Assessing Financial Stability

A Comparison of Financial Stability Reports Published by Sveriges Riksbank and Bank of England in 2008

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Abstract

The recognition of financial stability as a central public policy objective has led to a growing number of central banks publishing Financial Stability Reports (FSRs). In this study, FSRs published by Bank of England and Sveriges Riksbank are assessed, compared and areas of potential improvement are identified. The main conclusions are that Bank of England shows more evidence of applying an integrated approach to financial stability, increasing the likelihood of identifying interdependencies and potential channels of contagion, while the Riksbank's reports offer more clarity and consistency over time. Moreover, Bank of England lets the FSR play a more proactive role in the work for financial stability. The thesis also discusses the usefulness of the methodological framework used for the comparison of reports. It is found that the framework does not sufficiently take into account varying levels of complexity of financial systems, nor changes in the economic environment. The main finding is therefore that the framework for assessment of FSRs, launched by International Monetary Fund senior economist Martin Cihák in 2006, suffers from several drawbacks.

Keywords: *Financial Stability, Central Banking, Bank of England, Riksbank*

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1 Introduction

All modern economies benefit from financial markets which are fair, efficient and, above all, stable. Financial sector development has brought considerable benefits by allowing increased access to finance, more efficient allocation of capital within and between countries, and greater diversification of risk. However, development also brings new risk factors as there is a growing need for market liquidity, markets move more rapidly and transparency decreases. The increasing interconnectedness of financial markets means that developments in one market can be quickly transmitted to other markets. The origin of the current financial crisis can be traced to the development of complex financial products, whose fair price and risks could not easily be established. These instruments spread quickly over the world, contributing to more risk taking, blowing up balance sheets and eroding stability. It is clear that financial markets present new and constantly evolving challenges for authorities in mitigating financial stability risks and protecting consumers.

Central banks continuously analyze changes and vulnerabilities in the financial system. A growing number of central banks publish the analyses in so called Financial Stability Reports (FSRs). These publications play a central role in enhancing transparency of the financial markets, encouraging an informed debate, and reaching consensus on stability measures.

In FSRs published prior to the crisis, many central banks pointed out single factors as potential threats to financial system stability. However, in general the warnings were too scattered and unspecific to attract even domestic, let alone collective, policy reaction. Moreover, the surveillance significantly underestimated the combined risk across sectors, and the importance of financial sector feedback and spillovers (IMF (2009)). In light of this fact, the question is raised whether or not FSRs are at all meaningful. Not very surprisingly most professionals argue that work in this area is just as important, if not more, as before (Nyberg (2008)). Yet there is a consensus on the need for improvement of the reports. The FSR is an important accountability instrument for central banks. It need to be recognized that the FSRs have not managed to fulfill their task of serving as an early warning system, and measures must to be taken to improve them. Otherwise, there is a risk that the confidence in the stability report, and the central bank, will be damaged. In order to prevent such a development, published reports must be assessed in search for areas of potential improvements.

Bank of England, Sveriges Riksbank (The Riksbank) and Norges Bank were the pioneers when it comes to publishing of FSRs. The first report was published by Bank of England in 1996, closely followed by the Riksbank and Norges Bank in 1997 (Oosterloo et al (2007)). Today all three central banks publish FSRs half-yearly. In this thesis I will compare the content of FSRs published by Bank of England and the Riksbank in order to identify relative strengths and weaknesses and hence areas of

potential improvement. I will analyze reports published in 2008 with the help of a number of criteria brought forward by Martin Cihák in a report written in co-operation with the International Monetary Fund (IMF).

The framework that will be used for the comparison was developed in June 2006. Since the financial crisis that started in mid-2007 has taught us several lessons on how financial instability can arise there is likely to be room for updates of the framework. To allow for a better analysis of the FSRs I will make some adjustments to the criteria which will be used for the comparison. However, simply updating the framework does not guarantee that it constitutes a good tool for assessment of FSRs. Based on the comparison, and the conclusions it leads to, the usefulness of Cihák's framework for assessing FSRs will be discussed.

The thesis is structured as follows: section two introduces the reader to the concept of an FSR; its common characteristics and why it is published. In section three, the methodology that will be used for comparing the FSRs is discussed. Cihák's framework is presented and adjustments are made. In section four, the adjusted framework is used to compare FSRs published by the Riksbank and Bank of England in 2008. Section five summarizes the conclusions and areas of improvements of the central banks' respective reports are suggested. Finally, section six discusses weaknesses of Cihák's framework for assessment of FSRs.

2 Theoretical Background

2.1 What is an FSR and Why is it Published?

In the last decades the frequency of financial crises arise has increased. Crises are very costly for the economy. Together with the growing number of financial transactions and complex instruments this has made many central banks focus more on financial sector stability and soundness (Cihák (2006)).

There are several ways in which a central bank may communicate financial stability policies to the general public. Publication of FSRs is one of many tools commonly used for this purpose. The first FSR was published by Bank of England in 1996 and consisted of a number of independent articles around the subject of financial stability. The publication was an outcome of a reflection on the bank's procedures and practices prompted by the failures of the Bank of Credit and Commerce International in 1991 and Barings Bank in 1995. The practice of the central bank to focus more on stability issues and publishing FSRs was adapted by the Riksbank and Norges Bank in 1997. Significant problems in the banking sector in the beginning of the 1990´s contributed to their decision (Oosterloo et al (2007)). These FSRs were the first to present assessments of financial stability and allowed for a systematic analysis of vulnerabilities and sources of risks to the financial system (Riksbanken (2007)). In the following years the publication of FSRs became an increasingly popular tool for achieving the goals laid out for the central banks. Today, around 50 countries and a number of larger international organizations, for example the IMF and ECB, publish FSRs on a regular basis (Riksbanken (2007)).[1]

An FSR is generally understood as holding a number of common characteristics and could roughly be defined as: *"..a regular, self-contained central bank publication that focuses on risks and exposures in the financial system"* (Cihák (2006)). The key elements of an FSR are as follows:

- The report should focus on risks and exposures within the financial system of the relevant country.
- The report should have a systemic coverage, focusing not on soundness of individual institutions but of financial systems.
- The report should be published by a central bank or, at a global level, an international organization like the IMF.
- An FSR should have a self-contained nature, that is, it should be a stand-alone document.
- The FSR should be published on a regular basis (Cihák (2006)).

[1] It is interesting to note that although various Federal Reserve Bank Bulletins discuss issues important for financial stability and several other federal agencies have responsibilities related to financial stability, no agency publishes FSRs for the USA.

While publishers' explicit aims with the FSRs vary, it is clear that the main reasons for publishing the assessment of financial stability are to assure the general public and economic agents that everything is well in the financial sector when this is the case, and to serve as an early warning system when problems appear at the horizon. This can in turn contribute to enhanced stability of the financial system, increased accountability of the financial stability function, and strengthened co-operation on financial stability issues between the various relevant authorities (Oosterloo et al (2004), Svensson (2003)).

3 Methodology

3.1 The "CCC" Framework

In the paper *How do central banks write on financial stability?* Martin Cihák, senior economics at the IMF, presents a so-called "CCC" framework for assessment of FSRs. The framework is inspired by three criteria for inflation reports used in a survey by Fracasso, Genberg, and Wyplosz (2003), namely, "clarity", "consistency" and "coverage". In order to allow for a more structured review Cihák divides the analysis of the FSR into five areas: aims, overall assessment, issues covered, the data assumptions and tools used, and other features such as the report's structure. Each of which should be assessed in terms of clarity, consistency and coverage. A short version of the "CCC" framework is presented in Table 1. In Appendix I the criteria are supplemented with clarifying sentences as in Cihák's report.

The "CCC" framework will be the base for my comparison of FSRs published by the Riksbank and Bank of England. Cihák developed the framework as a response to the limited guidance on how to assess FSRs offered by the generally accepted international standards and codes. I have chosen this framework since the set of criteria enables a systematic and consistent comparison of stability reports. However, the focus will not be on assessing reports individually based on Cihák's criteria. In order to limit the dependency on the framework, the extent to which the reports fulfill criteria will mainly be *compared*. This way, I hope to find areas of improvements of the two banks' reports which are feasible.

According to Cihák each criterion is preferable assessed on a four point scale. While this might be a useful approach when assessing several countries' FSRs individually, it is not relevant for the purpose of this paper where the reports are compared to each other.

3.2 Time Horizon

I have chosen to limit the comparison to reports published in 2008 since the point of interest is how to improve future FSRs. It seems reasonable that the central banks have already made adjustments to their financial stability assessment in light of lessons learnt in the financial crisis. It could also be of interest to investigate how the FSRs have improved over time by assessing a larger number of reports. However, this is out of the scope of this thesis.

Table 1. The "CCC" framework

	Clarity	Consistency	Coverage/Contents
A. Aims	A1. The definition of financial stability should be clearly indicated A2. The aims of the report should be clearly indicated.	A3. The definition of financial stability should be a standard part of the report, presented consistently across reports. A4. The statement of aims should be a standard part of the report, presented consistently across reports.	A5. The definition of financial stability should cover both the absence of crisis and resilience to crises. A6. Financial stability should be defined both in general terms and in operational terms. A7. The aims of the reports should be comprehensive.
B. Overall assessment	B1. The overall assessment should be presented clearly and in candid terms.	B2. The overall assessment should be linked to the remainder of the FSR. B3. There should be a clear link between the overall assessments over time, making it clear where the main changes took place.	B4. The overall assessment should cover the key topics.
C. Issues	C1. The report should clearly identify the main macro-relevant stability issues.	C2. The coverage of issues should be consistent across the reports.	C3. The coverage of the financial system should be sufficiently comprehensive.
D. Data, Assumptions, and Tools	D1. It should be clear what data are used to arrive at the results presented in the report. D2. It should be clear what assumptions are being used to arrive at the results presented in the report. D3. It should be clear what methodological tools are being used to arrive at the results presented in the report.	D4. The results should be presented in a consistent manner across the reports.	D5. The report should use available data, including those on individual institutions. D6. The report should use the available tools.
E. Structure and other features	E1. The structure of the report should be easy to follow. E2. Other features of the report – such as its length, frequency, timing, public availability, and links to other central bank reports – should be designed to support its clarity.	E3. The structure of the report should be consistent across time to make it easier to follow for repeat users. E4. The other features of the report should be designed to support its consistency.	E5. The structure of the report should allow covering the key issues. E6. The other features of the report should be designed to support its coverage.

3.3 Modification of the Framework in Light of Insights from the Crisis

The current financial crisis has resulted in a number of insights regarding risks within the financial system and how financial instability can arise. Although crises are unavoidable, we have to consider how the analysis of financial stability could be improved as we gain new insights from the current crisis. Cihák launched his framework for assessment of FSRs in June 2006, that is, well before the financial crisis broke out. Just as the work on financial stability must draw on new insights, the framework for assessment of FSRs must be updated to capture all important aspects of stability analysis. In this section I will list a number of important lessons acquired in the crisis. One should note that the intention is not to provide a comprehensive list. These are lessons commonly cited when discussing future work on financial stability which could preferably be addressed within the scope of the FSR.

I will discuss the lessons one by one and make adjustments to some of Cihák's criteria to better capture the new insights. Furthermore, some criteria are too vague to ensure comprehensive review of the reports. After having worked through the lessons and adjusted selected criteria accordingly (the sub-headings indicate which criteria are modified), a few additional adjustments and clarifications will be made to unsatisfactory criteria. The up-dated framework is presented in Appendix II.

3.3.1 Lessons to Address in the Framework

I. The new global financial landscape has dramatically increased the importance of markets for system stability and hence the risk of contagion. This entails a need to apply a greater international outlook when analyzing stability (Nyberg (2008), IMF (2009), Riksbanken (2007), Bank of England et al (2008)).

II. Increased importance of credit markets urges a greater focus on such (Nyberg (2008), IMF (2009), Riksbanken (2007), Bank of England et al (2008)).

III. Deposit-taking commercial banks are not the only institutions which can pose threats to financial stability. Consequently, analysis of banks' various counterparties is essential (Nyberg (2008), IMF (2009), Riksbanken (2007)).

IV. As banks have the primary responsibility for managing their own risks there is a need for strengthened risk management by banks including better stress testing and liquidity management (IMF (2009), Riksbanken (2007), Bank of England et al (2008), Dallara (2008), Financial Stability Forum (2008), Basel Committee on Banking Supervision (2008), IOSCO (2008)).

V. There is a need for greater international co-operation and harmonization (Nyberg (2008), IMF (2009), Riksbanken (2007), Bank of England et al (2008))

3.3.1 I: Greater International Outlook to Capture Risks of Contagion

3.3.1.1 Coverage of Issues (criterion C3)

An international trend among financial institutions is an increased market orientation. Traditional intermediaries, like banks, are becoming more and more dependent on financial markets for their earnings, financing and risk management as activities are diversified. The share of loans financed through deposits from the general public has decreased and instead banks borrow on the financial markets. Interest- and currency-risks that arise are dealt with on the derivatives markets (Riksbanken (2007)). At the same time, financial markets have become increasingly fast moving and international in scope (Bank of England et al (2008)). Internationalization and increased interconnectedness through a growing market orientation implies an enhanced risk of contagion and a requirement of a widened focus when assessing stability. Contagion incorporates the risk that problems in a financial institution may spread to other parts of the financial system, or several institutions may be affected simultaneously because they have similar risk exposures (Oosterloo et al (2007)). Internationalization implies that problems in one part of the world may spread to another part of the world. While this development has brought plenty of benefits it presents new and constantly evolving challenges for authorities in mitigating financial stability risks and protecting consumers (Bank of England et al (2008)). During recent months the financial crisis has spread over the world and few countries are spared. Globally interconnected markets have resulted in a situation in which financial institutions have been hit, even if not exposed to the institutions or assets at the core of the crisis (Nyberg (2008)).

Since risks increasingly apply across borders an FSR aiming at serving as an early warning system for market participants must address not just risks developing within the own country borders, but also developments among actors towards which banks are indirectly exposed as a result of interdependencies. Analyzing and understanding the interplay between institutions, markets and infrastructure and the potential contagion channels between them is a key factor for successful systemic risk analysis (Nyberg (2008)). Focusing the analysis too narrowly may result in the FSRs overlooking development of risks until these eventually knock at our front door. Consequently, a framework for assessment of FSRs must contain a criterion on an international scope of analysis as well as analysis of risk of contagion. Hence, these issues will be added to criterion C3 (see table 1) dealing with coverage of issues.

3.3.2 II: Increased Focus on Credit Markets

3.3.2.1 Coverage of Issues (C3)

As mentioned in the previous section the share of loans that banks finance through deposits from the general public has decreased and instead they borrow on the financial markets (Riksbanken (2007)). The banks' increased dependency on credit markets creates a need for an even closer supervision of these, since banks use them not only for their funding needs but also to manage risks (Nyberg (2008)). An important factor that contributed to the spread of the financial crisis was that so-called securitization had become a popular method for dealing with credit risk. Securitization means that parts of the loan portfolios are sold to risk hungry investors. At the same time part of the risk is kept within the bank, often this was the most volatile part. As a result banks became increasingly dependent on liquid markets for financing and risk management (Riksbanken (2007)).

While the market for securitization of mortgages has more or less evaporated (Riksbanken (2007)), evidence shows that credit markets' can have a huge impact on financial stability. This urges analysis of such markets when assessing the robustness of the financial system. Hence, adequate analysis of credit markets should be an explicit requirement of an FSR and will be added to the criterion on coverage of issues.

3.3.3 III: Widening the Analysis to Include Banks' Various Counterparties

3.3.3.1 Coverage of Issues (C3)

FSRs often focus the assessment on deposit-taking commercial banks. However, in the last year we have seen that a broad array of other financial institutions, such as investment banks, monolines (specialized bond insurers), and the banks' various kinds of special purpose vehicles can contribute to the buildup of imbalances. Furthermore, the non-financial sector should not be ignored as a potential source of risk. To adequately capture threats to stability, analytical focus is needed not only on commercial banks but also on their different counterparties, financial as well as non-financial (Nyberg (2008)). While this is pointed out in Cihák's report the author excludes the non-financial sector from the expanded criterion on coverage of issues. In order to ensure that potentially important areas of concern are not left out of the analysis non-financial institutions are included in the modified version of the criterion.

It should be noted that the widening of focus suggested in sections 3.3.1 – 3.3.3 could result in the FSRs requiring additional resources. While this is probably unavoidable to some extent, much information, especially on global issues, could be taken from the Global Financial Stability Reports published by the IMF. Furthermore, including a more comprehensive discussion on risks and exposures would require a longer report. While there is a trade-off between availability and depth of the report, accountability of the reports necessitates a widening of focus.

In line with the discussion above there is reason for complementing criterion C3 on coverage of issues with a clarification of what is required for the coverage of the financial system to be sufficiently comprehensive.

3.3.4 IV: Strengthened Risk Management by Banks

The current crisis has highlighted the need to strengthen the financial system stability and resilience. A considerable international consensus emphasizes the need for an improvement of risk management by banks, in particular better liquidity management, stress testing, and supervision (Bank of England et al (2008), Nyberg (2008)).

A key lesson from recent year's developments is that in times of stress, liquidity in financial markets can dry up very suddenly which may leave banks with little or no access to the money markets (Bank of England et al (2008)). The current crisis affected banks all over the world not primarily as a result of direct exposure to the US sub-prime mortgage sector (to which the origin of the crisis can be traced). Rather, it was the eradicated trust between market participants that resulted in a liquidity squeeze which drastically increased banks' financing costs (Riksbanken (2007), Rosenberg (2008)). Hence, recent events have brought into light severe deficiencies in firms' liquidity risk management, including identifying both on and off balance sheet liquidity risks, conducting sufficiently severe stress tests and maintaining adequate and fully operational contingency funding plans (Bank of England (2008), Issue 24). Not only is there a need for improved liquidity risk management, but focus is also needed on market and credit risk to ensure adequate management. As the banks prudential risk management procedures have proved to be inadequate, and the primary responsibility for managing risk must remain within individual financial firms and investors, the movement towards a more accountable risk management and assessment must be encouraged (Bank of England et al (2008)).

3.3.4.1 Coverage of Aims (A7)

The FSR could serve as one of the central bank's tools for encouraging and contributing to strengthened risk management within banks and other financial institutions. In addition to providing information that can be used as input into financial industry participants' own risk assessment procedures, the FSR could regularly assess institutions' risk management practices and provide information on new methods. Criterion A7 on coverage of aims is modified to capture these aspects.

3.3.4.2 Coverage of Issues (C3)

Since risk management among banks and other financial institutions is central for financial stability it should be addressed within the scope of financial stability analysis, or else there is a risk that an important factor is left out in the assessment. Consequently, the analysis of the banking system must include analysis of strategies for risk management by banks and review of these.

3.3.5 V: Greater International Co-operation and Harmonization

3.3.5.1 Coverage of Data, Assumptions, and Tools (D6)

Financial markets are becoming more and more international in scope and there is a growing need for international co-operation and harmonization in the regulatory as well as the analytical field. This would enable a more comprehensive global surveillance of financial stability and facilitate coordinated policy responses to instability (Nyberg (2008)). Since the analysis must broaden in scope it is important to further develop the exchange of information between authorities outside the own borders (Riksbanken (2007)). While the Financial Stability Forum and the IMF are responsible for enhancing their co-operation on assessment of financial stability on a global scale, the country specific FSRs should proactively strive towards contributing to a more comprehensive global surveillance and draw on relevant information and issues raised by foreign central banks and international organizations for the own assessment of financial stability. Criterion D6 on coverage of data, assumptions, and tools is complemented to better cover this issue.

3.3.6 Definition of Financial Stability

3.3.6.1 Definition of Crisis

A robust framework for assessment of FSRs requires comprehensive criteria on definition of the concept of financial stability. While the clarity and consistency criteria on definition of financial stability (criteria A1 and A3) should not pose any difficulties, the framework lacks a criterion on the informational content of the definition of financial stability covering the important aspects. Although the term financial stability has been used by central banks for over a decade, there is still no widely accepted definition of the concept (Allen et al (2006)). However, some basic requirements in order for financial stability to prevail can be identified.

In Cihák's criterion on definition of financial stability (criterion A5, see table 1) absence and resilience to crises is required. However, what is meant by a *crisis* is not clarified. If the presence, or absence, of financial stability is based on the presence or absence of a crisis, the definition of financial stability is bound to be vague unless this term is clarified. An example of a working definition is "*the occurrence of severely impaired ability of banks to perform their intermediary role."* Restriction to a few banks constitutes a localized crisis whereas collapse of the banking system constitutes a systemic crisis (Davis et al (2008)).

3.3.6.2 Asset Price Bubbles

A common ingredient in a financial crisis is the build-up of asset price bubbles fueled by increased leverage. This can be recognized in the current crisis, as well as the Nordic and Asian crises in the 1990´s. Rapid credit expansion incurs higher asset prices, which in turn provide the collateral for even more lending. Higher asset prices also tend to affect both the perception of risk and the appetite for

risk, on the side of both lenders and borrowers. As a result, leverage increases even if the general quality of credits deteriorates (White (2008)).

While asset price bubbles are difficult to identify, developments like increasing house prices and household debt in excess of increase in households' disposable income is unsustainable in the long term and a warning sign should be raised (Riksbanken (2007)).[2] Cihák includes the concept of asset price bubbles as an optional part of the definition of financial stability. However, the historically central role of asset price bubbles in financial crises urges an enhanced focus on this issue. Defining financial stability only in terms of financial crises might induce too narrow a focus and overlooking of important vulnerabilities (Cihák (2006)). Criterion A5 on definition of financial stability is adjusted to capture the issues discussed above.

3.3.7 Consistency of Data, Assumptions, and Tools

3.3.7.1 Consistency of Data, Assumptions, and Tools (D4)

Consistency of data, assumptions, and tools used in the reports is important as it will facilitate comparisons over time. However, this should not be mixed up with consistency in structure (criterion E3). To better suit the framework criterion D4 on consistency of data, assumptions, and tools must be modified.

3.3.8 Summary of Modified criteria

In this section I present the new versions of the criteria which have been subject for modification in line with the discussions above.

A5. ***The definition of financial stability should cover both the absence of crisis and resilience to crises, as well as a clarification of the notion of a crisis.*** *Also, the definition of financial stability should cover the absence of asset price bubbles, followed by a clarification of the term asset price bubble. The definition may cover also other issues if it does not hamper the clarity of the definition.*

A7. ***The aims of the report should be comprehensive.*** *Ideally, the aims should include (i) informing stakeholders of potential financial stability risks and ways to mitigate them; (ii) encouraging informed debate on financial stability issues; (iii) serving as an accountability instrument; (iv) encouraging and contributing to strengthened risk management by banks – such as better stress testing and liquidity management. This should be done by helping to provide information that major participants in the financial industry may use as part of the input into their own risk*

[2] However, as central banks are not especially good judges of whether there is an asset price bubble or not monetary policy should not respond to rapid increase in house prices and borrowing unless the central bank's forecasts indicate that it will lead to problems, such as overheating and excessively high inflation (Cihák (2006)).

assessment procedures; provide information on new methods for risk assessment and regularly assess institutions' risk management procedures.

C3. ***The coverage of the financial system should be sufficiently comprehensive.*** *The banking system, including inter-bank credit markets and risk management should be covered in greatest depth. Non-bank financial system, payment infrastructure and non-financial sector issues should also be covered. The report should give sufficient room for analysis of potential threats to stability to which the financial system of the country in question is not directly exposed, but which may, through interconnectedness or contagion effects, spread to the own region. When some issues are not covered, the lack of coverage should be indicated and justified.*

D4. ***Data, assumptions, and tools used should be consistent across reports.*** *In particular, assumptions of stress tests should be consistent in time. Also, the time horizon over which the report carries out the analysis should be standardized.*

D6. ***The report should use the available tools.*** *The report should combine available quantitative tools (e.g., soundness indicators, stress tests, market-based indicators, early warning system results) and qualitative tools (e.g., information on the regulatory framework, qualitative supervisory information, reviews of market participants). The report should draw on relevant information published by other central banks or international organizations.*

4 Comparison of the FSRs

In this section I will compare the FSRs published by the Riksbank and Bank of England in 2008, more specifically the Riksbank's June and November reports, and Bank of England's April and October issues. I will systematically work through all 26 criteria of the up-dated framework. However, in this text I will only address criteria which are not met in a satisfactory manner and compare relevant content of the two central banks´ reports.

4.1 Aims

4.1.1 Clarity of Definition of Financial Stability

A1: ***The definition of financial stability should be clearly indicated***

Financial stability is a complex concept not easily defined (Rosenberg (2008), Cihák (2006)). Yet, in order to determine the scope of the financial stability analysis and hence the resource allocation, facilitate analytical modeling, motivate the publication of stability reports and guide the authors as well as the readers, a clear definition of financial stability is crucial (Norges Bank (2003)).

In the foreword of the Riksbank's FSR the responsibilities of the bank and its role in ensuring financial stability are clarified. While a vague notion of the Riksbank's view of financial stability can be traced in this section, clarity of the definition of the concept so central for the report could be enhanced by the provision of an explicit definition, perhaps separated from the rest of the text.

Bank of England makes no obvious attempt at defining financial stability or instability. While a number of symptoms of the current crisis are listed in the overview section of the October issue, these do not jointly offer a comprehensive definition of financial stability.

4.1.2 Coverage of Definition of Financial Stability (I)

A5: ***The definition of financial stability should cover both the absence of crisis and resilience to crises, as well as a clarification of the notion of a crisis***. *Also, the definition of financial stability should cover the absence of asset price bubbles, followed by a clarification of the term asset price bubble. The definition may cover also other issues if it does not hamper the clarity of the definition.*

Among the Riksbank's objectives with publishing the FSR is that of identifying risks and threats to the financial system which could lead to a crisis, and evaluate the resilience to such. On the inside cover of the FSR, Bank of England points out helping managing and resolving financial crises as one of the tasks for the purpose of ensuring financial stability. While it is emphasized in the report that Bank of

England aims at assessing and mitigating risks to the financial system it is not made explicit that resilience to crises is necessary for financial stability.

None of the banks provides a clarification on the definition of a crisis. Furthermore, the concept of asset price bubbles is not mentioned within the scope of the definition of financial stability.

4.1.3 Coverage of Definition of Financial Stability (II)

A6: ***Financial stability should be defined both in general terms and operational terms.***

An operational definition of financial stability could be a useful way of clarifying policy makers concerns and the framework underlying the assessment. According to Bårdsen et al (2006), only operational definitions of financial stability are useful for policy analysis, that is, crisis prevention and management. As financial stability is a complex concept it is not realistic to expect that it can be boiled down to a single indicator and a single target range to serve as operational indicator. Nonetheless, a set of basic indicators and "thresholds" that are a source of concern might be identified. These could jointly guide the work on financial stability, and serve as indicators of the health of the financial system as well as tools for assessing the performance of the central bank (Cihák (2006)).

Once a clear operational definition has been chosen, so-called Early Warning Systems (EWSs) could be used to estimate the relative risk of a crisis (based on the crisis definition). Most EWS models use explanatory variables which mainly capture macroeconomic factors that could generate risks particular to banking systems, such as interest rate, credit, liquidity and market risk. By estimating these, the relative risk of bank runs and bank failures could be extracted, comparisons could be made of forecasts at different points in time and across different countries, and policy action that could head off the potential crisis or limit its effects could be facilitated. At the first level an EWS could enable the authorities to warn financial market participants of potential risks in speeches and FSRs (Davis et al (2008)).

There is an extensive amount of literature on prediction of banking crises by using EWSs.[3] Despite this the practical usage by policy makers is limited. The IMF uses an EWS to monitor currency crises but has no explicit EWS for banking crises (Davis et al (2008)). While Bank of England's and the Riksbank's general definitions of financial stability do not meet the requirements, vague such definitions can be extracted from the text. When it comes to defining financial stability in operational terms, no attempts are made.

[3] For further information on EWSs see: Davis et al (2008).

4.1.4 Coverage of Aims

A7: ***The aims of the report should be comprehensive.*** *Ideally, the aims should include (i) informing stakeholders of potential financial stability risks and ways to mitigate them; (ii) encouraging informed debate on financial stability issues; (iii) serving as an accountability instrument; (iv) encouraging and contributing to strengthened risk management by banks – such as better stress testing and liquidity management. This should be done by helping to provide information that major participants in the financial industry may use as part of the input into their own risk assessment procedures; provide information on new methods for risk assessment; and regularly assess institutions' risk management procedures.*

The Riksbank's aims with publishing the FSR are presented in the foreword and are as follows (English translation):

"A continuous analysis of the stability enables early discovery of changes and vulnerabilities which may jointly cause a severe crisis. In addition, a thorough analysis facilitates the management in case a crisis would occur. In the report Finansiell Stabilitet, which is published half-yearly, the Riksbank makes an aggregate assessment of risks and threats to the financial system, and estimates the resilience towards such. Hence, the work with the stability analysis is a tool, directly linked to the Riksbank's task of contributing to a safe and efficient payment system. By spreading the analysis to actors on the financial markets and to other people interested in such information, we may share our analysis and contribute to the debate on the subject" (Riksbanken (2008.1, 2008.2)).

Bank of England presents the following aims with publishing the report:

"The Financial Stability Report aims to identify the major downside risks to the UK financial system and thereby to help financial firms, authorities overseas and the wider public manage and prepare for these risks." (Bank of England (2008) issue 23 & 24).

Private agents lack sufficiently strong incentives to fully address systemic risks that have been identified since they cannot expect to capture all the benefits themselves (Cihák (2006)). Promotion of measures to change private agents' incentives or restrictions on private sector behavior is required to prevent excessive risk taking. Hence, an important objective for a body with a general financial stability responsibility is to identify possible risks and the ways to *mitigate* them. The *publication* aspect of promoting an informed debate so as to reach a consensus on the need o take the identified mitigation measures is subordinate to this first goal (Allen et al (2004)).

It is clear from the section cited above that the Riksbank's FSR aims at informing about risks to financial stability and encouraging an informed debate on the subject. Informing of ways to mitigate risks is not mentioned as an aim of the FSR. Furthermore, the Riksbank does not address point (iv) on

strengthened risk management by banks and other financial institutions. While information that may serve as input into market participants' risk management is indeed provided in the FSR and the file of data underlying the graphs (which comes with the FSR), contributing to strengthened risk management is not an explicit aim of the report.

Bank of England's list of aims include informing on potential stability risks, encouraging an informed debate on these risks and encouraging and contributing to strengthened risk management. The short section describing aims of the FSR does not mention informing of measures for risk mitigation. However, as it is pointed out on the inside of the front page cover that Bank of England aims at bringing its expertise in economic analysis to the mitigation of risks, the standard report includes a chapter on this, and it is covered also in the last FSR (which does not follow the standard outline), one can conclude that informing of ways to mitigate risks is indeed an aim of the report.

Finally, none of the banks links the publication of the FSR to the accountability process of the central banks. This point of the criterion reflects the belief that there should be an explicit acknowledgement that the FSR serves as an accountability instrument (Allen et al (2004), Cihák (2006)). Hence, although this is not made explicit the FSR will likewise have this function.

4.1.5 Summary of Finding on Aims

The Riksbank as well as Bank of England provides consistent yet insufficient information on aims and definition of financial stability. Both banks could improve on clarity of the purpose of publishing FSRs. It should be made explicit that the reports serve as accountability instruments, as this is an important and natural role of an FSR.

While the Riksbank's report mainly aims at identifying risks and encouraging an informed debate, Bank of England has a more ambitious approach. Provision of information on ways to mitigate risks is incorporated as aims of the FSR, as well as encouragement of and contribution to strengthened risk management by banks and other financial institutions.

4.2 Overall Assessment

4.2.1 Clarity of Overall Assessment

B1. ***The overall assessment should be presented clearly and in candid terms.*** *The whole report, and especially the assessment, should be clearly written. The main findings should be highlighted. The reader should not be required to "read between the lines".*

In each of the Riksbank's reports the overall assessment begins with one sentence summarizing the Banks' overall view on the level of stability of the financial system. Next, the Riksbank discusses key developments since the last stability report and how these have affected mainly banks but also other

financial institutions. A few hints are given on where measures have to be undertaken to turn negative trends, the most important risks are listed and, finally, results from selected stress tests are presented briefly.

Bank of England does not provide consistent overall assessments. The April issue starts off by discussing key developments during the period. The main areas of vulnerabilities are listed as well as measures for restoring financial stability. This is followed by a *Conclusion* summarizing the developments and suggesting a most likely path ahead. The October issue does not contain an overall assessment chapter. Instead it provides a one-page *Executive Summary* offering a short outline of developments since the last report, a brief notice on areas where measures have to be taken to support stability, and a short future outlook. Since the October issue has a completely different structure compared to earlier reports the April issue is compared to the second report published in 2007. This issue contains an overall assessment covering conceptually the same topics as the April 2008 issue but in a different order. The overall assessment begins with a description of key developments, continuing to lessons learnt in the crisis, prospects for UK financial stability and, finally, vulnerabilities that may obstruct recovery.

Albeit simplifying, the one-sentence conclusion on the Riksbank's view on financial stability allows for an immediate grasp of the relative level of stability or instability at the time, according to the bank. The UK central bank does not offer anything akin. As for the rest of the overall assessments of the reports, clarity varies. The Riksbank is consistent in the structure of the overall assessments and presents a somewhat more instructive list of risks facing the financial system (with arrows indicating the relative risk compare to these prevailing at the time of the publication of the previous FSR). Bank of England, on the other hand, presents much more comprehensive lists of measures for risk mitigation.

Bank of England has a more detail-oriented approach in the overall assessment and digs deeper into the causes of developments compared to the Riksbank. This approach helps the reader better understand roots of, and links between, events. A drawback is that the purpose of an overall assessment is partly lost as it becomes less available when the chapter gets longer and more technically advanced.

4.2.2 Summary of Findings on Overall Assessment

The Riksbank provides a clear overall assessment which is consistent across reports. While Bank of England's more detail-oriented approach might be more instructive when it comes to understanding developments, the purpose of an overall assessment in somewhat lost.

4.3 Issues

4.3.1 Clarity of Issues

C1: ***The report should clearly identify the main macro-relevant stability issues****. The report should distinguish issues that have a wider systemic impact. Those issues should be covered in the overall assessment and analyzed in some depth.*

In both reports, the Riksbank provides a summary of the main risks facing the Swedish financial system supplemented by an indication of how the level of each risk has developed since the last stability report. Bank of England provides a similar summary of risks facing the UK financial system in the report published in April, albeit without the indication of the relative level of the risk. The October report, on the other hand, lacks a summary of risks, although vulnerabilities are discussed one-by-one as they fit into the outline of the report.

It is not unlikely that the turbulence on the financial markets in the second half of 2008 induced difficulties in identifying demarcated risks the way possible in times of a more stable economic environment. Indeed, the risks presented in the Riksbank's November report are of a much more general nature, compared to the ones listed in the previous report. Taking this into account, the *value-added*, in terms of clarity of which are the main macro-relevant stability issues, by listing specific vulnerabilities might be limited. Still, the reasoning behind Bank of England's decision not to provide a list of vulnerabilities, as done in previous reports, should be explained.

4.3.2 Consistency of Issues

C2. ***The coverage of issues should be consistent across the reports.*** *When an issue is identified in one report, the next report should follow up on the issue, or at least indicate why the issue is not covered this time.*

There are several issues which the Riksbank fails to follow up on. Three of these are outlined below.

In the June issue the Riksbank points out that threats to financial stability may be generated by institutions outside the banking system. Hedge funds are used as an example since these had been severely hurt by banks' strengthened collateral requirements for loans. Several hedge funds were forced to sell assets in order to meet banks' demands and further downward pressure was put on asset prices. The Riksbank fail to follow up on this issue in the November report. In fact hedge funds are not mentioned at all in the main report, although in Q3 2008 hedge funds had one of their worst quarters ever, leading to an increased number of redemptions and hence downward pressure on asset prices.

In June 2008 commodity prices were at record highs. In the Riksbank's FSR it is emphasized that as commodities represent a growing share of investors' total holdings, price variations in these assets are

of increasing importance for financial stability. Despite this, and the collapse of the WTI crude oil price during the fall from almost $150/gallon in July to below $70/gallon in October, commodities are not mentioned in the November issue.

Yet another issue which the Riksbank fails to follow up on is the development of the TED-spread. In the June issue it is pointed out that the TED-spread, that is, the spread between the three month interbank rate and the equivalent T-bill, was three times the normal level in the US and Europe. In the November report the continuation of the same phenomenon is discussed, but now in terms of *basis-spread,* which is the difference between the three month interbank rate and *expected repo rate.* Clarity would benefit from consistency in usage of market indicators across reports. While it would be appropriate to mention the basis spread in the November report if it had proven to be an important indicator, the development of the TED-spread should be touched upon in the report as it was brought up several times in the previous issue.

When looking at the reports published in 2008 Bank of England performs better compare to the Riksbank when it comes to following up on issues. However, the Bank of England also fails to follow up on (at least) one issue: monolines. The development among so called monolines is a central issue in the April issue of Bank of England's FSR. Heightened concern about these had reduced the value of the insurance they provide on municipal bonds and structured credit products. While the financial system had so far been fairly resilient to monoline rating downgrades, a warning finger is raised that the extent and complexity of exposures to monolines created the possibility that further monoline downgrades could exacerbate broader stress across several markets and classes of investor and aggravate the fragilities of banks' balance sheets. In the report published six months later monolines are not mentioned once.

4.3.3 Coverage of Issues

C3. ***The coverage of the financial system should be sufficiently comprehensive.*** *The banking system, including inter-bank credit markets and risk management should be covered in greatest depth. The banking system's different counterparties, nonbank financial system, payment infrastructure and non-financial sector issues should also be covered. The report should give sufficient room for analysis of potential threats to stability to which the financial system of the country in question is not directly exposed, but which may, through interconnectedness or contagion effects, spread to the own region. When some issues are not covered, the lack of coverage should be indicated and justified.*

Carrying out a full-fledged assessment of criterion C3 would require an extensive knowledge on the financial systems of the relevant countries and potential threats to financial stability present at the time

the reports under assessment were published. Despite a lack of such extensive expertise a number of remarks may be made on the coverage of financial systems.

4.3.3.1 Sectors Covered

The Riksbank's stability report is divided into four chapters of analysis. The areas covered are; financial markets, the Swedish banks' borrowers (constituting of households and companies), the Swedish four major banks and the financial infrastructure. Smaller banks are not covered and the only non-bank financial institutions assessed are real estate companies. There is an international trend among FSRs towards a more comprehensive coverage of issues and institutions (Cihák (2006)). The Riksbank argues in favor of its focus on the four big banks using the fact that these are the most important institutions for Swedish financial stability as they stand for approximately 75% of the borrowing and lending to the Swedish general public. The argumentation in favor of the decision to focus solely on the major four banks is however unconvincing. In a box discussing provisions of liquidity support to the two banks Kaupthing Bank Sverige AB and Carnegie Investment Bank AB the Riksbank argues that in the absence of support, suspension of payments within one of these banks could have resulted in a serious distraction in the financial system and undermined faith in the payment system (Riksbanken (2008.2)). In light of last months' development on the financial markets, amplified by the Riksbank's own words of the potential effects of a default within a financial institution outside the four major banks, it is difficult to understand the lack of regular assessment of the development within other financial institutions than major banks. This could for example be smaller banks, insurance companies, pension funds, hedge funds, or securities intermediaries.[4]

Bank of England does not use as narrow a focus as the Riksbank when assessing the financial system. In addition to major UK banks, large international banks, hedge funds, insurance companies, securities intermediaries and real estate companies are integrated in the analysis. Bank of England does not discuss developments within the financial infrastructure in a systemic manner in the report. Instead, it publishes a separate Payment Systems Oversight Report once a year summarizing developments within the UK payment infrastructure over the past year (Bank of England (2007)).

4.3.3.2 Risk Mitigation

Neither the Riksbank, nor Bank of England mentions the provision of information on possible measures for risk mitigation as one of the aims with publishing the FSR. Still, as discussed in section 4.1.4, Bank of England includes a chapter on this in the standard report as well as in the non-standardized October issue. Both recommended but not compulsory measures and legislative ones are included.

[4] While hedge funds are discussed in some detail in the June issue, hedge funds are not mentioned in the standard report published in November.

The Riksbank does not suggest measures for risk mitigation on a regular basis. The debate on a new regulation on liquidity is covered in an article in the June issue and the November issue mentions that transparency about which banks have problems must increase and some financial actors must adjust their financing situations to better suit current circumstances. Apart from this the Riksbank focuses on describing measures already taken by international and Swedish authorities to combat the crisis.

4.3.3.3 Risk Management

The Riksbank's analysis of potential improvements in firms' risk management focuses on regulatory changes to better deal with liquidity risks. While limitations of the management of other kinds of risks are touched upon in the reports, this is done without explicitly requesting improved practices for managing these risks (Riksbank (2008.2)). Indeed, deficiencies in firms' practices of dealing with liquidity risks are what have been given most focus in the crisis. However, there is an international consensus about the need for improved market and credit risk management in addition to liquidity risk management (Bank of England, et al (2008), Senior Supervisory Group (2008)).

Weaknesses in banks' and other financial institutions' risk management procedures is a central subject in Bank of England's FSRs. A wider focus is applied when discussing how banks and other financial institutions could improve risk management, incorporating not just liquidity risk but also market risk and counterparty (credit) risk. Drawbacks of commonly used valuation models and models for managing risks are brought forward and the need for improved governance and management of risks is highlighted. Aspects of good firm-wide risk management practices identified by the Senior Supervisors Group[5] are presented as well as potential changes in the regulatory framework.

4.3.4 Summary of Findings on Issues

The Riksbank provides a more consistent and clear presentation of risks facing the financial system. However, Bank of England is somewhat better at following up on issues. Bank of England assesses a wider range of sub-sectors within the financial system. This could be partly justified by the higher level of complexity of the UK financial system compare to the Swedish. However, in line with the Riksbank's own elucidation of the potentially significant negative effect on stability resulting from unfavorable developments in smaller banks, there is reason to question the extent to which the Riksbank focuses on the four major Swedish banks.

Identification of measures for mitigating risks is a standard part of Bank of England's FSR. The Riksbank does not cover the subject on a regular basis in the reports. Regarding the encouragement of, and contribution to, strengthened risk management by banks Bank of England offers more extensive

[5] The Senior Supervisory Group consists of seven supervisory agencies, namely; French Banking Commission, the German Federal Financial Supervisory Authority, the Swiss Federal Banking Commission, the U.K. Financial Services Authority, and, in the United States, the Office of the Comptroller of the Currency, the Securities and Exchange Commission, and the Federal Reserve (Senior Supervisory Group (2008)).

guidance. The Riksbank discusses improvements in regulations on liquidity risk management by banks and other financial institutions. Bank of England uses a wider focus when discussing improvements in risk management practices, incorporating not just liquidity risk but also market risk and counterparty (credit) risk, and discusses both regulatory changes and practices recommended for banks and other financial institutions to adapt voluntarily.

4.4 Data, Assumptions, and Tools

4.4.1 Clarity of Data, Assumptions, and Tools

4.4.1.1 Data

D1. ***It should be clear what data are used to arrive at the results presented in the report.*** *A cut-off date for the report should be mentioned, ideally on the inside cover page. The underlying data should be made available (with the possible exception of the individual institution data that are subject to confidentiality restrictions), ideally in a supplementary electronic file. When the report presents data in charts and tables, there should be a clear link between the text on one hand and the charts and tables on the other hand.*

Both the Riksbank and Bank of England post documents on their websites containing the underlying data of the charts and tables in the reports. The Riksbank includes data for all charts and tables, while Bank of England excludes some information because of lack of permission for publication. In the April issue, data is only missing for five out of sixty five graphs and tables. However, in the October issue, data for as much as twenty two out of sixty three graphs and tables lack permission for publication. This is problematic as it limits transparency of the reports and the ability for the reader to scrutinize findings.

4.4.1.2 Assumptions

D2. ***It should be clear what assumptions are being used to arrive at the results presented in the report.*** *The assumptions should be justified.*

Both Bank of England and the Riksbank use stress tests as one of the tools for arriving at the results presented in the reports. Since the outcome of the tests is dependent on the assumptions made, these should be clarified.

Bank of England does not provide much information on the tests performed. In the October issue no information on stress tests is given. In the April issue a chart shows likelihood and impact on key sources of tail risk estimated by using stress tests. However, the data underlying the chart is not included in the data file that comes with the FSR and no information is given on assumptions used.

The Riksbank performs various stress tests for which assumptions and method used are clarified. Tests are consistent across reports and the outcome is compared to those of previous reports.

4.4.2 Coverage

D6. ***The report should use the available tools.*** *The report should combine available quantitative tools (e.g., soundness indicators, stress tests, market-based indicators, early warning system results) and qualitative tools (e.g., information on the regulatory framework, qualitative supervisory information, reviews of market participants). The report should draw on relevant information published by other central banks or international organizations.*

4.4.2.1 Stress Testing

Innovation and integration have dispersed risks more broadly through credit risk transfer and increased participation in capital markets. The result has been a lower level of concentration of credit risk which may have strengthened the financial system's ability to withstand small to medium shocks. At the same time, if a shock is sufficiently large strengthened ties between financial firms may act as a conduit for transmitting rather than absorbing risk. In these times improving the capability to model the financial system under stress should be a top priority for central banks (Jenkinson (2007)). If run regularly under the same assumptions, stress tests allow the reader to see changes over time in the overall pool of risks and in the structure of risks faced by the financial system (Cihák (2006)). A traditional macro-stress test is built on a macroeconomic scenario and statistical estimates of the impact of adverse economic conditions on credit and market exposures.[6] By mapping important propagation channels an estimate of likely financial sector credit losses is produced. Expected losses are compared to the banks' buffers and a picture is painted of the stress scenario's impact on the banking system. While the approach has a number of strengths[7] it also suffers from some major limitations when it comes to assessment of contagion and liquidity (Jenkinson (2007)).

As mentioned above, both the Riksbank and Bank of England use stress testing in their assessments. In its most recent report the Riksbank introduces a first macroeconomic scenario. The approach is traditional which means that only market and credit risk are taken into account in the test. Liquidity is only indirectly accounted for through the effect it has on banks' earnings and financing costs and contagion is not included at all in the model. One advantage with the Riksbank's stress testing is the consistency in scenarios, facilitating comparisons over time. However, development of a more coherent and consistent framework for stress testing including analysis of contagion and liquidity is a difficult but important challenge facing central banks, including the Riksbank.

[6] For information of the common characteristics of traditional macro-stress tests see: Jenkinson (2007).
[7] E.g.: a fully consistent macroeconomic scenario is presented; it draws on statistical estimates of impacts on credit and market exposures; it indicates which channels of transmission of economic shocks are the most important and; the approach allows for comparison with bottom-up stress tests calculated by individual firms which are less focused on capturing macroeconomic and financial sector feed-backs (Jenkinson (2007))

In the April issue Bank of England emphasizes the importance of stress tests as one of many different sources on which the bank bases its assessment of risks. Although it can be assumed that stress testing have been used also in the October issue, this remains unclear. Moreover, while the bank stresses the importance of enhanced disclosure of results of stress tests among firms (Bank of England (2008), issue 24), very limited information is provided on methods, assumptions, and results of Bank of England's own testing. Hence, it is very difficult, if not impossible, to evaluate the usage of this assessment tool. The report would benefit from more transparency of tools used for arriving at the results presented in the report as this would allow for scrutiny by the reader.

4.4.2.2 Financial Stability Indicators

In 2003, in an effort to improve quality and cross-country comparability of data, IMF developed a set of financial soundness indicators (FSIs) which they encourage member countries to compile on a regular basis. The indicators are divided into two sets. The so-called core set includes statistics on the health and performance of the deposit-taking sector. The second set includes additional statistics on deposit-taking institutions as well as statistics relating to the household and corporate sectors, real estate markets and non-bank financial institutions. The IMF is currently undertaking preparatory work towards the regular collection and dissemination of FSIs and the creation of a publicly available FSI database. The importance of FSIs for the work on financial stability issues is frequently underscored by the IMF. Yet, it is pointed out that financial stability analysis should not rely solely on the stability indicators. Also relevant are; indicators that provide a broader picture of the economic and financial circumstances, such as assets prices, GDP growth, inflation and credit growth; the institutional and regulatory framework; the outcome of stress tests; and the structure of the financial system and the strength of the financial infrastructure (IMF (2008)).

Cihák (2006) suggests that FSIs should be compiled and presented, if not in the core FSR, then in an appendix or a separate file posted on the website of the central bank. This would allow for cross-country comparison of data (Cihák (2006)). Oosterloo et al (2007), argues that the set of FSIs constitute a coherent framework for analyzing the content of FSRs. In a paper published in the *Journal of Financial Stability* the authors conclude that the content of FSRs differs widely. This conclusion is based on a comparison of the inclusion of FSIs in 37 countries' FSRs. The report continues by examining if there is any relationship between the number of FSIs published (reflecting *degree of transparency* according to the authors) and the soundness of the financial system.

As described above, the FSIs were developed to be compiled and disseminated in a publicly available database for the purpose of cross-country comparison of data. It is emphasized that the FSIs should not solely be relied upon in stability analysis. Consequently, it is highly questionable whether the indicators alone can be the basis for a discussion on the informational content of FSRs. In addition, it is not beyond doubt that recent developments have shed new light on which indicators are the most

relevant for financial stability assessment. While most likely not sufficient for comparing the full informational content of FSRs, since the importance of FSIs is emphasized in the literature it could be of interest to investigate to what extent the FSIs are presented in the relevant FSRs. Appendix III shows the FSIs and points out which indicators are presented in the Riksbank's and Bank of England's stability reports published in 2008. Table 2 below shows a short summary of the results. It appears that while the Riksbank is fairly consistent in FSIs covered, Bank of England is less consistent. The coverage of indicators is low for both banks and varies from 21% to 29% for the Riksbank and 18% to 21% for Bank of England. One can conclude that none of the banks regards the FSIs as central indicators of financial stability, since other indicators have been given priority in the reports. While Cihák has a point when arguing for publication of the full list of FSIs for the purpose of internationally comparable data, once the IMF's database is installed individual publication will be redundant. The conclusion is that while there is currently a lack of internationally comparable data, this does not necessarily imply that the FSRs should start publishing the full list of FSIs.

Table 2. FSIs in FSRs

FSR	Number of FSIs included in report	As % of total
Bank of England, Issue 23	8	21
Bank of England, Issue 24	7	18
The Riksbank, 2008.1	8	21
The Riksbank, 2008.2	11	29

4.4.2.3 International Comparison

Both the Riksbank and Bank of England provide limited information on foreign bank key health indicators, such as profitability, income and cost ratios. The Riksbank mainly covers the four Swedish banks while Bank of England focuses on major UK banks and so-called "LCFIs" (large complex financial institutions). According to Gropp et al (2009) banks' profits are converging as a result of integration. This pattern is particularly clear on the US banking market but also among European banks are profits becoming more similar. When analyzing strategic risks for banks a wider international comparison of key indicators could therefore give a hint of longer-term prospects for banks' profitability.

4.4.2 Summary of Findings on Data, Assumptions, and Tools

The Riksbank offers more clarity on what data and assumptions are used to arrive at the results presented in the reports. None of the banks regards FSIs as key indicators of financial sector stability. Both banks could benefit from enhancing the usage of key health indicators of foreign banks as input into the analysis of strategic risks.

4.5 Structure and Other Features

4.5.1 Clarity, Consistency and Coverage

E1. ***The structure of the report should be easy to follow.*** *The underlying logic (or the "theme" that links the sections) should be explained to the reader and should provide evidence of an integrated approach to financial sector stability.*

E3. ***The structure of the report should be consistent across time to make it easier to follow for repeat users.***

E5. ***The structure of the report should allow covering the key topics.*** *In particular the FSR should be able to pull together the key messages emerging from the various sub-sectors (e.g., banking, insurance and pensions, and securities markets). The report should not be written using a "silo approach" covering each sub-sector separately; if there are crosscutting topics, those should be identified.*

The three criteria above will be assessed jointly as it will facilitate the analysis in the specific case.

Table 3. Structure of FSRs

Riksbanken	Bank of England[8]
Foreword	Foreword
Overall assessment	Overview
Developments on financial markets	Shocks to the UK financial system
Swedish banks' borrowers	Developments among financial institutions
Developments in major Swedish banks	Prospects for the UK financial system
The financial infrastructure	Measures for risk mitigation
Article	Selected issues

The structures of the two central banks' reports differ significantly. The Riksbank divides the report into four chapters of analysis: financial markets, the Swedish banks' borrowers (constituting of households and companies), the Swedish four major banks and the financial infrastructure. Developments within each part of the financial system are analyzed in the respective chapters. On its website, Bank of England presents a standard outline for the FSR (see Table 3). This outline is followed by all FSRs published between the launch of the new FSR structure in July 2006 to April 2008. The analysis is not divided on a sector-by-sector basis, as is the approach used by the Riksbank, but proceeds from important issues in the development of the financial crisis. The report starts off with

[8] As of issue 23 and structure outlined on website.

an overview of key developments affecting the UK financial system, followed by four chapters covering: shocks to the UK financial system, developments among the set of financial institutions that are core to the structure of the UK financial system, prospects for the UK financial system and, measures for mitigating risks to the UK financial system. The October issue has a different structure. Six, instead of the usual four, chapters cover: structural balance sheet weaknesses, macroeconomic risks, counterparty risks, capitalization, funding problems and comprehensive solutions, short-run prospects and, medium-term agenda. More specific examples of inconsistencies between the reports include: the October issue does not contain an overview section, which is included in previous reports to provide an introduction to the assessment. A list of key vulnerabilities to the UK financial system is provided in a separate box in the third chapter of the April issue while in the October issue a list of vulnerabilities is presented in bullet points in the text in the first chapter. Results of stress tests are presented in the April issue but not the October issue. These are just a few examples and the fact that the structure of the October issue differs from previous issues reduces clarity and obstructs comparisons over time.

If comparing the approaches used by the Riksbank and Bank of England (in its standard report) one may find advantages inherent in both. Analyzing institutions, markets and infrastructure separately enhances clarity of the assessment of the sectors which are regarded as most relevant for financial stability. However, it does not provide much evidence of an integrated approach to financial sector stability as requested in criteria E1 and E5. When covering each sub-sector separately there is a risk that the interplay between institutions, markets and infrastructure and the potential contagion channels between them is overlooked.

4.5.2 Summary of Findings on Structure and Other Features

The structures of Bank of England's FSRs are not consistent across reports, making it difficult for the reader to see the development over time. While not consistent, the structures of both reports show evidence of an integrated approach to financial sector stability and allow for coverage of key topics.

The Riksbank's FSRs have a consistent structure which is easy to understand and follow. However, the practice of analyzing sectors separately, that is, the usage of a *silo approach*, does not indicate an integrated approach to financial sector stability and might lead to the report overlooking important channels for contagion.

5 Conclusions

5.1 Relative Strengths and Weaknesses

The purpose of this thesis is twofold. The first is to contribute to the debate on how FSRs can be improved. More specifically, the study has aimed to identify relative strengths and weaknesses, and hence areas of potential improvements, of FSRs published by Bank of England and Sveriges Riksbank. This has been done by comparing FSRs published in 2008 based on the criteria for FSRs brought forward by Martin Cihák in co-operation with the IMF. The conclusions are summarized in this chapter and recommendations are given to Bank of England and the Riksbank separately. The second purpose is to investigate if Cihák's set of criteria actually constitutes a good tool for assessment of FSRs. This will be discussed in section 6.

Bank of England and the Riksbank are the two central banks with the most experience of publishing FSRs and are generally regarded as being in the forefront of financial stability analysis. Although the FSRs naturally have plenty in common, they differ in important aspects. Common limitations of the two central banks' FSRs are insufficient provision of information on aims with publishing the FSRs, and definitions of financial stability, based on the criteria of the framework for assessment. Furthermore, both banks provide very limited information on foreign banks' profitability, income and cost ratios, which, if compared to those of domestic banks, could give a hint of future prospects.

Moving on to relative strengths and weaknesses it is clear that the Riksbank is careful to deliver an FSR with a high level of clarity and consistency. The result is a report which is easy to read and follow, with a content that can easily be compared over time. The structure is identical across reports and the different parts of the FSR are separated in a clear manner. Sectors within the financial system are analyzed in separate chapters and selected issues which are outside the scope of the core report are discussed in separate sections and articles. Risks are listed and compared to levels prevailing by the time of publication of the previous FSR. Assumptions are clarified, consistency in such is aimed at for the purpose of comparison over time, and input data is readily available on the website.

Bank of England offers less clarity and consistency of the areas mentioned above. The structure changes over time, transparency of what data and assumptions have been used is not as high as the Riksbank's, and sectors are not analyzed separately but jointly. However, Bank of England is better at following up on single issues raised in previous FSRs.

Another conclusion is that while the Riksbank uses the report mainly as a tool for informing about the situation at hand, and leaves the work on achieving financial stability to be conducted outside the scope of the FSR, Bank of England's FSR has a more proactive role. Identification of measures for

mitigating risks is a standard part of Bank of England's FSR while the Riksbank does not cover the subject on a regular basis in the reports. More guidance is offered on ways to improve banks' risk management, incorporating several kinds of risks and measures, compared to the Riksbank which narrows down the focus to liquidity risk and regulatory measures.

Finally, Bank of England's FSR shows more evidence of an integrated approach to financial sector stability. As mentioned above the analyses of the various sectors of the financial system are intertwined, which increases the likelihood of identification of interdependencies and potential channels of contagion. A wider range of sub-sectors are assessed, compared to the Riksbank which analyzes sectors separately and puts much of the focus on the four Swedish major banks.

5.2 Recommendations

Based on the criteria of the framework a number of recommendations for potential improvements of the two central banks' FSRs can be made.

5.2.1 The Riksbank – Recommendations

A. The Riksbank should consider integrating the analysis of various sectors of the financial system, as this facilitates identification of interdependencies and potential channels of contagion.
B. Since it has been proven that not only major banks can pose threats to financial stability the Riksbank should consider analyzing a wider set of sub-sectors, such as smaller banks, pension funds, securities intermediaries and hedge funds.
C. The Riksbank should make sure to follow up on important issues raised in reports, or otherwise indicate the reason for not doing so.
D. One major responsibility for a body with a general financial stability responsibility is to identify risks and ways to mitigate them. While the Riksbank clearly points out risks, the bank should consider including a list of suggested ways to mitigate identified risks as a standard part of the report.
E. The Riksbank should more clearly define financial stability or instability to facilitate the work on the report as well as its reading.
F. The Riksbank should include a coherent and comprehensive list of aims with publishing the FSR.
G. The discussion of strategic risks should be widened to include an international comparison of key bank profitability, income and cost ratios.

5.2.2 Bank of England – Recommendations

A. Bank of England should consider making the core section of the FSR (that is, everything but boxes and articles) more standardized across reports to enhance clarity and facilitate comparison over time.

B. To better allow for scrutiny of the reports, Bank of England should increase transparency on data, assumptions and tools used in the assessment.

C. Bank of England should more clearly define financial stability or instability to facilitate the work on the report as well as its reading.

D. A coherent and comprehensive list of aims with publishing the FSR should be provided.

E. The international comparison of key bank profitability, income and cost ratios should be widened.

6 Discussion

6.1 Critical Discussion on Conclusions and Usefulness of Cihák's Framework for Assessment of FSRs

The comparison of the two central banks' FSRs above and the conclusions it leads up to are made under the assumption that Cihák's framework, after having been up-dated to capture lessons from the crisis, is a good tool to use for assessment of FSRs. One question that is yet to be answered is whether this is actually the case. While, indeed, the framework facilitates systematic and consistent assessment of FSRs, several problems were encountered when assessing the reports and drawing conclusions. First of all, a useful framework for assessment of FSRs should recognize that no financial system is identical to another and the outcome of the assessment should not depend on the size or level of complexity of the financial system but on the extent to which the FSR captures the main aspects of financial stability within the relevant system. Otherwise, one may find that the outcome of assessment of FSRs is positively correlated with level of complexity of the financial system rather than with how well the report captures the main aspects of financial stability of the relevant system. Secondly, the outcome of the assessment should be independent of at what stage of the business cycle the report was published. Cihák's framework does not adequately take into account these two issues and can therefore not be considered a robust tool for assessment of FSRs.

6.1.1 Level of Complexity of the Financial System

Indeed Bank of England and Sveriges Riksbank assesses financial systems with significant differences, both in terms of size and complexity. When evaluating the reports it becomes clear that several criteria implicitly assume either that no such differences exist, or that these do not justify variations between the reports. However, there may be good reasons for such variations and failing to take this into account could result in conclusions pointing in sub-optimal directions. Next, selected examples where this problem becomes apparent will be presented.

Criterion D6 does not take into account level of complexity of the specific financial system when requesting usage of all tools available. First of all, it can be agreed upon that there is no intrinsic value per se of including a large number of tools. In order not to waste resources, and to avoid making the report unnecessarily long only tools adding insight to the level of financial stability should be used. Second, if level of complexity of financial systems differs the optimal number of tools used for assessment is likely to differ as well. This means that a smaller set of tools is likely to be required to asses a small and relatively basic financial system compared to a large and complex system. Hence, when assessing an FSR focus should not be on whether all available tools are used or not, but on

whether the tools necessary for obtaining a fair view of the outlook of financial stability are used or not.

One of the conclusions above is that the Riksbank's FSR is that it offers more clarity and consistency over time, while Bank of England is recommended to improve on this. Several findings add up to this conclusion of which one is that the structure of the Riksbank's FSRs is more consistent across time. Neither this criterion takes into account the fact that Bank of England's FSR covers a much more complex financial system, with a large share of banks operating worldwide. This implies a system which is more sensitive to changes in the global markets and is likely to evolve quicker than a small, relatively isolated financial system. In this context the ability to provide a report with a structure that is consistent over time might be ruled out if, at the same time, it is to cover the key issues. Requiring a consistent structure must be considered suboptimal to if this will be at the cost of the coverage of the most critical issues. Another finding contributing to the conclusion that the Riksbank offers more clarity and consistency in its reports is that the risks facing the financial system are more distinctively identified. In a relatively simple and isolated financial system it seems more likely that the analysis can be boiled down into the identification of a limited number of risks. However, for a complex, globally interconnected system with a huge number of potential channels of risk this might not be the most favorable approach. In such cases, identification of demarcated risks might have the unwanted effect of limiting the analysis and ignoring potentially important issues.

This discussion leads us to the second problem with Cihák's framework, namely the ability, or inability, to assess FSRs published in both calm and tumultuous periods.

6.1.2 Assessment Over the Business Cycle

FSRs are published half-yearly independently of whether the economy is booming or busting. A good framework should allow for assessment of FSRs published during all stages of the business cycle without the economic environment itself having an effect on the outcome of the assessment. In this thesis, focus has been on reports published during a period of escalating global economic tumult. There are several reasons for why an FSR may look different if published during a period of economic instability compare to what it would look like if published in a calm economic environment. Several problems related to this were encountered in the work on the comparison of the two central banks' FSRs.

First of all, one could question whether following-up on issues raised in previous reports is of great importance in periods when major changes are taking place. Given the limited number of pages of the FSRs, there will not be room for covering each relevant topic in the report but the authors will have to prioritize between a large number of issues. In such cases, following-up on an issue raised in the previous report, but no longer of importance for assessment of stability, might be left out to leave

room for more acute matters. This should not have a negative impact on the outcome of the evaluation of the FSR.

Further difficulties are raised by the criterion saying that the structure of the reports should be consistent over time. While indeed, there are advantages of having a consistent structure as it facilitates comparison over time and, to some extent, enhances clarity for the reader, focus should be on using a structure which allows for coverage of the key topics. In times of drastic changes in the economic environment it might not be possible to cover all key topics in a clear and logic manner if the structure is not subject for change. In those situations, it should be possible to change the structure of the report without this having a negative effect on the assessment of the FSR.

A third criterion which poses problems is the one saying that data, assumptions and tools should be consistent across reports. Obviously this has clear advantages as development over time can easily be extracted. However, it seems reasonable to assume that the usefulness of various sorts of data, assumptions and tools will vary over time, especially between periods of stability and periods of instability. It makes more sense to give priority to designing the tests in such a way that they capture the key issues at the time and offer enough insight to draw conclusion on the prevailing level of stability which is as correct as possible.

It does not seem unreasonable that the ability to identify distinguished risks is reduced in times of abrupt changes in the economic environment. As is noted in section 4.3.1, less clarity on identified risks are provided in the two most recent reports, that is the Riksbank's November report and Bank of England's October report. When assessing the reports based on Cihák's framework this fact negatively affects the evaluation, although identification of a limited set of clearly defined risks might be unfeasible periods of economic tumult.

6.2 Further Research

The importance of FSRs in the work on financial stability has been argued for in this paper. However, recent events show that if the reports are to serve as a reliable early warning system the quality of reports have to improve. One obvious suggestion for further research is on ways to improve FSRs. One especially hot topic of today is how to design stress tests which take into account liquidity risk.

Two major limitations of Martin Cihák's framework were revealed when applying it on FSRs published by Bank of England and the Riksbank in 2008. The implication is that assessing reports based on Cihák's criteria might lead to recommendations pointing in sub-optimal directions. There is room for improvement of FSRs. A good framework for assessment of FSRs would greatly facilitate identification of areas of improvement. As Cihák's framework is, to the best of my knowledge, the only one of its kind, development of a new framework, or a remake of Cihák's set of criteria, could be

very rewarding. The aim would be to obtain a method for assessment and comparison of FSRs which reveals reports' true strengths and weaknesses.

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7 Appendix I

The "CCC" Framework – Extended Criteria

Below is a summary of the 26 criteria of the "CCC" framework, supplemented with clarifying sentences as presented in Cihák's paper.

A1. ***The definition of financial stability should be clearly indicated.***

A2. ***The aims of the report should be clearly indicated.***

A3. ***The definition of financial stability should be a standard part of the report, presented consistently across reports.*** *Ideally, the definition should be placed in a conspicuous place, where it can be easily found, such as a box on the inside cover or in the introduction.*

A4. ***The statement of aims should be a standard part of the report, presented consistently across reports.*** *Ideally, the statement of aims should be placed in a conspicuous place, where it can be easily found, such as a box on the inside cover or in the introduction.*

A5. ***The definition of financial stability should cover both the absence of crisis and resilience to crises.*** *Defining financial stability only in terms of financial crises leads to FSRs that are too narrowly focused and may overlook important vulnerabilities. The definition may cover also other issues (such as the absence of asset price bubbles) if it does not hamper the clarity of the definition.*

A6. ***Financial stability should be defined both in general terms and in operational terms.***

A7. ***The aims of the report should be comprehensive.*** *Ideally, the aims should include (i) informing stakeholders of potential financial stability risks and ways to mitigate them; (ii) encouraging informed debate on financial stability issues; (iii) serving as an accountability instrument; and (iv) helping to provide information that major participants in the financial industry may use as part of the input into their own risk assessment procedures.*

B1. ***The overall assessment should be presented clearly and in candid terms.*** *The whole report, and especially the assessment, should be clearly written. The main findings should be highlighted. The reader should not be required to "read between the lines."*

B2. ***The overall assessment should be linked to the remainder of the FSR.*** *The overall assessment should put together the various pieces of analysis presented in the report, and present an overall picture of the main exposures and risks. The picture should be comprehensive, i.e., if the underlying analysis, such as stress tests, indicates an increase in an important source of risk, this should be recognized in the main conclusions.*

B3. ***There should be a clear link between the assessments over time, making it clear where the main changes took place.*** *The FSR should indicate how the main risks and exposures evolved since the last FSR (typically six months or a year).*

B4. ***The overall assessment should cover the key topics.*** *All significant risks and exposures should be reflected in the assessment. No major potential risk should be omitted. The report should not dodge complex but important issues.*

C1. ***The report should clearly identify the main macro-relevant stability issues****. The report should distinguish issues that have a wider systemic impact. Those issues should be covered in the overall assessment and analyzed in some depth. In most financial system, banking system is the sub-sector that is the most systemically relevant, and therefore is covered in more depth than other components of the financial sector.*

C2. ***The coverage of issues should be consistent across the reports****. When an issue is identified in one report, the next report should follow up on the issue, or at least indicate why the issue is not covered this time.*

C3. ***The coverage of the financial system should be sufficiently comprehensive.*** *FSRs typically cover the banking system in the greatest depth, but nonbank financial system and payment infrastructure issues are typically also covered. When some issues are not covered, the lack of coverage should be indicated and justified.*

D1. ***It should be clear what data are used to arrive at the results presented in the report.*** *A cut-off date for the report should be mentioned, ideally on the inside cover page. The underlying data should be made available (with the possible exception of the individual institution data that are subject to confidentiality restrictions), ideally in a supplementary electronic file. When the report presents data in charts and tables, there should be a clear link between the text on one hand and the charts and tables on the other hand.*

D2. ***It should be clear what assumptions are being used to arrive at the results presented in the report.*** *The assumptions should be justified.*

D3. ***It should be clear what methodological tools are used to arrive at the results presented in the report.*** *In particular, findings based on a full-fledged analysis of detailed information should be distinguished from those based on anecdotal or partial evidence; results based on data for individual institutions should be distinguished from those based only on aggregate data.*

D4. ***The results should be presented in a consistent manner across reports.*** *In particular, assumptions of stress tests should be consistent in time. Also, the time horizon over which the report carries out the analysis should be standardized.*

D5. ***The report should use available data, including those on individual institutions.***

D6. ***The report should use the available tools****. The report should combine available quantitative tools (e.g., soundness indicators, stress tests, market-based indicators, early warning system results) and qualitative tools (e.g., information on the regulatory framework, qualitative supervisory information, reviews of market participants).*

E1. ***The structure of the report should be easy to follow.*** *The underlying logic (or the "theme" that links the sections) should be explained to the reader and should provide evidence of an integrated approach to financial sector stability.*

E2. ***Other features of the report—such as its length, frequency, timing, public availability, and links to other central bank reports—should be designed to support its clarity.*** *The report and the underlying data should be prominently displayed on the central bank's website, and be easy to find and download. The links and demarcation lines between the report and other central bank's publications (e.g., an inflation report or a payment system report) should be clear, providing an evidence of an integrated central bank approach; overlaps should be kept to minimum. There should be a comprehensive communications strategy underlying the FSR, including the links to other publications by the central bank and other public bodies (e.g., a separate supervisory agency).*

E3. ***The structure of the report should be consistent across time to make it easier to follow for repeat users.*** *In particular, if the report includes ad-hoc articles varying from issue to issue (e.g., under the heading of "Special Reports" or "Selected Issues), it should clearly distinguish the "core analysis," which is consistent across the reports. To make the "core" accessible and consistent, the editors may have to be ruthless in excluding discussion of interesting but peripheral issues from the core.*

E4. ***The other features of the report should be designed to support its consistency.*** *In particular, the report should have a well-known, regular, and predictable timetable. The past reports should be available on the website for comparison.*

E5. ***The structure of the report should allow covering the key topics.*** *In particular, the FSR should be able to pull together the key messages emerging from the various sub-sectors (e.g., banking, insurance and pensions, and securities markets). The report should not be written using a "silo approach" covering each sub-sector separately; if there are crosscutting topics, those should be identified.*

E6. ***The other features of the report should be designed to support its coverage****. For example, to be credible, the FSR needs to be up to date, which has implications for the report's timing.*

8 Appendix II

The "CCC" Framework – Up-Dated Version

Find below a list of the 26 criteria of the "CCC" framework, of which some have been modified in line with the discussion in section 3.

A1. ***The definition of financial stability should be clearly indicated.***

A2. ***The aims of the report should be clearly indicated.***

A3. ***The definition of financial stability should be a standard part of the report, presented consistently across reports.*** *Ideally, the definition should be placed in a conspicuous place, where it can be easily found, such as a box on the inside cover or in the introduction.*

A4. ***The statement of aims should be a standard part of the report, presented consistently across reports.*** *Ideally, the statement of aims should be placed in a conspicuous place, where it can be easily found, such as a box on the inside cover or in the introduction.*

A5. ***The definition of financial stability should cover both the absence of crisis and resilience to crises, as well as a clarification of the notion of a crisis.*** *Also, the definition of financial stability should cover the absence of asset price bubbles, followed by a clarification of the term asset price bubble. The definition may cover also other issues if it does not hamper the clarity of the definition.*

A6. ***Financial stability should be defined both in general terms and in operational terms.***

A7. ***The aims of the report should be comprehensive.*** *Ideally, the aims should include (i) informing stakeholders of potential financial stability risks and ways to mitigate them; (ii) encouraging informed debate on financial stability issues; (iii) serving as an accountability instrument; (iv) helping to provide information that major participants in the financial industry may use as part of the input into their own risk assessment procedures; and (iiv) encouraging and contributing to strengthened risk management by banks – such as better stress testing and liquidity management.*

B1. ***The overall assessment should be presented clearly and in candid terms.*** *The whole report, and especially the assessment, should be clearly written. The main findings should be highlighted. The reader should not be required to "read between the lines."*

B2. ***The overall assessment should be linked to the remainder of the FSR****. The overall assessment should put together the various pieces of analysis presented in the report, and present an overall picture of the main exposures and risks. The picture should be comprehensive, i.e., if the underlying*

analysis, such as stress tests, indicates an increase in an important source of risk, this should be recognized in the main conclusions.

B3. ***There should be a clear link between the assessments over time, making it clear where the main changes took place.*** *The FSR should indicate how the main risks and exposures evolved since the last FSR (typically six months or a year).*

B4. ***The overall assessment should cover the key topics.*** *All significant risks and exposures should be reflected in the assessment. No major potential risk should be omitted. The report should not dodge complex but important issues.*

C1. ***The report should clearly identify the main macro-relevant stability issues.*** *The report should distinguish issues that have a wider systemic impact. Those issues should be covered in the overall assessment and analyzed in some depth. In most financial system, banking system is the sub-sector that is the most systemically relevant, and therefore is covered in more depth than other components of the financial sector.*

C2. ***The coverage of issues should be consistent across the reports.*** *When an issue is identified in one report, the next report should follow up on the issue, or at least indicate why the issue is not covered this time.*

C3. ***The coverage of the financial system should be sufficiently comprehensive.*** *The banking system, including inter-bank credit markets and risk management should be covered in greatest depth. Non-bank financial system, payment infrastructure and non-financial sector issues should also be covered. The report should give sufficient room for analysis of potential threats to stability to which the financial system of the country in question is not directly exposed, but which may, through interconnectedness or contagion effects, spread to the own region. When some issues are not covered, the lack of coverage should be indicated and justified.*

D1. ***It should be clear what data are used to arrive at the results presented in the report.*** *A cut-off date for the report should be mentioned, ideally on the inside cover page. The underlying data should be made available (with the possible exception of the individual institution data that are subject to confidentiality restrictions), ideally in a supplementary electronic file. When the report presents data in charts and tables, there should be a clear link between the text on one hand and the charts and tables on the other hand.*

D2. ***It should be clear what assumptions are being used to arrive at the results presented in the report****. The assumptions should be justified.*

D3. ***It should be clear what methodological tools are used to arrive at the results presented in the report.*** *In particular, findings based on a full-fledged analysis of detailed information should be*

distinguished from those based on anecdotal or partial evidence; results based on data for individual institutions should be distinguished from those based only on aggregate data.

D4. ***Data, assumptions, and tools used should be consistent across reports.*** *In particular, assumptions of stress tests should be consistent in time. Also, the time horizon over which the report carries out the analysis should be standardized.*

D5. ***The report should use available data, including those on individual institutions.***

D6. ***The report should use the available tools.*** *The report should combine available quantitative tools (e.g., soundness indicators, stress tests, market-based indicators, early warning system results) and qualitative tools (e.g., information on the regulatory framework, qualitative supervisory information, reviews of market participants). The report should draw on relevant information published by other central banks or international organizations.*

E1. ***The structure of the report should be easy to follow.*** *The underlying logic (or the "theme" that links the sections) should be explained to the reader and should provide evidence of an integrated approach to financial sector stability.*

E2. ***Other features of the report—such as its length, frequency, timing, public availability, and links to other central bank reports—should be designed to support its clarity.*** *The report and the underlying data should be prominently displayed on the central bank's website, and be easy to find and download. The links and demarcation lines between the report and other central bank's publications (e.g., an inflation report or a payment system report) should be clear, providing an evidence of an integrated central bank approach; overlaps should be kept to minimum. There should be a comprehensive communications strategy underlying the FSR, including the links to other publications by the central bank and other public bodies (e.g., a separate supervisory agency).*

E3. ***The structure of the report should be consistent across time to make it easier to follow for repeat users.*** *In particular, if the report includes ad-hoc articles varying from issue to issue (e.g., under the heading of "Special Reports" or "Selected Issues), it should clearly distinguish the "core analysis," which is consistent across the reports. To make the "core" accessible and consistent, the editors may have to be ruthless in excluding discussion of interesting but peripheral issues from the core.*

E4. ***The other features of the report should be designed to support its consistency.*** *In particular, the report should have a well-known, regular, and predictable timetable. The past reports should be available on the website for comparison.*

E5. ***The structure of the report should allow covering the key topics.*** *In particular, the FSR should be able to pull together the key messages emerging from the various sub-sectors (e.g., banking, insurance*

and pensions, and securities markets). The report should not be written using a "silo approach" covering each sub-sector separately; if there are crosscutting topics, those should be identified.

E6. ***The other features of the report should be designed to support its coverage.*** *For example, to be credible, the FSR needs to be up to date, which has implications for the report's timing.*

9 Appendix III

9.1 Financial Stability Indicators

Financial Stability Indicator	RB 2008.2	RB 2008.1	BoE Issue 24	BoE Issue 23
Deposit takers				
Regulatory capital to risk weighted assets:				
Regulatory tier 1 capital to risk weighted assets:	X	X	X	X
Non-performing loans net of provisions to capital:				
Non-performing loans to total gross loans:	X			
Sectoral distribution of loans to total loans:	X	X		
Return on assets (net income to average total assets):				
Return on equity (net income to average capital [equity]):			X	
Interest margin to gross income:				
Non-interest expenses to gross income:	X	X		
Liquid assets to total assets (liquid asset ratio):			X	
Liquid assets to short-term liabilities:				
Net open position in foreign exchange to capital:				
Capital to asset ratio:			X	
Large exposures to capital:	X			X
Geographical distribution of loans to total loans:	X	X		X
Gross asset and liability position in financial derivatives to capital				
Trading income to total income				
Personnel expenses to non-interest expenses:				
Spread between reference lending and deposit rates:				
Spread between highest and lowest inter-bank rates:				X
Customer deposits to total (non-inter-bank) loans:			X	X
Foreign-currency-denominated loans to total loans:				
Foreign-currency-denominated liabilities to total liabilities:				
Net open position in equities to capital:				X
Other financial corporations				
Other financial corporations' assets to total financial system assets				
Other financial corporations' assets to GDP				
Non-financial corporations				
Total debt to equity				
Return on equity				
Earnings to interest and principal expenses (debt service coverage)	X	X		
Net foreign exchange exposure to equity				
Number of applications for protection from creditors	X			
Households				
Household debt to GDP	X	X	X	
Household debt service and principal payments to income	X	X		
Market liquidity				
Average bid-ask spread in the securities market				
Average daily turnover ratio in the securities market				
Real estate markets				
Real estate prices	X	X	X	X
Residential real estate loans to total loans				
Commercial real estate loans to total loans				X
Total	**11/38**	**8/38**	**7/38**	**8/38**