central bank's own interest rate forecasts. I have done so by arguing that the alternative, i.e. conditioning projections on an exogenously given interest rate path, rests on shaky theoretical grounds. The latter assessment does not follow from the often heard argument that such projections will typically be indeterminate in forward-looking models. On the contrary, I have described as many as three different approaches to construct determinate projections conditional on an arbitrary interest rate path. Instead, I have argued that the main shortcoming of those projections lies precisely in the multiplicity of methods (each associated with a different rule) that are available to generate them, together with the fact that the different methods generally yield divergent projections for variables other than the interest rate itself. That observation calls into question the usefulness of projections conditional on a given interest rate path since, in principle, there is no obvious reason to prefer one method over another in order to generate that path." Conclusions, p. 10.

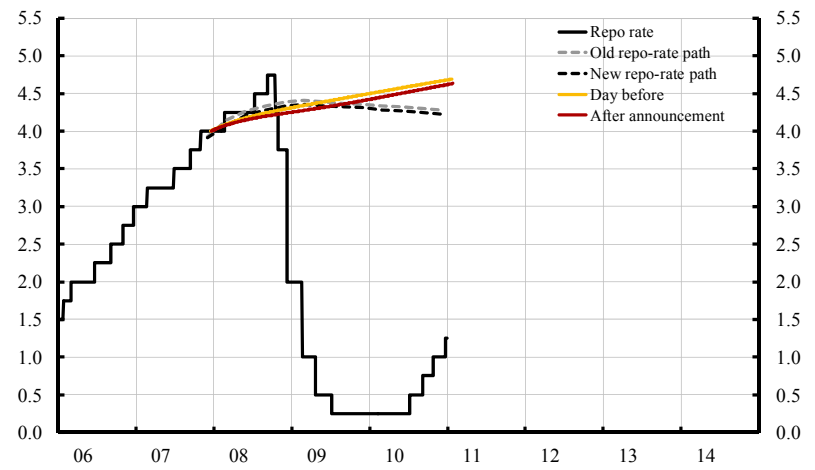
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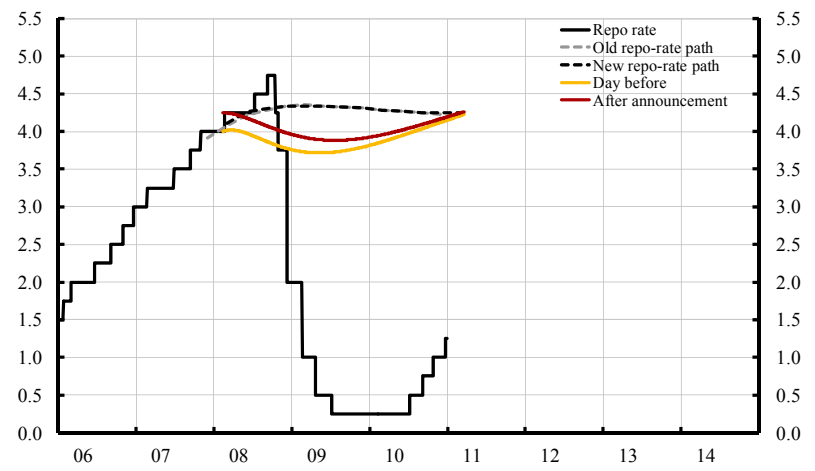
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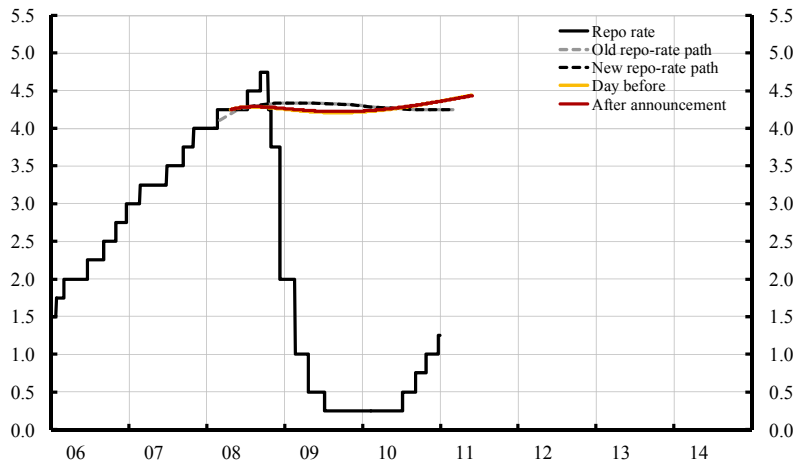
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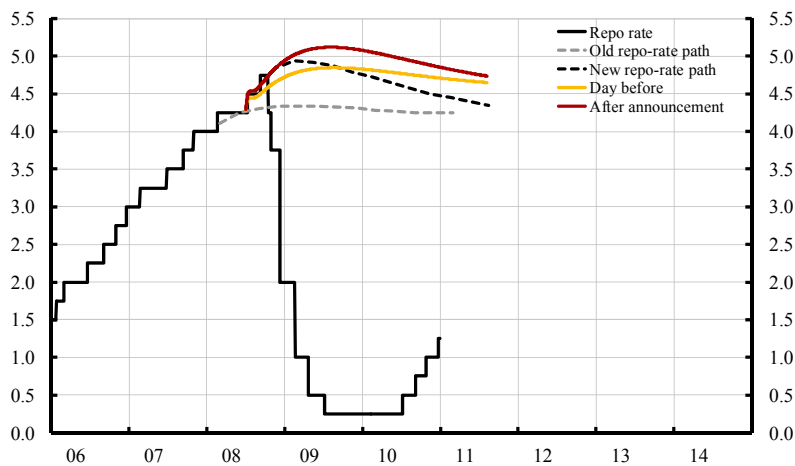
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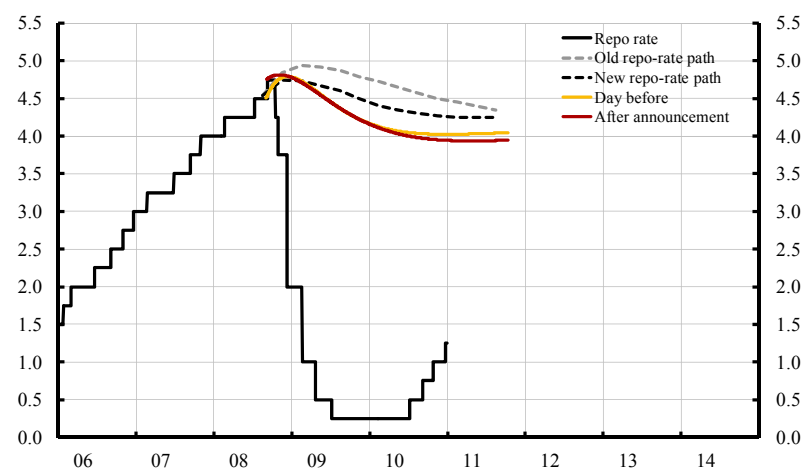


Sources: Reuters EcoWin and the Riksbank

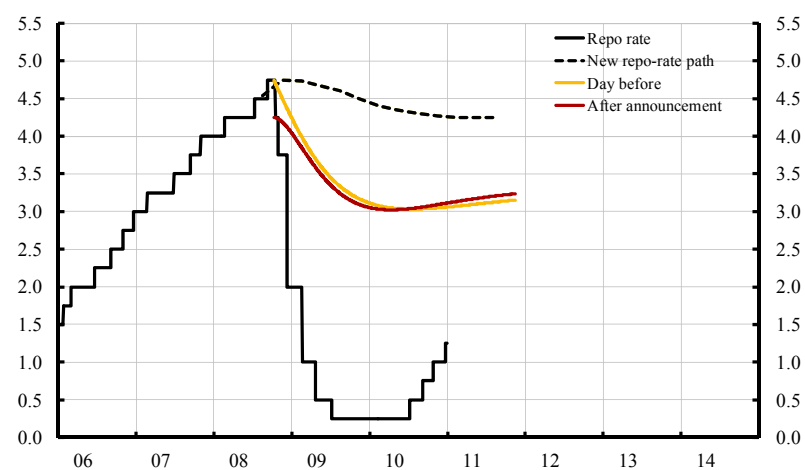
After the shock in autumn 2008 this picture of concordance between the official rate path and market yields, with changes in the former leading the latter, starts to change. On the next five occasions (September 2008 to April 2009), on the day before the announcement the market yield was well below the prior official path. Then on the day of the announcement the official path was lowered towards the market path, but remained above it throughout (except in February 2009). But rather than move back up towards the official rate path, the market yield curve fell slightly further away from it. One might conclude that the market appeared to doubt whether the Riksbank was doing enough.

Figure 4:15. The repo rate, the repo rate path and monetary policy expectations, September 2008- February 2009

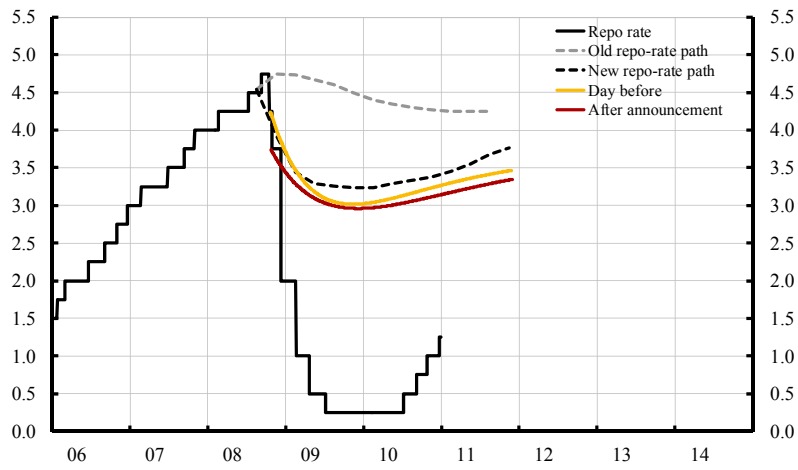
September 2008



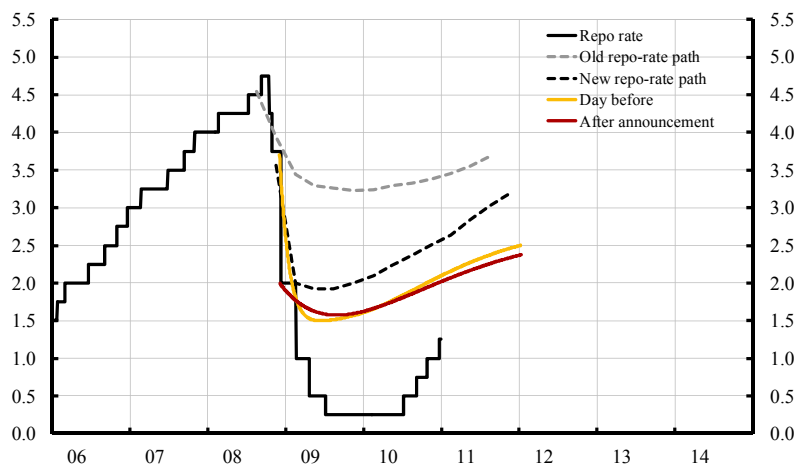
October 8, 2008



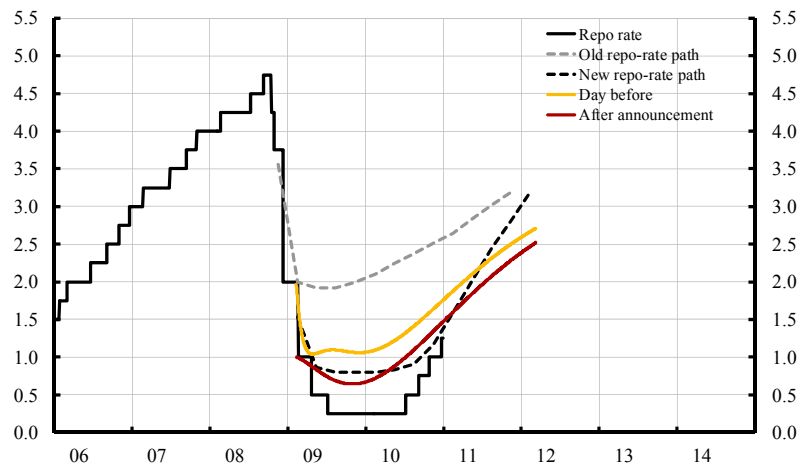
October 23, 2008



December 2008



February 2009

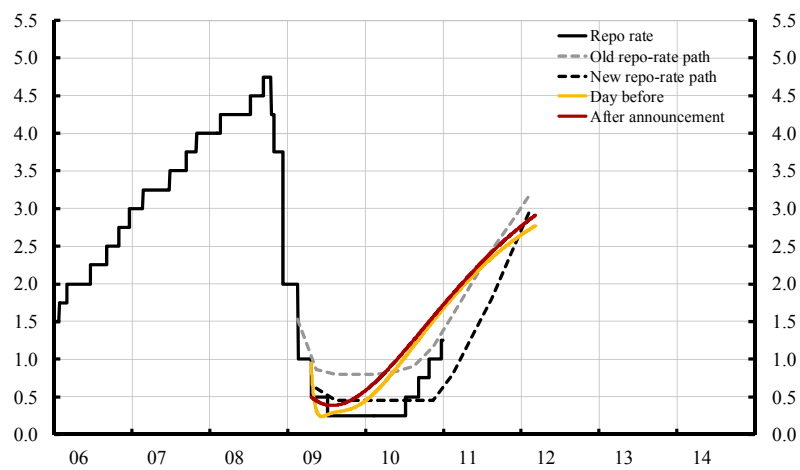


Sources: Reuters EcoWin and the Riksbank

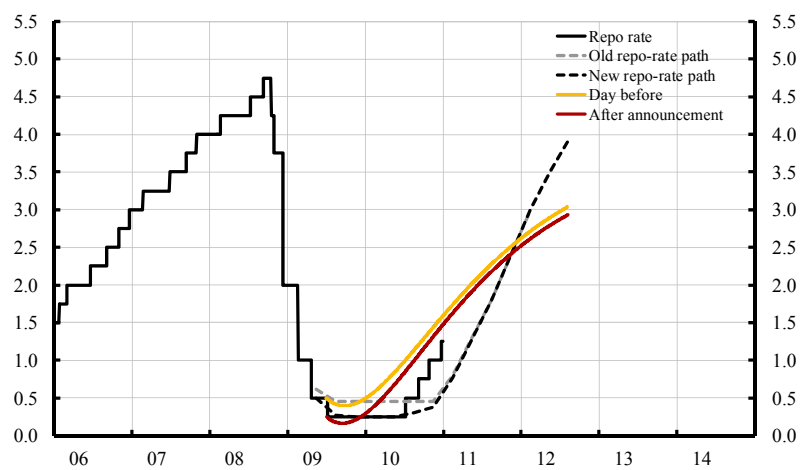
Then from April 2009 until December 2009, there is another, really rather curious phase. By this time the Riksbank's official path implies that yields will be kept extremely low for an extended period of time, whereas the markets' yield curve seems to forecast a quite rapid return towards a more normal level of short rates. We have found it difficult to obtain any good explanation for this phase. One explanation is that in the depths of the crisis the derived market yield curve might be distorted upwards by liquidity premia, but the trouble with that hypothesis is that liquidity concerns were at their worst between October 2008 and March 2009, not between April and December 2009. Whatever the explanation may be, what is undeniable is that during this phase market yields showed no adjustment or response towards the published path of official rates.

Figure 4:16. The repo rate, the repo rate path and monetary policy expectations, April 2009- December 2009

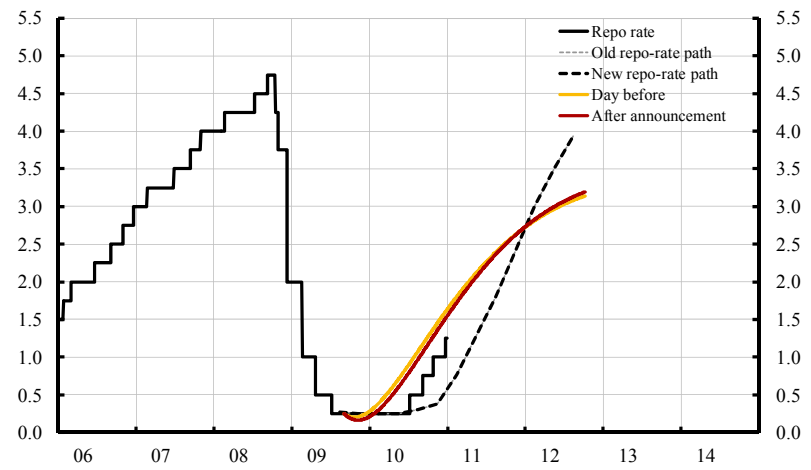
April 2009



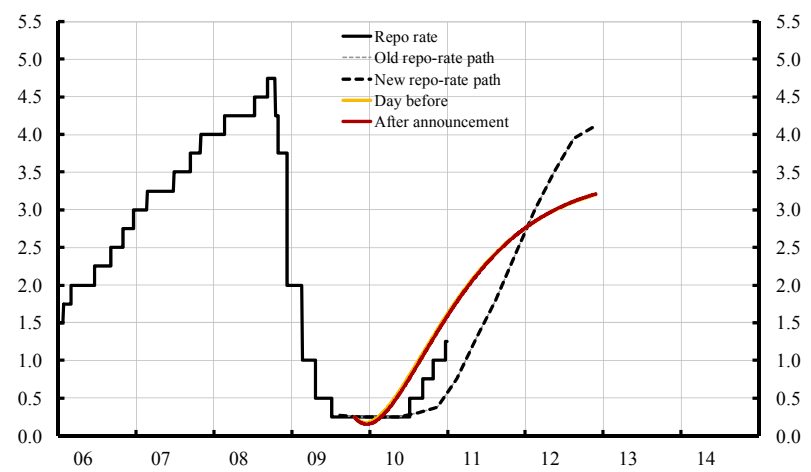
July 2009



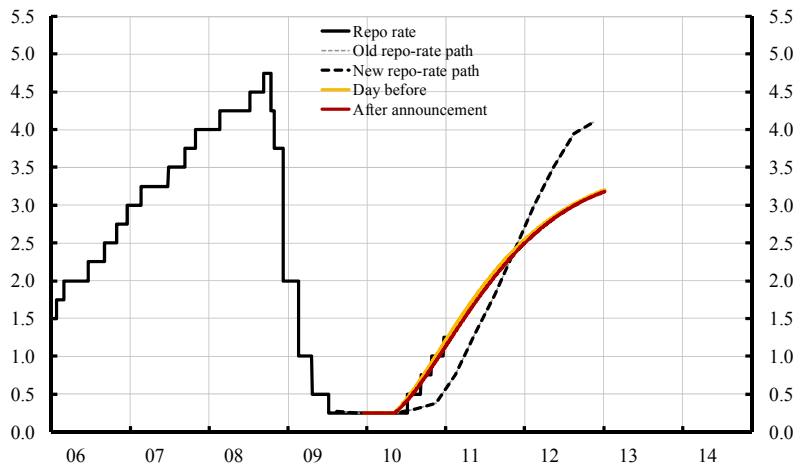
September 2009



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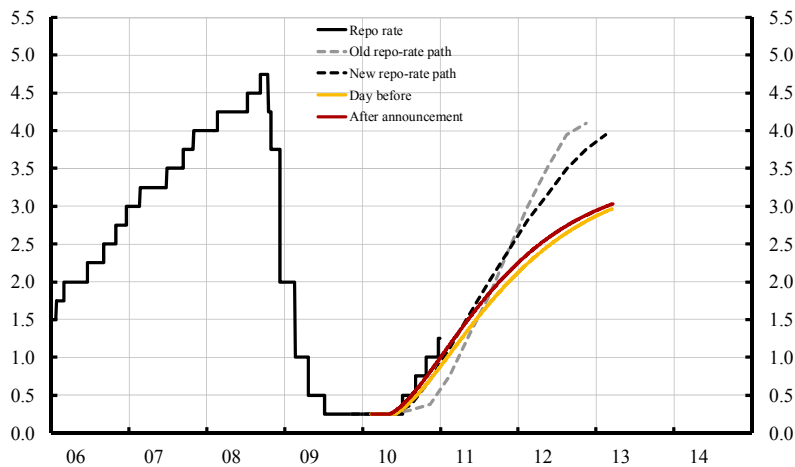


Sources: Reuters EcoWin and the Riksbank

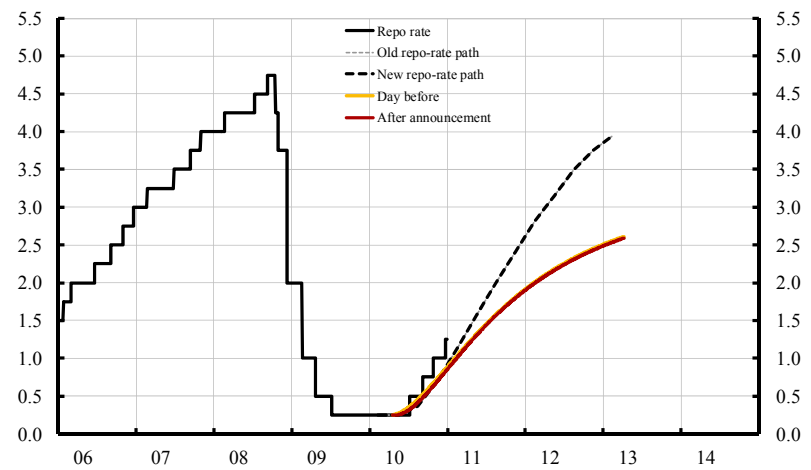
Then in our final period, February to December, the relationship moves into yet another phase. During this phase the official path shows a, quite rapid, reversion towards a 'normal' level for short rates, at about 4%, whereas market rates imply a much slower rate of increase. Indeed between February and September the divergence increases, round by round; the Riksbank (majority) stick to their guns expecting a steady reversion to 4%, at the horizon, whereas the market revises down its end-horizon expectation from 3% to 2%.

Figure 4:17. The repo rate, the repo rate path and monetary policy expectations, February 2010- September 2010

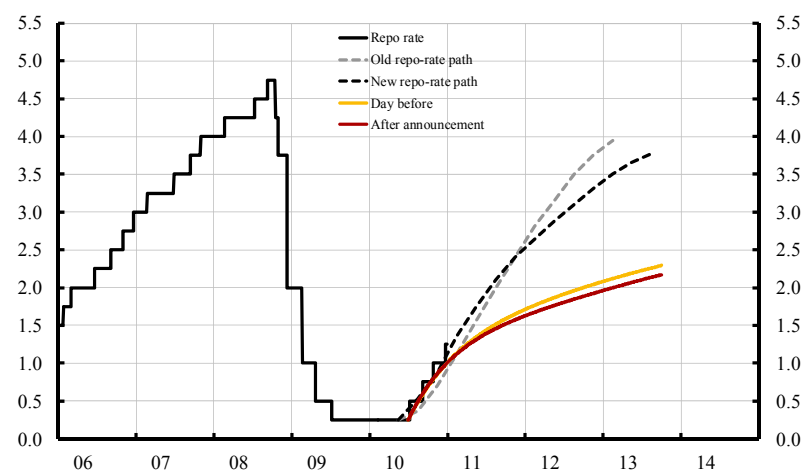
February 2010



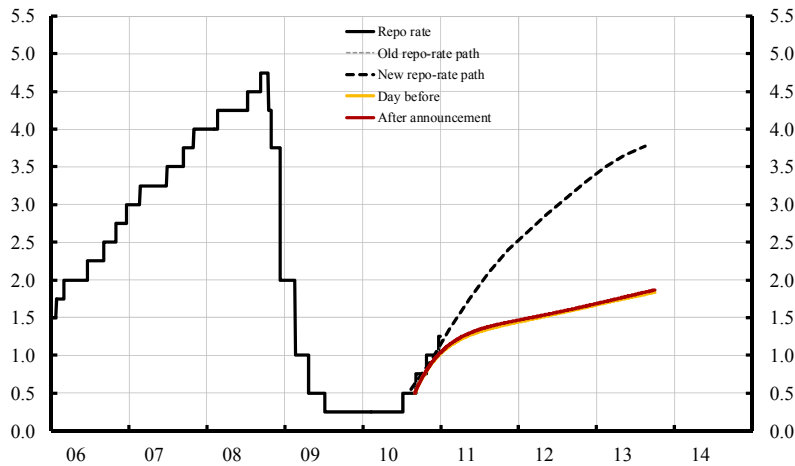
April 2010



July 2010



September 2010



Sources: Reuters EcoWin and the Riksbank

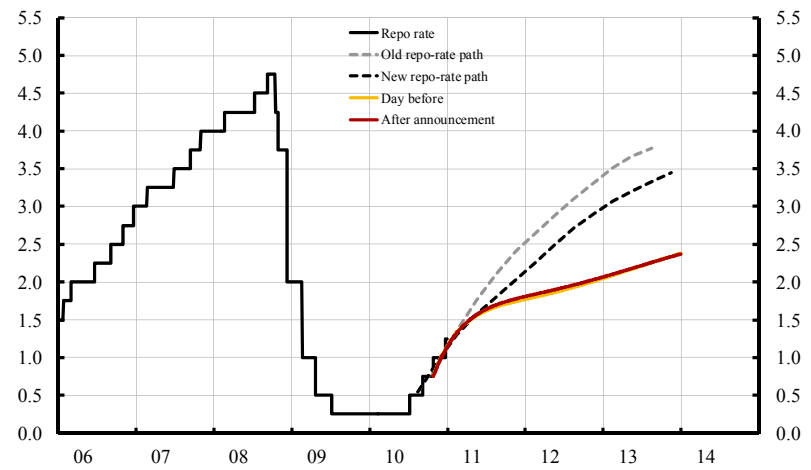
During this period the MPC was split, with two of its members voting for a lower path. Their vote was not only due to the fact that the low path alternative promised a better squared gap outcome (Section 3.1), but also because the majority's forecast, in their view, overestimated medium and longer term interest rates in other developed countries, given their sluggish recovery, and so underestimated the resultant interest differential and likely krona appreciation. On the other hand, there were several reasons for the majority's view. First and foremost, the probability of a 'double dip' in the Riksbank's main scenario was low. Furthermore, the normal historical patterns for interest rates (for instance, according to Taylor rules of various types) were not compatible with such low interest rates abroad. Finally, other measures of monetary policy expectations, such as surveys, pointed to higher interest rates.⁵² So far the appreciation of the krona has been considerable, but given the problems of the euro area, not perhaps as strong as might have been feared. This issue may well remain contentious for quite a long time.

However, since the autumn, this divergence has become less marked as the repo rate path shifts down while market rates shift up. In the beginning of 2011 the divergence disappeared completely at the one year horizon.

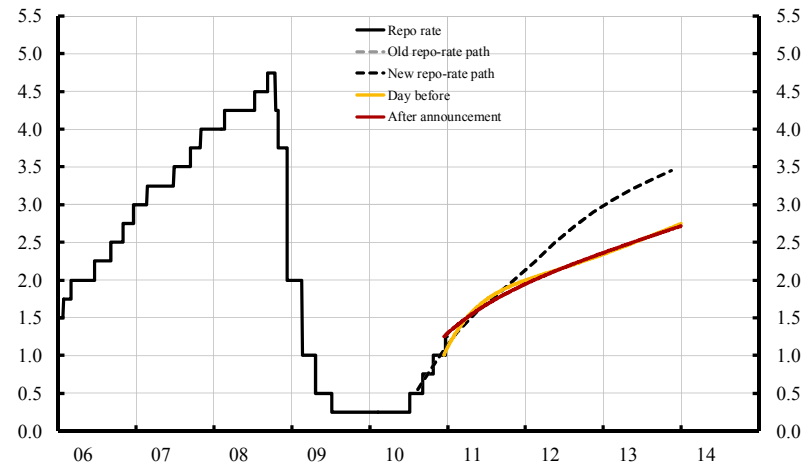
⁵² See 'The repo rate path and monetary policy expectations according to implied forward rates' in Monetary Policy Report October 2010, pp 51-55, Riksbank.

Figure 4:18. The repo rate, the repo rate path and monetary policy expectations, October 2010- February 2011

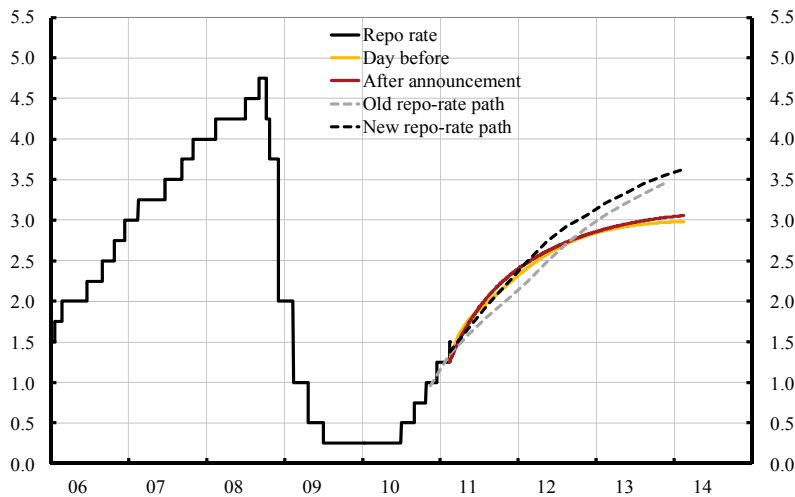
October 2010



December 2010



February 2011



Sources: Reuters EcoWin and the Riksbank

There is yet another minor reason to disregard arguments about the importance of forecasting consistency. Most theorists had implicitly assumed that the money market yield curve would adjust closely into line with the official projected path. But, as we have seen, this need not happen. But when it does not happen what then do you assume about future market yield curves, which influence longer term rates? The forecaster has to assume that the authorities keep to their projected path. Does the forecaster assume that the market abandons its divergent views immediately (or by the next forecast round), or does she assume that the market sticks to its (erroneous) viewpoint, so that each MPC decision comes as a surprise to the market? Svensson (ibid) terms these ‘anticipated and unanticipated’ deviations. Since there is no good way (yet) of telling whether such future deviations will be anticipated, or unanticipated, the concept of a fully consistent forecast in such circumstances is denied.

On this particular aspect of the ongoing debate, i.e. on relative interest rates, between the majority and the minority on the MPC, our sympathies lie with the minority. That said, by end 2010 strengthening output growth in Sweden, Germany and the USA, and worsening inflation in the UK, may conspire to make the majority’s preferred policy path more reasonable ex post; but this will have been more by chance than by good ex ante analysis.

Almost all the arguments, pro and con, publication of the proposed central bank path for official rates implicitly assumed that market rates would adjust closely to the published official rate path, perhaps excessively so. This has not happened. So, as stated in the Introduction, all such arguments have been denied.

What do we make of this? Perhaps not much as yet. The period over which central banks have been experimenting with this procedure is short and re-

cently interrupted by extreme shocks. During this short and atypical period the market has been healthily sceptical of the Riksbank's proposed path. One of the economists in a commercial bank told us that he viewed the Riksbank's projections for the next couple of updates ahead as informative, for the more distant future mainly as an attempt to influence expectations without any real informational content, but was uncertain how to react to the middle range.

Beyond a couple of quarters ahead no single forecaster, including the central bank, has, or possibly can ever have, much clear information on likely future developments. In such circumstances the 'wisdom of markets', bringing together multiple participants, using many different models, other sources of information, and differing subjective probabilities, constrained by the need to put their money where their mouth is, may well be greater than the accuracy of central bank forecasters. The latter may have more to learn from the former than vice versa, the more so the further ahead the horizon. We ran some very simple tests to explore whether the central bank may learn more from the market than vice versa. These are shown in Appendix 2. The results suggest that only at the very short end of the curve do surprises in the official forward path affect the market yield curve, whereas 'news' that drive changes to the market yield curve have strong effects on the subsequent official path at all horizons.

As stated at the outset of this sub-section, the experience of announcing an official policy path has been too short, and the circumstances too disturbed, to come to any strong conclusions or recommendations. Indeed most of the prior arguments, both for and against, this procedure have been weakened, especially those that assumed that market expectations would coalesce around the official projection. Instead, the market seems to have retained a, healthy, scepticism whether the official projections would be realised.

Given how difficult it is to forecast the future, and the lack of real information in any such forecast, beyond a few quarters hence, (whether by the central bank or anyone else, whether by a state-of-the-art model or the back of the envelope), we would recommend that a little more self-doubt be expressed by the Riksbank (or any other central bank) in putting forward its proposed paths for policy rates, as well as for output and inflation. Whether such self-doubt should be demonstrated by a greater emphasis on (a fan chart of) the uncertainty of such forecasts, or by basing interest rate forecasts beyond some horizon on some formula,⁵³ or in some other way, we leave for further consideration and experience within the Riksbank.⁵⁴

⁵³ Perhaps by splicing the changes in the market yield curve on to the level of the projected official path beyond a horizon of two quarters hence.

⁵⁴ We have been struck by the intensity of argument within the MPC on details of the forecast where the area of disagreement is dwarfed by the huge range of uncertainty about the likely future development of both the world economy and of the Swedish economy within it. Although the frequency of dissents at Riksbank meetings has increased in recent years, it remains within the middle of the range amongst other central banks both in this respect and in its overall activism.

One argument against such an expression of the range of uncertainty in the further ahead forecasts of the policy path is that a purpose of publication of that path is to influence market expectations, and that such expectations will not respond if the central bank appears to lack confidence in achieving its own expected future path. We are not impressed by that argument. If the truth is that the range of potential outcomes, for the longer-term future policy path, is actually very wide, any suggestion that implies otherwise is neither transparently honest, nor likely to influence informed observers; and indeed recent Swedish experience bears out this latter point.

Appendix to Section 4

Different measures of underlying inflation used by the Riksbank
in 2005-2010

In Annual report 2006

The Riksbank has chosen to define the inflation target in terms of the consumer price index (CPI). The CPI measures the price of a basket of goods and services, weighted on the basis of their share of household consumption. The Riksbank also bases monetary policy decisions on indicators of underlying inflation, in which the common factor is that commodities whose prices tend to vary substantially and which are not considered to have a lasting impact on inflation are eliminated from the CPI index. UND1X is one indicator of this nature which is often used by the Riksbank when justifying monetary policy decisions. The UND1X indicator eliminates the direct effects of changes in indirect taxation and subsidies (as a result of fiscal policy) and interest costs for private housing (as a result of monetary policy).

In Annual report 2007

UND1X becomes CPIX

A further change during the year was the change in name for the measure of underlying inflation from the UND1X to the CPIX. The change in name makes no difference to the way this measure is calculated, but was simply introduced because the old name was not considered to be user-friendly. At the same time, Statistics Sweden ceased publication of the UNDINHX measure of underlying inflation, which is the UND1X excluding price developments for mainly imported goods. This was because it has become increasingly difficult to determine which goods are mainly imported.

In Press release 8/11/ 2007

UND1X changes its name to CPIX

The measure of underlying inflation, UND1X, which is published regularly by Statistics Sweden, will in future be called the CPIX. The name change does not affect the way in which the measure is calculated. The new name will apply with effect from 12 November 2007, the next publication date of the measure of inflation.

Each month, on behalf of the Riksbank, Statistics Sweden publishes calculations of two underlying measures of inflation, the UND1X and the UNDINHX. The UND1X is defined as the CPI excluding household mortgage interest expenditure and the direct effects of changes in indirect taxes and subsidies. The UNDINHX is defined as the UND1X excluding the price development for mainly imported goods.

Over the years different views about the name have been expressed. For instance, the Riksdag Committee on Finance has said that the names are both long and complicated.

The Riksbank has proposed therefore that the UND1X should be called the CPIX in future. The new name will apply with effect from 12 November 2007, the next publication date of the measure of inflation. The calculation and definition of this underlying measure of inflation will not be affected by the name change.

At the same time, Statistics Sweden will cease to publish the UNDINHX measure. The reason for this is that the Riksbank is of the opinion that it has become increasingly difficult to determine which goods are mainly imported and which should thereby be excluded.⁵⁵

In Annual report 2008

The CPIX inflation measure phased out

In its analyses and communication, the Riksbank uses various partial measures of inflation alongside the CPI. The CPIX, which was previously termed UND1X, is the measure that has been used most in recent years. The CPIX excludes the effects of indirect taxes, subsidies and mortgage costs from the CPI. The measure has been used, above all, as a means of illustrating the direct effects of the Riksbank's repo rate changes. Changes in the repo rate affect mortgage costs more or less immediately. These changes thus have a direct impact on the CPI but not on the CPIX. In June, the Riksbank announced that the CPIX inflation measure would be phased out of the Monetary Policy Reports and the Riksbank's communication in general. One of the reasons for this is that it is no longer expected that the CPI and the CPIX will coincide even in the slightly longer term, which the Riksbank previously assumed. This is mainly due to the dramatic increases in house prices in recent years which, given the calculation method used, will affect mortgage costs for some time to come. Another reason is that there are more suitable measures than the CPIX for illustrating the direct effects of the Riksbank's policy. The Riksbank will continue to use different measures to illustrate the driving forces behind inflation at different points in time. This applies not least to the direct effects of the Riksbank's own repo rate changes, which are now excluded in a better way than in the CPIX. The new measure that excludes interest rate changes, the CPIX (the CPI with a fixed mortgage rate), was first published in the second Monetary Policy Report from July 2008. However, it is not the intention that this measure should have a special status in the same way as the CPIX. There will instead be a more direct focus on the CPI as a target variable. The phase out of the CPIX is not expected to have a tangible effect on the repo rate decisions in the future.

Extract from speech, Wickman-Parak, 9 June 2008

The Riksbank's inflation target

⁵⁵ For a more detailed discussion of these problems, see the article "Alternative measures of inflation for monetary policy analysis" in the journal Sveriges Riksbank Economic Review, 2007:3 (see www.riksbank.se).

The Riksbank's target is that inflation measured by the consumer price index will be held around 2 per cent, with a tolerance interval of +/- 1 percentage point. This is how the Riksbank formulated its inflation target when it was introduced in 1993. There were good reasons for the Riksbank choosing a quantified target for CPI inflation. There still are, and we stand by our target. The CPI is a broad measure which captures households' typical purchases and is familiar to the general public.

But how we communicate our policy and the different measures of inflation we use in our analysis has changed considerably over time. This is not so surprising. Our analysis methods have been honed and confidence in monetary policy has become stronger. This has given us a greater degree of freedom. We must also be aware of which components are causing price movements at different points in time. This means that the need to analyse and highlight different measures of inflation varies. For example, it has recently been particularly important to monitor how certain commodity prices develop, as they have increased quickly.

It is often a measure known as CPIX that has been in focus. The CPIX excludes mortgage expenditure and effects of indirect taxes and subsidies from the CPI. This has functioned as an important tool, particularly in analysing and illustrating the effects on inflation of our own interest rate changes. The CPIX has also held a special status in comparison with other measures of inflation. For various reasons this will not be the case in future; the CPIX will be phased out. We will instead introduce another measure that can better capture the effects of our policy. But the intention is not for this measure to hold a special position in the way that the CPIX has done. I will return to this soon.

The change we are now making means that the forecasts, analyses and comments in our reports will focus more directly on CPI inflation. This probably gives rise to a number of questions; not least among you here today. The most obvious one is probably whether this will have consequences for future monetary policy. To answer this question I would first like to say a few words about the need for alternative measures of inflation in general. I shall also describe how the role played by the CPIX in our analysis has changed over time. Then we will come to what the phasing out of the CPIX means for monetary policy.

To read the whole speech, go to: <http://www.riksbank.com/page-folders/35542/080609e.pdf>

The CPIF is introduced in Monetary Policy Report July 2008– Extract from Box

How are measures of underlying inflation used in monetary policy analysis?

The Riksbank's inflation target is defined such that inflation, measured as the annual change in the consumer price index (the CPI), should be 2 percent.

This wording, originating from when the inflation target was introduced in 1993, still applies. However, although the target is expressed in terms of the CPI the Riksbank often uses different measures of underlying inflation in its analyses and communication. There are several reasons for this. By analysing the outcome of different measures of underlying inflation we can gain insights into the driving forces behind inflation – why inflation develops in a certain way. The Riksbank also publishes forecasts for different measures of underlying inflation. The aim of this may be, for example, to demonstrate how price trends for a certain group of products affect inflation, or to illustrate the direct impact of the Riksbank's own interest rate changes on the CPI. To date, the Riksbank has used the CPIX measure to do the latter. In the future, however, it will no longer be possible to use this measure for this purpose and it will be phased out of monetary policy analysis and communication. When the Riksbank wishes to illustrate the effect of the interest rate on inflation, a measure of the CPI with a fixed interest rate (the CPIF) will be used instead. This change will not, however, have any tangible impact on decisions on monetary policy.⁵⁶

To read the whole article, go to: http://www.riksbank.com/upload/-Dokument_riksbank/Kat_publicerat/Rutor_IR/PPR_08_2_Box_2.pdf

The importance of CPIF is highlighted in Monetary Policy Report July 2010 – Extract from box

The CPI and measures of underlying inflation

The Riksbank has chosen since the start of 2009 to highlight the measure of underlying inflation known as the CPIF as a particularly important measure for monetary policy. However, this does not mean that the inflation target has changed. The target is still to attain an inflation rate of 2 per cent in terms of the CPI. But the repo rate has been cut substantially since the financial crisis erupted and is expected to return to more normal levels during the

forecast period. Under these circumstances CPI inflation will be affected considerably, through the effects on households' interest expenditure. To clarify how the CPI is affected by these changes in the repo rate, the Riksbank has chosen to supplement the CPI forecasts with forecasts for the CPIF. If monetary policy is designed so that the CPIF is close to 2 per cent, the CPI will also be close to the target when the effects of all the interest rate changes have waned. As long as the forecasts for the CPI and the CPIF differ throughout the forecast period, and the difference is primarily due to the Riksbank's

⁵⁶ See also Hansson, J., Johansson, J. and Palmqvist, S., "Why do we need measures of underlying inflation?" in Economic review 18/06/2008.

policy, it is natural to also highlight the CPIF as an important measure of underlying inflation.

To read the whole article, go to:http://www.riksbank.com/upload/Dokument_riksbank/Kat_publicerat/Rutor_IR/2010/MPR_July_2010_article4.pdf

Conclusions and summary of recommendations

Our evaluation of the Monetary and Financial Stability Policies of the Riksbank, 2005-2010 is largely positive, especially given the occurrence of the global financial crisis of 2007-2008. Compared to many other developed countries, Sweden suffered relatively little direct damage from financial disruptions. Part of this is due to the timely and effective reactions of the Riksbank to the temporary halt of interbank and short term credit markets. The measures taken by the Riksbank, in collaboration with the SNDO and the Ministry of Finance, most likely avoided a serious credit crunch for Sweden. However this result was obtained **despite** a relatively poorly designed institutional and legal structure.

Our first recommendation is that the relevant Swedish Authorities should form a working committee to draft the necessary changes in legislation needed to clarify the powers and responsibilities of the Riksbank, the SFSA, the SNDO and the Ministry of Finance, in terms of crisis management and crisis prevention. This suggestion, we are happy to note, has already been overtaken by events, since a Financial Crisis Committee has been set up to ensure that the design of the regulatory framework in Sweden is appropriate, both with respect to preventive measures to alleviate different types of financial crises, and also measures effectively to resolve any crisis that should occur, while simultaneously protecting the interests of taxpayers. The mandate of the Riksbank (in the Sveriges Riksbank Act, 1988:335) for the maintenance of financial stability is insufficient and it has no powers, or instruments that bear directly on macro-prudential stability.

Our second recommendation is that the Riksbank maintain a watching brief on the development of macro models that incorporate banking and financial sectors as essential elements, as well as newly developed models of systemic financial stability.

A difficult question is how the responsibilities in terms of financial stability should be allocated between the different agencies involved: the Ministry of Finance, the SFSA, the SNDO, and of course the Riksbank itself. We recommend that the Swedish authorities select between one of two possible options. The first option would be to share macro-prudential policy responsibilities and instruments between these several agencies and to create a Systemic Risk Council in charge of coordinating the actions of these agencies.

A second option would be to give all macro-prudential responsibilities and instruments to the Riksbank, but to create, within the Riksbank, a Financial Stability Council, independent from the Monetary Policy Council, and comprising high level representatives of the other agencies in charge of other aspects of Financial Stability.

Another issue is currency mismatches within the Swedish financial system: Financial disaster in Sweden was avoided only because of beneficent actions of authorities **outside** Sweden. We therefore recommend that the Riksbank runs on a regular basis, stress tests in which wholesale markets close down and the Fed and the ECB **do not** make swap lines in US dollars and Euros available.

To wrap up, our recommendations on financial stability issues are that the Riksbank Act be modified in the following directions:

- Specifying in more detail the exact mandate of the Riksbank in terms of “promoting financial stability”;
- Specifying in more detail the instruments that the Riksbank is entitled to use for this matter, e.g. to apply varying reserve ratios and to control foreign exchange swaps;
- Specifying in more detail the internal governance of the Riksbank on financial stability activities and the sharing of responsibilities and tasks with other public agencies also in charge of some aspects of financial stability, in particular the SFSA; the SNDO and the Ministry of Finance.

As for monetary policy, we found that the Riksbank has been at the leading edge of professional competence in its primary and essential task of aiming at flexible inflation targeting. We recommend that the Riksbank sticks with the current definitions of CPI (and its target rate of 2%) and CPIF for the indefinite future, and to their practice of using the CPI index as their target for medium term analysis, while using the CPIF index for assessing the shorter-term progress for the achievement of the inflation target. As for the organization of the MPC meeting, we recommend that the Executive Board of the Riksbank should meet to discuss what the purpose of this meeting should be, under the new forecasting regime, and whether its title, function and remit should be changed, or left unaltered.

Finally we recommend that a little more self-doubt be expressed by the Riksbank in putting forward its proposed paths for policy rates, either by a greater emphasis on the uncertainty of such forecasts, or basing them beyond some horizon on some formula that incorporates the market yield curve.

Appendix 1

Swedish Banks' involvement in the Baltic States

In many post-communist countries in Eastern Europe, the initial indigenous banks soon proved fragile, and most post-communist banking in those countries became undertaken by banks head-quartered in Western Europe. In the Baltic States, with their close connections with Sweden and the other Nordic countries, these foreign banks were primarily Swedish. The four main Swedish banks, Handelsbanken, Nordea, SEB and Swedbank, had sharply differing business plans in this respect. Handelsbanken had virtually no exposure in the Baltic States; Nordea had a limited exposure; whereas SEB and Swedbank had a large presence. In 2007, the share of these banks in total loans and deposits was as follows:-

Table 1: 2007

Estonia SEK mn		
	Loans to private sector	Deposits
Total	142 865	80 899
SEB	42 000	22 000
Swedbank	69 800	44 800
Nordea	15 940	4 729
Handelsbanken	0	0
Latvia SEK mn		
	Loans to private sector	Deposits
Total	201 799	135 254
SEB	36 000	18 000
Swedbank	55 300	23 100
Nordea	21 700	94 728
Handelsbanken	0	0
Lithuania, SEK mn		
	Loans to private sector	Deposits
Total	161 279	109 279
SEB	59 000	30 000
Swedbank	50 400	34 300
Nordea	14 689	2 837
Handelsbanken	0	0

Since 2000, the Baltic States expanded rapidly, as had loans to the private sector in each country, see Table 2. A sizeable proportion of these loans were

denominated in euros. Not only was the euro rate of interest below that on domestic currency loans, but also the stated objective for all these countries was to join the eurozone at some later stage, which reduced the apparent exchange rate risk on such loans.

Table 2: Nominal values: 2004 = 100

Estonia, EEK			
	Output	Loans	Deposits
1997	0.65	0.25	0.33
2004	1.00	1.00	1.00
2007	1.28	2.58	2.20
Latvia, LVK			
	Output	Loans	Deposits
1997	0.49	0.11	0.21
2004	1.00	1.00	1.00
2007	1.88	3.40	2.00
Lithuania, LTL			
	Output	Loans	Deposits
1997	0.64	0.23	0.34
2004	1.00	1.00	1.00
2007	1.57	3.21	2.07

So by 2006 SEB and Swedbank had a sizeable exposure to the Baltic countries, and one which involved a degree of currency mismatch. Even so, the share of their total loan book represented by loans to these states remained limited.

Table 3: 2007 Loans of SEK mn

	Swedbank	SEB	Nordea
Total	1 135 287	1 067 341	2 314 007
To Estonia	70 700	42 000	15 940
To Latvia	56 100	36 000	21 700
To Lithuania	50 400	59 000	14 689
Total Baltic countries	177 200	137 000	52 329

Around this time, senior management in the Riksbank, both privately and publicly,⁵⁷ expressed some concern about such exposures, given their very

⁵⁷ Whereas there were concerns about the pace of macro-economic development in the Baltic countries as early as 2004/2005, the concern about possible overextension of Swedish bank lending there became more prominent in 2006/2007, see the Financial Stability Reviews, 2006:1 and 2007:1. For an account of the Riksbank's assessment of this issue, see

rapid increase and the boom conditions in these states.⁵⁸ In contrast the banks, and perhaps the SFSA⁵⁹, felt that the limited share of such loans in the overall loan book meant that, even if defaults should rise sharply and loss given default should be quite high, the banks could ride out such events reasonably comfortably.

Given the scale of the numbers involved, one can easily appreciate how this latter judgment came to be made. However, in the febrile and panicky atmosphere, following September 2008, it turned out to be wrong. The markets focussed, perhaps unduly, on the relative exposure of Swedish banks to the macro-economic difficulties in the Baltic States. The re-financing and liquidity problems of Swedbank and SEB became much more critical than those of Handelsbanken and Nordea.

As a measure of this, we compared the Credit Default Swap (CDS) differentials of SEB and SHB, and of Swedbank and Nordea, with the CDS premia on each of the three Baltic States. The Figures are show below. We also show the regression for Latvia, which has the greatest significance in each case.

Ingves, 2010, on 'The crisis in the Baltic – The Riksbank's measures, assessment and lessons learned', speech at the Riksdag Committee on Finance, Stockholm, February 2, available on the Riksbank's website: <http://www.riksbank.com/templates/Page.aspx?id=43223>.

⁵⁸ "The Riksbank issued warnings as early as 2005 in its Financial Stability Report that this was not a sustainable development. Despite an even sharper tone in later reports, this warning and other similar measures did not have the intended effect. Looking back, more powerful measures would have been necessary to remove the threats to the stability of the Swedish financial system that were building up with the banks' commitments in the Baltic countries." From the *The Riksbank and Financial Stability 2010*, p. 26.

⁵⁹ The SFSA was aware of the risks involved, as represented by the discussion of them in its Stability Report of October 2006, pp 4-5, but nevertheless took no countervailing action.

Figure 1. CDS Premium Banks (SEB-SHB) on the Baltic States CDS Premium

Left Axis: Lithuania, Estonia, Latvia Right Axis: SEB-SHB

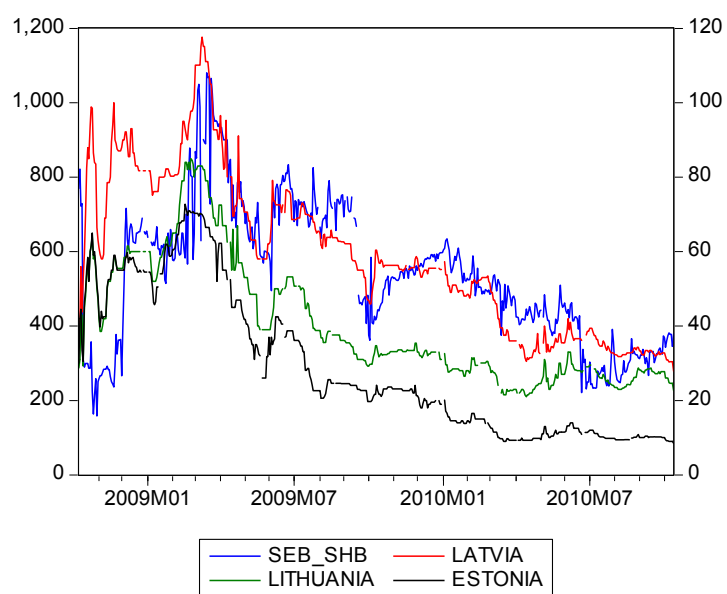


Figure 2. CDS Premium (Swedbank-Nordea) on the Baltic States CDS Premium

Left Axis: Lithuania, Estonia, Latvia Right Axis: Swedbank-Nordea

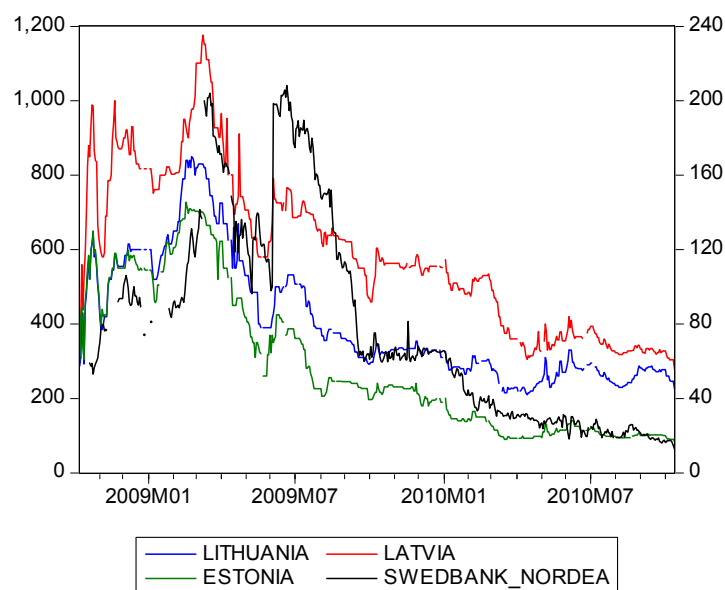


Table 4

$\text{CDS SEB} - \text{CDS SHB} = 20.8 + 0.056 \text{ CDS Latvia}$

(1.93) (0.003)

$R^2 = 0.40$ Obs = 497 DW = 0.17

$\text{CDS Swed} - \text{CDS Nordea} = -40.0 + 0.206 \text{ CDS Latvia}$

(4.76) (0.008)

$R^2 = 0.60$ Obs = 465 DW = 0.05

While this exercise was fun to do, it adds little or nothing to what was known before. What is much more important for our purposes here is what this episode reveals about the relationships between the Riksbank and the SFSA. There was, and we believe still remains, no formal mechanism or committee structure wherein the SFSA and Riksbank can discuss their respective views on financial stability issues. Nor is there any formal mechanism for recording what these views might be, whether in agreement or not. Indeed in this particular instance, concerning Riksbank unease about the banks' Baltic exposures, no clear records exist at the SFSA about the Riksbank's concerns and recollections vary.

Appendix 2

Repo rate paths vs. Forward rates

Using data from both the Riksbank and the Norges Bank, for 2007-2010 in the Swedish case and 2005-2010 in the Norwegian case, we did a more formal, econometric test of the relationships between the official path of rates and the implied market path.

For a start the two series should be cointegrated since they are both expectations of the same variable, the future official spot rate, so they cannot diverge limitlessly. So step one should be to test for cointegration, both for the two Swedish and, separately, the two Norwegian series.

In order to limit the number of exercises/regressions we only looked at the relationships between the two series at three horizons, two quarters hence, Q2, a short horizon; six quarters hence, Q6, a medium-term horizon; and twelve quarters hence, Q12, the longest available horizon.

We tested for cointegration between i_a and r by testing for a unit root in $(i_{a,t} - r_t)$ which can be considered a cointegration relation if the unit root test rejects the null hypothesis, at Q2 and Q6. We could not perform the test at Q12 for both Sweden and Norway because of missing values. The result is that the two series are cointegrated at both horizons, as shown below.

Sweden

Q2	t-Statistic	Prob.
Augmented Dickey-Fuller test statistic	-2.395327	0.0198
Test critical values: 1% level	-2.699769	
5% level	-1.961409	
10% level	-1.606610	

Q6	t-Statistic	Prob.
Augmented Dickey-Fuller test statistic	-1.996780	0.0467
Test critical values: 1% level	-2.708094	
5% level	-1.962813	
10% level	-1.606129	

Norway

Q2	t-Statistic	Prob.
Augmented Dickey-Fuller test statistic	-2.442279	0.1488
Test critical values: 1% level	-4.004425	
5% level	-3.098896	
10% level	-2.690439	

Q6	t-Statistic	Prob.
Augmented Dickey-Fuller test statistic	-2.359074	0.1691
Test critical values: 1% level	-4.004425	
5% level	-3.098896	
10% level	-2.690439	

In both cases the number of observations is rather too small for such a test to have much power, but the a priori likelihood of cointegration is high, and the empirical results are entirely consistent with that.

Assuming cointegration, a divergence will get removed through an error correction mechanism (ECM). To estimate this, with the data points that we have, we need an auxiliary assumption. This is, in our case, that, when the market decides on its implied future rate immediately after the announcement of the official rate, i.e. $i_{a,t} - r_t$, that it, the market, does not seek to adjust that divergence further, up or down, until the next official announcement. So, $i_{b,t} - i_{a,t-1}$ purely reflects the arrival of (common) news, not any error correction (where i_b is market rate beforehand and i_a is market rate afterwards). Also $r_t - i_{b,t}$ is the surprise in the announcement.

Given this assumption, we can run four regressions, as follows:

$$i_{a,t} - i_{b,t} = B1 (r_t - i_{b,t})$$

$$i_{a,t} - i_{b,t} = B1 (r_t - i_{b,t}) + B2 (i_{a,t-1} - r_{t-1})$$

$$r_t - r_{t-1} = B3 (i_{b,t} - i_{a,t-1})$$

$$r_t - r_{t-1} = B3 (i_{b,t} - i_{a,t-1}) + B4 (i_{a,t-1} - r_{t-1})$$

B1 and B3 are news terms and should be approximately equal to unity. If they are equal to zero, then with $B1 = 0$, the market ignores the official announcement; and if $B3 = 0$, the Riksbank ignores the market's interpretation of news. B2 and B4 are ECM coefficients. B2 should be negative, and B4 positive. If the absolute size of $B2 > B4$, most of prior divergence is eliminated by a market readjustment, (and vice versa). Equations 2 and 4 should fit better than equations 1 and 3.

Note that we have to be careful to line up the timings carefully since the observations are two months apart, thus, if we are interested in $t = 7$ quarters, then $t - 1$ is the observation 8 quarters ahead at the previous MPC meeting, and similarly if $t = 5$, then $t - 1 = 6$ at the previous MPC meeting.

We start with the results for equation 1.

Sweden

	B1	t	R ² (adj)	D.W.
Q2	0.79	8.76	0.62	0.93
Q6	0.08	4.09	0.14	2.40
Q12	-0.08	-1.06	0.06	1.99

Norway

	B1	t	R ² (adj)	D.W.
Q2	-0.43	-1.09	-0.02	0.81
Q6	-0.08	-1.18	0.06	1.86
Q12	-0.06	-1.14	0.05	2.36

What these results imply is that money market rates in Sweden respond quite sensitively at short horizons to the news (surprise) in the official path, but at longer horizons, and at all horizons in Norway, pay no attention whatsoever to the surprise news in the official path.

The results are not much improved by adding an ECM term in equation 2.

Sweden

	B1	t	B2	t	R ² (adj)	D.W.
Q2	0.83	9.19	0.32	2.76	0.68	1.38
Q6	0.17	2.73	0.12	1.64	0.22	2.48
Q12	-0.06	-0.64	0.01	0.18	-0.04	1.88

Norway

	B1	t	B2	t	R ² (adj)	D.W.
Q2	-0.18	-0.44	0.20	1.05	-0.05	1.12
Q6	-0.18	-1.18	-0.11	-0.66	0.01	1.86
Q12	-0.42	-2.00	-0.39	-1.75	0.16	1.99

The ECM takes the wrong sign in Sweden, and its addition does not alter the prior conclusion that only at short horizons in Sweden does the surprise news in the official rate path have any influence on market rates.

By contrast, the news in market rates has a considerable influence over the official rate path. Thus, when we run equation 3, we get the following results.

Sweden

	B3	t	R ² (adj)	D.W.
Q2	1.09	27.1	0.92	2.67
Q6	0.77	4.41	0.53	1.32
Q12	0.58	4.46	0.62	2.04

Norway

	B3	t	R ² (adj)	D.W.
Q2	0.93	6.84	0.77	1.73
Q6	0.74	10.85	0.78	1.84
Q12	0.56	6.13	0.63	1.31

The results clearly indicate that the official rate path adjusts quickly and largely to the intervening news in market rates.

This relationship becomes even stronger when we add an ECM, which is always correctly signed, though only significant at shorter horizons.

Sweden

	B3	t	B4	t	R ² (adj)	D.W.
Q2	1.01	26.7	0.80	2.24	0.94	2.81
Q6	0.76	4.85	0.17	1.27	0.54	1.12
Q12	0.58	7.75	0.29	1.99	0.78	2.16

Norway

	B3	t	B4	t	R ² (adj)	D.W.
Q2	0.80	36.9	1.02	6.06	0.96	0.96
Q6	0.81	10.6	0.43	2.60	0.81	1.59
Q12	0.61	5.3	0.14	0.90	0.61	1.39

Thus the official path adjusts to market rates, rather than vice versa, (except at

short horizons in Sweden when the relationship is two-way).

Nevertheless the data period is short. We were concerned that the results may have been strongly affected by the extreme observations immediately after the Lehman failure. At this time market rates fell precipitously before the authorities felt able to validate this by equivalent cuts to the official path. So we re-ran this same exercise, excluding the observations around that time. But the results, not shown in order to save space, but which are available from the authors, did not change significantly.

These econometric exercises were run for us by G. Guibourg of the Riksbank, to whom we are most grateful. Details of the data, software packages, etc., can be obtained from her.

Appendix 3

Schedule of the meetings Charles Goodhart and Jean-Charles Rochet had with various parties

Charles Goodhart's meeting schedule, August 24 2010

Tuesday, August 24

- Deputy Governor Lars E O Svensson, the Riksbank
- Lunch at the Riksbank with Governor Stefan Ingves
- Marianne Nessén and Jesper Hansson, deputy heads of Monetary Policy Department, the Riksbank
- Martin W Johansson, deputy head of Financial Stability Department, and colleagues, the Riksbank

Charles Goodhart's meeting schedule, September 16-17 2010

Thursday, September 16

- Deputy Governor Svante Öberg, the Riksbank
- Deputy Governor Barbro Wickman-Parak, the Riksbank
- Deputy Governor Karolina Ekholm, the Riksbank
- Lunch with Ingvar Matsson and Pär Elfvingsson, the Secretariat of the Committee on Finance at the Riksdag
- Martin Andersson, Director General of the Swedish Supervisory Authority (Finansinspektionen)

Friday, September 17

- Howell Jackson, professor of Harvard Law University and commissioned in 2010 to do an review of the financial supervision in Sweden, the Swedish Supervisory Authority (Finansinspektionen)
- Deputy Governor Lars Nyberg, the Riksbank

Charles Goodhart's and Jean-Charles Rochet meeting schedule, September 27-28 2010

Monday, September 27

- Lunch at the Riksbank with Governor Stefan Ingves and Deputy Governor Lars E O Svensson, the Riksbank
- Lars E O Svensson, Deputy Governor, the Riksbank
- Stefan Ingves, Governor, the Riksbank
- Marianne Nessén, Deputy Head of Monetary Policy Department, the Riksbank
- Lars Nyberg, Deputy Governor, the Riksbank
- Annika Winsth, Chief Economist, Nordea
- Anders Vredin, CEO of Centre for Business and Policy Studies (SNS)
- Urban Bäckström, Director General of the Confederation of Swedish Enterprise (Svenskt Näringsliv)

Tuesday, September 28

- Torsten Persson, Professor at Institute for International Economic Studies (IIES), Stockholm University
- Harry Flam, Director of Institute for International Economic Studies (IIES), Stockholm University
- Robert Bergqvist, Chief Economist at SEB
- Bo Lundgren, Director General and Lars Hörngren, Chief Economist of the Swedish National Debt Office (SNDO)

Charles Goodhart's and Jean-Charles Rochet meeting schedule, November 10-11 2010Wednesday, November 10

- Kasper Roszbach, Deputy Head of Research, the Riksbank
- David Vestin, Head of Modelling at the Monetary Policy Department, the Riksbank
- Martin Andersson, Director General and Lars Frisell, Chief Economist of the Swedish Supervisory Authority (Finansinspektionen)
- Mats Dillén, Director General at National Institute of Economic Research (Konjunkturinstitutet)
- Peter Norman, Minister for Financial Markets, Ministry of Finance (Finansdepartementet)
- Anna Kinberg Batra, Chair of Committee on Finance, the Riksdag
- Göran Bronner, Chief Risk Officer and Jonas Eriksson, Head of Treasury at Swedbank
- Dinner with Lars Heikensten, Swedish Member at the Court of Auditors of the European Union and former Governor of the Riksbank

Thursday, November 11

- Sophie Degenne and Göran Robertsson, Head respectively Deputy Head of Asset Management Department at the Riksbank
- Cecilia Hermansson, Chief Economist at Swedbank
- Lunch with Jan Häggström, Chief Economist of Handelsbanken
- Anders Kvist, Chief Risk Officer of SEB
- Göran Zettergren, Chief Economist of the Swedish Confederation of Professional Employees (TCO)
- Martin W Johansson, Deputy Head of Financial Stability Department, the Riksbank

Charles Goodhart's and Jean-Charles Rochet meeting schedule, March 15-16 2011Tuesday, March 15

- Stefan Ingves, Governor, the Riksbank

Wednesday, March 16

- Martin Andersson, Director General and Lars Frisell, Chief Economist of the Swedish Supervisory Authority (Finansinspektionen)

- Bo Lundgren, Director General of Riksgäldskontoret, Lars Hörngren, Chief Economist of Riksgäldskontoret and Member of Financial Crisis Committee and Irma Rosenberg, Member of the Board of the Riksgäldskontoret and Member of the Financial Crisis Committee
- Peter Norman, Minister of Financial Markets and Johanna Lybeck, State Secretary, Finansdepartementet
- Anna Kinberg Batra and Thomas Östros, Chair respectively Vice Chair of the Committee on Finance, and Ingvar Matsson and Pär Elfvingsson, the Secretariat of the Committee on Finance at the Riksdag

Appendix 4

Terms of Reference for the Evaluation of the Riksbank's monetary policy and work with financial stability 2005-2010

Background

The Riksbank is an authority under the Riksdag (the Swedish Parliament) responsible for shaping Swedish monetary policy. Since 1999 the Riksbank has had autonomous status in relation to the Swedish Parliament and Government. Its autonomy is partly based on the fact that its decisions are to be taken by an Executive Board of six members who in accordance with the Riksbank Act (1988:1385) may neither seek nor accept instructions in matters of monetary policy. The Instrument of Government also states that no public authority may determine Riksbank decisions in matters relating to monetary policy.

The Riksbank Act states that the objective of the Riksbank's activities is to maintain price stability. It should also promote a safe and efficient system of payments. According to the preparatory materials to the Act, the primary aim of the Riksbank's monetary policy should be to achieve a low and stable rate of inflation. In addition the Riksbank should, without neglecting the objective of price stability, support the aims of general economic policy with the purpose of attaining sustainable economic growth and high levels of employment.

The Riksbank itself shapes the operative goals of monetary policy. In January 1993, two months after the Swedish krona began to float on the international currency markets, the General Council of the Riksbank decided that monetary policy should be conducted on the basis of an inflation target. The target is specified to keep inflation at or below 2%, measured as an annual percentage change in the Consumer Price Index (CPI). The target has a tolerance interval of ± 1 percentage point. Officially it came into force on 1 January 1995.

The Riksbank pursues a flexible inflation target policy. In brief this entails that at the same time as it steers monetary policy to meet the inflation target, the Riksbank also considers it important to stabilise developments in the real economy. On the occasion of each monetary policy decision the Executive Board assesses the repo rate and future interest rate path needed for an optimal monetary policy. In normal cases an optimal monetary policy means that the repo rate and interest rate path are set so that inflation is close to the inflation target of 2% in a perspective of one or two years at the same time as oscillations in inflation and the real economy remain moderate.

Besides the objective of maintaining price stability, the Riksbank Act requires the Riksbank to promote a safe and efficient system of payments. The

preparatory materials state that this is a fundamental task of the Riksbank but not in itself a goal for its activities. This section constitutes a shared portal to two relatively distinct areas of activity – the work of the Riksbank on the system of payments as such and its work on financial stability.

The first part of the remit concerns issuing banknotes and coins. In addition, the bank provides a system for large-scale payments between banks and other actors.

With regard to the work on financial stability neither the law nor the preparatory materials detail activities included in the task. In principle, however, it may be noted that in any society financial stability presupposes both smoothly functioning payments and an effective credit supply. The fundamental task of promoting a safe and effective system of payments therefore includes a responsibility to work for the stability of the financial system. The most concrete expression of this responsibility for stability in the Riksbank Act is the Riksbank's ability to provide credit on special conditions – i.e. to be a lender of last resort – to institutions with liquidity problems.

The Riksbank divides its work on financial stability into two parts – preventive work and crisis management (the Riksbank's Annual report for 2009). Preventive efforts comprise supervising the financial system, reporting on financial stability, influencing regulations and legislation, doing research on issues relating to financial stability, and influencing market actors and government agencies using its communication capability. Crisis management comprises maintaining an organisation well prepared to deal with disturbances in the financial system, carrying out crisis exercises, providing liquidity assistance, and taking steps to keep the financial markets working smoothly.

Each year since the Riksbank was granted autonomous status in 1999, the Committee on Finance has carried out its own evaluation of monetary policy. The evaluation considers monetary policy during the past three years. In 2006 the Committee on Finance carried out the first external and independent evaluation of Swedish monetary policy. This evaluation covered the period between 1995 and 2005 and was carried out jointly by professors Francesco Giavazzi and Frederic Mishkin. In the spring of 2007 the Committee on Finance decided to carry out an independent and external evaluation of monetary policy every four years.

Objective

The objective of the current evaluation is to examine the design of Swedish monetary policy and the results of monetary policy between 2005 and 2010 and to analyse what lessons may be learned in relation to monetary policy from the global financial crisis of recent years. The financial crisis has shown the importance of financial stability and also how closely monetary policy and financial stability are linked. The objective is therefore to scrutinise Riks-

bank activities aimed at promoting a safe and efficient system of payments and the results of work in that area. The evaluation also has the objective of gaining new scientifically based knowledge in the light of the financial crisis. The findings and the report are to be made available for general distribution.

Guidelines

Monetary policy 2005–2010

Meeting the inflation target and supporting Swedish economic development. The evaluators are to analyse the Riksbank's monetary policy to see if it has been optimal between 2005 and 2010.

The design of monetary policy. The Riksbank pursues a flexible inflation target policy. The evaluators are to examine the Riksbank's flexible inflation target policy design and the concrete significance it has had for the decision-making process with regard to monetary policy. The evaluators are also to examine how the bank's flexible inflation target policy has affected the feasibility of evaluating monetary policy.

The global financial crisis and monetary policy. The evaluators are to analyse the lessons that can be learned from the financial crisis from a monetary policy perspective. On the basis of the financial crisis the evaluators are to investigate whether the Riksbank has the instruments and tools required for pursuing an effective monetary policy. In this connection the evaluators are to analyse what possibilities a central bank has to set a zero or even a negative key interest rate and the effects this might have. The financial crisis has intensified discussion about if and how central banks should take asset prices and other economic variables into consideration within the framework of the formulation of monetary policy. In its monetary policy strategy the Riksbank states that it takes asset prices and other economic variables into consideration on an ongoing basis in its monetary policy decisions. The evaluators are to analyse the Riksbank's strategy in this area and discuss how asset prices, for example, have been handled and should be handled in monetary policy analysis and monetary policy decisions.

The Riksbank's forecasts and models. In their evaluation of monetary policy between 1995 and 2005 Giavazzi and Mishkin considered that the Riksbank should devote resources to analysing the development of the real economy, particularly productivity and the labour market. The evaluators are to examine the development of the Riksbank's activities in this area. Estimates of resource utilisation in the economy are an important variable in monetary policy analysis and in the evaluation of monetary policy. At the same time there are considerable theoretical and statistical problems involved in measuring and estimating resource utilisation. For this reason the evaluators are to examine the way the Riksbank estimates resource utilisation in the Swedish economy. The evaluators are also to examine how the Riksbank incorporates

financial developments into its analysis of developments in the manufacturing and business sectors of the economy.

The Riksbank's openness and transparency. In an international perspective the Riksbank is very open and clear regarding its activities. External communication is an important part of monetary policy strategy. The evaluators are to examine the Riksbank's communication with the general public and markets, and to consider if there are grounds for further increasing openness, transparency and clarity in any areas.

Promoting a safe and effective system of payments

The Riksbank's remit. The evaluators are to examine if the remit of promoting a safe and effective system of payments as expressed in the Riksbank Act is formulated in such a way as to ensure that the Riksbank can effectively work for financial stability. The evaluators are to discuss whether and if so how the Riksbank remit should be made clearer or be supplemented. In this connection the evaluators are to analyse the allocation of responsibility and functions and the feasibility of effective cooperation between the Riksbank and other authorities responsible for promoting financial stability. The Government also belongs to this group, as it will inevitably be involved in cooperative activities in the event of a financial crisis. The evaluators are to discuss these matters with all relevant agencies and organisations. The evaluators are also to analyse how the task of promoting a safe and effective system of payments relates to the monetary policy objective and other Riksbank tasks.

Instruments and competencies. The work of the Riksbank on financial stability is currently based on its capacity to act as lender of last resort to institutions with liquidity problems. In connection with the discussion on the formulation and content of the remit, the evaluators are to investigate whether the Riksbank has the instruments and competencies required to maintain financial stability.

Activities 2005–2010. The evaluators are to examine the Riksbank's efforts to promote a safe and efficient system of payments between 2005 and 2010. The emphasis is to be on analyses carried out and measures taken before and during the financial crisis.

Background materials and methodology. The evaluators are also to investigate whether the Riksbank has access to the statistical materials and the forecasting and analysis methodology needed to maintain financial stability. The evaluators should also compare the Riksbank's work in this area with the work of other central banks.

Communication. The evaluators are to evaluate the Riksbank's communication activities and transparency in the area of financial stability.

Broad guidelines

Proposals for changes. In their evaluation the evaluators are to make proposals for changes and improvements within the areas evaluated. If the evaluators find it appropriate, they are also to suggest amendments to the Riksbank Act or other relevant legislation. .

Methods. The evaluators are to examine evaluation methods in the area of financial stability and specify the methods they consider most applicable.

The structure of the report. Since the evaluation is to be made available for general distribution, the evaluators are expected to write the report in a comprehensible and well-structured manner.

Working methods and reports

The evaluation is to commence on 1 September 2010. The evaluators will have access to a half time research assistant stationed at the Committee on Finance at the Swedish Riksdag to assist the evaluators with any translations, information or background materials that may be required.

The evaluation is to be submitted in written and electronic form to the Riksdag Committee on Finance not later than 1 September 2011. The evaluation will subsequently be translated and then published in the form of a report for general distribution.

The evaluation is to be considered by the Committee on Finance and the Riksdag during 2011 and 2012. After delivery to the Committee on Finance the evaluators should be prepared to take part in press conferences on the evaluation, and to attend a public hearing on the design and results of the evaluation.

Appendix 5

Comparison of Central Banks financial stability related responsibilities⁶⁰

Central banks worldwide differ to a quite large extent with respect to the scope and nature of their functions, especially when it comes to financial stability related responsibilities. The Bank for International Settlements (BIS) recently published a report on central bank governance and financial stability which compare the roles and functions of central banks in the field of financial stability.⁶¹ The report, which builds on a comparison between 13 central banks⁶², shows that both financial stability mandates and the legal grounding for these mandates differ widely between countries, both in normal times and in crisis situations. The heat maps below, which are replicas of those presented in the BIS-report, provide an overview of the extent of financial stability related mandates of the central banks included in the study group. Note that the heat maps represent a snapshot in time for late 2009 and that they have not been updated since then.

⁶⁰ We thank Katarina Wagman for preparing this Appendix.

⁶¹ Ingves (May 2010), “Central bank governance and financial stability” study group under BIS

⁶² Japan (JP), Sweden (SE), Australia (AU), European Central Bank (ECB), United Kingdom (UK), Poland (PL), Chile (CL), Mexico (MX), United States (US), France (FR), Thailand (TH), Malaysia (MY) and the Philippines (PH)

Table 1: Current financial stability related mandates of central banks in normal times

		JP	SE	AU	ECB	UK	PL	CL	MX	US	FR	TH	MY	PH
Banks	Regulation making													
	Licensing													
	Supervision													
	Oversight													
	Suasion/Guidance													
	Macroprudential reg'r													
Payment Systems	Regulation making													
	Designation													
	Oversight													
Financial System	Oversight													
	Suasion/Guidance													
	MP with finstab objective													


Source: Ingves (May 2010)

Table 1 shows the strength of central banks' financial stability related mandates in normal times (darker shading represents stronger mandate). The only mandate held by all banks in the study group – although to different degrees – is the oversight of payment systems. Otherwise the picture is relatively mixed, with Central Bank of Malaysia at one extreme, having strong mandates in most of financial stability objectives, and Bank of Japan, the Riksbank and ECB at the other extreme, with relatively weak mandates in many of the areas. Notably no central bank in the study group has a clearly articulated financial stability objective. However all central banks use analytical frameworks that take financial market developments into account.

The legal grounding of financial stability related mandates is also relatively varied. In general, mandates concerning the financial system as a whole tend to have less legal grounding than the mandates related to banks and payment systems. Based on the surveyed group it seems that strong mandates tend to have strong legal grounding, e.g. in primary legislation, while weaker mandates have a weaker or more intermediate grounding, e.g. specified in extra statutory statements or based on tradition.

Table 2: Current financial stability related mandates of central banks in times of crisis

		JP	SE	AU	ECB	UK	PL	CL	MX	US	FR	TH	MY	PH
Banks	Conventional LoLR													
	Beyond LoLR support													
	Supervisory Interventions													
	SRR interventions													
Payment Systems	Financial support													
	Interventions													
Financial System	Unconventional MP													



None or very minor
Intermediate
Major or full

Source: Ingves (May 2010)

Table 2 shows central bank's financial stability related mandates in times of crisis. As noted in the BIS report, most central banks in the study group have full mandate over conventional lender of last resort support and the ability to conduct unconventional monetary policy. Central banks are often mandated to provide financial support beyond conventional lender of last resort operations; however a decision to do so often requires joint decision making with other competent authorities. For the rest of the functions, the picture is more varied. A notable observation in the BIS report is that central bank mandates to potentially support banks during crisis are much more widespread than supervisory responsibilities in normal times. This implies that central banks are expected to take actions to preserve financial stability irrespective of their degree of supervisory involvement. Another observation is that for central banks in the study group, crisis actions were usually mandated in law. For a more thorough analysis see "Central bank governance and financial stability" available at the BIS-website.