

10/08/2016

## MEMORANDUM



FI Ref. 15-11526

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### **Stress test methodology for determining the capital planning buffer**

#### **Summary**

In September 2014, Finansinspektionen (FI) published a memorandum entitled *Capital Requirements for Swedish Banks* (the capital requirements memorandum). In this memorandum, FI states its position on several of the capital requirements provisions that have been introduced into Swedish law as a result of the implementation of the Capital Requirements Directive<sup>1</sup>. It also describes how the size of a firm's capital planning buffer should be determined using a stress test of the firm's capital situation and earnings capacity. The stress test should reflect how the firm is affected by severe but plausible financial stress.

In this memorandum, FI describes the stress test methodology that it intends to use to determine the size of the capital planning buffer for the largest firms. This group currently consists of ten firms<sup>2</sup>.

The stress test methodology that FI has selected can be broken down into two parts, an overarching methodology and the specific calibration of risk factors for individual types of risk. The overarching methodology is formally adopted in this memorandum. The specific calibration of risk factors will not be formally adopted, but rather can change on a year-by-year basis. A description of the individual types of risk that FI may consider in the specific calibration of risk factors is attached to this memorandum as background information.

As part of the overarching methodology:

- The stress test will be conducted as a scenario analysis that includes changes to a number of operational risk parameters, such as credit

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<sup>1</sup> Directive 2013/36/EU of the European Parliament and of the Council of 26 June 2013 on access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms, amending Directive 2002/87/EC and repealing Directives 2006/48/EC and 2006/49/EC.

<sup>2</sup> These firms include Nordea, Svenska Handelsbanken, Swedbank, Skandinaviska Enskilda Banken, SBAB, SEK, Kommuninvest, Länsförsäkringar Bank, Landshypotek and Skandiabanken.

losses and changes in risk weights and market interest rates. An underlying macroeconomic scenario will not be used.

- FI will calculate the outcome of the stress test based on underlying data that firms report to FI for risk types where there is good access to this kind of data. For risk types where FI has limited access to sufficiently descriptive data, the authority may request additional information from the firms or allow them to calculate the outcome of the stress test themselves.
- FI will implement a limitation on the stress test's degree of severity by establishing that a severe but plausible stress is an event that probably will occur at least three times per century but not more than ten times per century.
- The stress test will assume that the balance sheet is static.

FI will carry out the stress test as part of its Supervisory Review and Evaluation Process (SREP). The test will normally be carried out on an annual basis. FI will publish its determination of the size of the capital planning buffer as part of its quarterly publication of the firms' capital needs. FI will publish ex-post the specific calibration of risk factors that was applied. It is FI's current assessment that the size of the capital planning buffers for the four largest firms (the major banks), as they will be determined in SREP 2016 using the overarching methodology and the specific calibration of risks factors, will be less than 2.5 per cent of the risk-weighted assets. This means that the capital planning buffer will be less than the capital conservation buffer and thus will not affect the major banks' total capital requirement in SREP 2016.

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# 1 Introduction and background

## 1.1 Background and purpose

The global Basel III agreement includes new capital and liquidity rules for banks. The agreement is transposed at the EU level through the Capital Requirements Regulation<sup>3</sup> and the Capital Requirements Directive. The Capital Requirement Directive in Sweden has been implemented by, in part, the Special Supervision of Credit Institutions and Investment Firms Act (2014:968) (the Special Supervision Act).

The Capital Requirements Regulation contains the detailed capital requirement calculations that are often called Pillar 1. These calculations are supplemented by Pillar 2. Pillar 2 is the umbrella term used for the rules governing Finansinspektionen's (FI's) supervisory review and evaluation process, of which FI's supervisory capital assessment constitutes an important part. FI's supervisory capital assessment is based on a comprehensive analysis of the firm. This includes, for example, an assessment of the extent to which the firm needs to hold extra capital to cover the risks and risk elements that are not covered by Pillar 1 (this extra capital is called "the Pillar 2 basic requirements").

In *Capital Requirements for Swedish Banks*<sup>4</sup> (the capital requirements memorandum) FI outlines how it intends to design the capital requirements for the Swedish banks. This memorandum also introduces the term *capital planning buffer*. The aim of this buffer is to ensure that firms are able to maintain on an ongoing basis a level of internal capital that exceeds the minimum requirements according to Pillar 1 and the Pillar 2 basic requirements. As part of its supervisory capital assessment, FI also determines the firm's need to hold a capital planning buffer.

FI clarifies in the capital requirements memorandum that the aim of the capital planning buffer clearly overlaps the aim of the capital conservation buffer. This means that the capital planning buffer only has an impact on the total capital requirement if its size exceeds the size of the capital conservation buffer. The capital conservation buffer amounts to 2.5 per cent of a firm's total risk-weighted amount according to Pillar 1. If the capital planning buffer is assessed to be smaller than the capital conservation buffer, it will not have any effect on the supervisory capital assessment.

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<sup>3</sup> Regulation (EC) No. 575/2013 of the European Parliament and of the Council of 26 June 2013 on prudential requirements for credit institutions and investment firms and amending Regulation (EU) No 648/2012.

<sup>4</sup> Published on FI's website on 8 September 2014, FI Ref. 14-6258.

The capital requirements memorandum describes how FI intends to determine the size of the capital planning buffer for a firm using a stress test of the firm's income statement and balance sheet. The stress test shall describe how the firm's capital adequacy could be affected by a severe but plausible financial stress. The aim of this memorandum is to clarify the overarching methodology that FI will use in this stress test and the manner in which the firms' stress test results will be made public.

## 1.2 Capital planning buffer

The capital planning buffer was mentioned for the first time in the capital requirements memorandum, and it was presented there as a manner in which to implement the requirement that the firms must regularly maintain sufficient internal capital as laid down in the Banking and Financing Business Act (2004:297) and the Securities Market Act (2007:528). The amount, type and distribution of the internal capital shall be sufficient to cover the risks to which the firms are exposed. The capital planning buffer provides protection from less improbable losses than those that could arise during times of severe financial stress and would cause the firm to fall below the capital requirements required by Pillar 1 and Pillar 2.

Should a firm not hold a sufficient capital planning buffer, it would be in breach of Chapter 6, section 2 of the Banking and Financing Business Act or Chapter 8, section 4 of the Securities Market Act. This constitutes grounds for FI to decide on an additional own funds requirement in accordance with Chapter 2, section 1 of the Special Supervision Act.

The capital planning buffer is therefore part of the additional own funds requirement when the firm breaches the requirement to hold a sufficient capital planning buffer, but only then. This differs from the part of the additional own funds requirement that is based on FI's possibility to decide that a firm is to hold capital to cover risks or risk elements not covered by Pillar 1, i.e. the Pillar 2 basic requirements. FI is entitled to decide on the Pillar 2 basic requirements, even if the firm has own funds that suffice to cover such risks, see Chapter 2 section 1 of the Special Supervision Act.

As expressed in the rationale above, the legal basis for the requirement to hold a capital planning buffer differs from the basis of the requirement to hold other Pillar 2 capital – the capital which FI calls the Pillar 2 basic requirements. FI therefore finds that the capital planning buffer should not be considered to be a part of the minimum capital requirement like the Pillar 2 basic requirements are, but rather only as a buffer.

The capital planning buffer in relation to the other buffer requirements is described in the capital requirements memorandum. One buffer that has the same purpose as the capital planning buffer is the capital conservation buffer. These buffers therefore will overlap one another. This has practical consequences in that the same stress test methodology will also be used to

determine whether the capital conservation buffer is sufficiently large to protect the firm in question during critical periods or whether the firm needs to hold a buffer in excess of the capital conservation buffer.

The countercyclical capital buffer has partly the same goal as the capital planning buffer, namely to be drawn upon during critical periods. As stated in the capital requirements memorandum, the countercyclical capital buffer also aims to address a cyclical systemic risk associated primarily with overly excessive credit growth in the financial system. The countercyclical capital buffer would not be able to fulfil this purpose if it were allowed to overlap the capital planning buffer, and FI's position in the capital requirements memorandum is therefore that it should not be possible to use the same capital to cover these two different buffers.

As described in the capital requirements memorandum, FI does not believe that there are any overlapping goals between the capital planning buffer and the systemic risk buffer requirements.

The capital planning buffer should help firms maintain the minimum capital requirement and the buffer requirements (but not the capital conservation buffer) on an ongoing basis. It is therefore important *not* to limit the selection of the risks that the methodology takes into consideration to determine the size of this buffer based on an analysis of the risks that are taken into consideration in the minimum capital requirement. On the contrary, it is suitable for the stress test methodology to consider the same risks as those that give rise to the minimum capital requirement, but with less conservative assumptions. The fact that a certain type of risk is treated within the frameworks of Pillar 1 or the Pillar 2 basic requirements should not be viewed as a reason to exclude this type of risk from the stress test methodology. The appendix to this memorandum contains examples of the risk types that FI may take into account in the stress test as part of SREP 2016 and future SREPs.

As clarified in the capital requirements memorandum, the capital that covers the capital planning buffer may not be used to cover the Basel 1 floor<sup>5</sup>. The capital planning buffer will therefore be in excess of the minimum capital requirement for the firms where the Basel 1 floor plays a determinative role in the capital requirement.

The capital requirements memorandum states that firms, in addition to the capital conservation buffer, must hold capital that covers impairment in their capital adequacy that could be expected to arise during a normal economic downturn. How this capital should be determined will not be discussed in this memorandum.

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<sup>5</sup> For a description of the Basel 1 floor, see *Finansinspektionen's approach to the Basel 1 floor*, which was published on FI's website on 18 December 2013.

### 1.3 Scope of application

FI must determine the size of the capital planning buffer for each firm subject to the capital adequacy regulations. However, this memorandum only describes the methodology that will be used to determine the capital planning buffer for the largest firms. FI currently intends to use this methodology for the ten largest firms. This methodology is called hereafter *the stress test methodology*. FI believes that it is important for there to be a formally adopted methodology for this determination with regard to the largest firms. This enables an equal treatment of the firms representing the largest part of the Swedish financial system.

Smaller firms are also subject to the capital planning buffer requirement. However, FI may opt to apply a different approach than what is set out in this memorandum when assessing the need for a capital planning buffer for these smaller firms. Due to limited resources, FI may be more likely, for example, to base its assessment of these firms on their own stress tests to the extent that these stress tests are considered sufficiently accurate and conservative. FI may also find it necessary to conduct more detailed or tailored stress tests for some smaller firms that have special business models.

### 1.4 Legal basis

As discussed earlier, FI's supervisory capital assessment includes an assessment of the extent to which the firm needs to hold extra capital to cover the risks or risk elements that are not covered by Pillar 1 (this extra capital is called "the Pillar 2 basic requirements"). FI also makes an assessment about the firm's need to hold a capital planning buffer. This assessment verifies compliance with the requirement set out in Chapter 2, section 2 of the Banking and Financing Business Act that the firm shall maintain sufficient internal capital to cover the nature and level of the risks to which the firm is or can be exposed. The preparatory works (Bill 2006/07:5 p. 137) specify regarding this provision that firms should have adopted strategies and methods to assess whether they have sufficient internal capital and are able to maintain a sufficient level at all times.

According to Chapter 2, section 1 of the Special Supervision Act, FI shall decide whether a firm must fulfil an additional own funds requirement, for example if the firm does not fulfil the requirements set out in Chapter 6, section 2 of the Banking and Financing Business Act. The Government emphasises in the preparatory works (Bill 2013/14:228 p. 229) to Chapter 2, section 1 of the Special Supervision Act the importance of the transparency of the Pillar 2 process. According to Chapter 2, section 1 of the Special Supervision Act, FI is able to decide on an additional, firm-specific own funds requirement.

Pursuant to section 9 of the Special Supervision and Capital Buffers Ordinance (2014:993), FI, in its supervision, must follow the provisions regarding the

supervisory review and evaluation process in Articles 97–101 of the Capital Requirements Directive. Article 97.3 of this Directive states that the competent authorities, on the basis of the supervisory review and evaluation process, shall determine whether the own funds the firm has at its disposal are sufficient for covering the institution’s risks, i.e. the supervisory capital assessment. The assessment is based on a comprehensive analysis of the firm and includes all of the requirements set out in the Capital Requirements Directive and the Capital Requirements Regulation. Pursuant to Article 100.1 of the Capital Requirements Directive, competent authorities, when appropriate and at least once a year, shall conduct a stress test of the firms over which it is exercising supervision, in order to facilitate the supervisory review and evaluation process carried out pursuant to Article 97 of the Directive.

Article 100.2 of the Capital Requirements Directive prescribes that the European Banking Authority (EBA) will issue guidelines to ensure that the competent authorities use the common methods for implementing the annual stress test within the framework of their supervision. Work is currently under way to produce such guidelines. These proposed guidelines in part contain guidelines on how supervisory authorities should design their own stress tests. If, when these guidelines are completed, it were to become apparent that the positions reported by FI in this memorandum do not agree with the final guidelines, FI will re-assess how its processes are devised. It is also conceivable that FI could conduct several different stress tests with different purposes in order to meet external requirements. The EBA’s guidelines do not affect specific stress tests but rather aim to determine the capital planning buffer.

The guidelines that will be issued pursuant to Article 100.2 of the Capital Requirements Directive will replace CEBS’s<sup>6</sup> “Guidelines on Stress Testing (GL32)”. GL32 contains guidelines to help firms understand the expectations from a supervision perspective that are placed on their stress test exercises. However, GL32 does not regulate which methods supervisory authorities must use to conduct their own stress test.

The Capital Requirements Directive does not regulate which methodology should be applied to the risk assessment within the framework of SREP. It is hence up to FI to decide. The EBA has prepared guidelines for the national supervisory authorities with the aim of specifying the common procedures and methods for the supervisory review and evaluation process. The guidelines from the EBA are principle-based and do not intend to regulate the selection, design or application of specific methods in detail. In FI’s opinion, the positions laid forth in this memorandum agree with the EBA’s guidelines. The guidelines issued by the EBA are not legally binding, but rather the national

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<sup>6</sup> Committee of European Banking Supervisors



supervisory authorities and the institutions covered by them “must make every effort to comply with them”.<sup>7</sup>

In order for FI to carry out the methodology described in this memorandum, it needs to collect and analyse information from individual firms. According to Chapter 13, section 3 of the Banking and Financing Business Act, FI is able to request such information within the framework of its supervision activities.

When determining which stress test methodology it should use, FI needs to also consider the proportionality principle. The proportionality principle is a general legal principle that in brief means that a measure should be proportionate to the aim of the measure. The principle is expressed in Article 97.4 of the Capital Requirements Directive, where it is stated that competent authorities shall establish the frequency and intensity of the review and evaluation given the size, systemic importance, nature, scale and complexity of the activities of the firm in question and taking into account the principle of proportionality.

## 1.5 Preparation of the matter

During the development of the stress test methodology, FI has consulted the four major Swedish banks on an individual basis, as well as the Swedish Bankers' Association.

FI also held an informational meeting about the development project on 2 February 2016. Experts from the ten largest firms and the Swedish Bankers' Association participated in the meeting.

FI submitted a proposal of the stress test methodology for consultation on 6 May 2016 in which it presented the overarching methodology. The proposal was sent to 14 consultation bodies and also published on FI's website. The final date to submit consultation responses was 3 June 2016. Consultation responses were received from Sveriges Riksbank, the Swedish National Debt Office, AB Svensk Exportkredit, the Association of Swedish Finance Houses, Kommuninvest i Sverige AB and the Swedish Bankers' Association. FAR SRS declined to submit a response. The feedback is presented in sections 2 and 3.

FI intends to use the stress test methodology during the supervisory capital assessment of the firm's capital situation within the framework of SREP 2016.

## 2 Overarching stress test methodology

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<sup>7</sup> See Memorandum, *Implementation of the European supervisory authorities' guidelines and recommendations*, (in Swedish)  
[http://www.fi.se/upload/43\\_Utredningar/40\\_Skrivelser/2013/pm-eu-riktlinjer-18feb2013.pdf](http://www.fi.se/upload/43_Utredningar/40_Skrivelser/2013/pm-eu-riktlinjer-18feb2013.pdf).

FI divides the stress test methodology into two parts: the overarching methodology and the specific calibration of risk factors. The overarching methodology states the principles that steer the overall design of the stress test for all risk types, while the specific calibration of risk factors applies to the treatment of specific risk types. This memorandum formally adopts the overarching methodology. The specific calibration of risk factors will not be formally adopted, but rather will be subject to regular changes. Appendix 1 presents an overview of the different types of risk that the specific calibration of risk factors may cover.

The overarching stress test methodology can be broken down by the type of stress test, the length of the stress test, the guidelines for calibration, the calculation method and the balance sheet assumptions. These different components are discussed individually in the following sub-sections, as is specific feedback from the consultation responses regarding the overarching methodology. General feedback from the consultation responses regarding the basis on which FI will determine the capital planning buffer in general is presented and discussed in a separate section.

## **2.1 General feedback from the consultation responses**

General feedback from the consultation responses refers to comments from the responses that concern the general basis on which FI will determine the capital planning buffer or to feedback that cannot be directly linked to any of the positions taken by FI in the consultation memorandum.

### *2.1.1 Submitted feedback from the consultation responses*

*Sveriges Riksbank* (the Riksbank) supports FI's ambition to create more transparency in its determination of the capital planning buffer by presenting parts of the stress test methodology and aiming to publish the results.

*Riksgäldskontoret* (the Swedish National Debt Office) welcomes the introduction of the annual stress test of the banks' capital planning buffers and believes that this should be a part of the regular SREP.

*Svenska Bankföreningen's* (the Swedish Bankers' Association) general opinion is that FI's position is vague and unpredictable. Since the capital planning buffer may become part of the additional capital requirement, it should be clear and transparent which methodology will be used to calculate the size of the buffer. The Swedish Bankers' Association finds it unfortunate that FI will not submit the changes to the specific calibration of the risk factors for consultation since the absence of predictability and transparency that results from this decision introduces significant uncertainty for the Swedish banks. The Swedish Bankers' Association is also of the opinion that FI should test the consulted stress test methodology during the 2016 SREP, and thereafter evaluate and communicate any changes in a predictable and transparent manner. The

Swedish Bankers' Association also would like to highlight that the capital planning buffer overlaps with both the capital conservation buffer and the countercyclical buffer. Finally, the Swedish Bankers' Association states that the generous freedom FI has granted itself to change the specific calibration of the risk factors from year to year make the long-term consequences of the positions difficult to assess.

*Finansbolagens förening* (Association of Swedish Finance Houses) states in its consultation response that the association shares FI's opinion that it is appropriate for smaller firms to base the determination of the size of the capital planning buffer more on the firms' own stress tests.

### *2.1.2 Finansinspektionen's comments to the general feedback from the consultation responses*

FI would like to highlight the increased transparency that is achieved through the positions taken in this memorandum. By presenting how Finansinspektionen will determine the size of a firm's capital planning buffer, this memorandum increases the predictability and clarity of this process compared to the current situation.

FI's aim in formally adopting the overarching methodologies in the stress test methodology to determine the size of the capital planning buffer, and formally adopting how the stress test methodology and its outcome will be made public, is to create greater transparency surrounding the calculation of the size of the capital planning buffer. FI has made the assessment that it is difficult to achieve the level of detailed predictability that the Swedish Bankers' Association would like to see. In order to maintain relevancy, the specific calibration of risk factors may need to be changed from year to year. It is therefore not reasonable to formally adopt in detail all components of the stress test methodology and as a consequence need to submit potential changes for consultation in order to announce a new approach. FI is open to consulting the firms to the greatest extent possible regarding major changes in the specific calibration of risk factors.

FI would like to clarify that the determination of the size of the capital planning buffer will continue to be a part of the annual SREP. FI also takes the position that the capital planning buffer's relationship to the other buffer requirements is clearly described in the positions FI takes in the capital requirements memorandum. There is currently no reason to revise these positions.

## **2.2 Type and length of stress test**

### *2.2.1 Introduction*

One of the overarching methodologies refers to the type of stress test that will be used to determine the size of the capital planning buffer. FI makes the

assessment that different types of stress tests that could be used for this purpose include

1. macro stress tests,
2. sensitivity analyses, and
3. scenario analyses with operational risk parameters.

A macro stress test is based on one or more macroeconomic scenarios, which in turn are based on economic forecasts. Each scenario consists of a description of a macroeconomic course of events and a number of quantitative changes in different macroeconomic parameters (GDP, unemployment, market interest rates, etc.). The change in the macroeconomic parameters is translated into changes in the operational risk parameters (credit losses, foreign exchange rates, market interest rates, etc.) that affect each individual firm's earnings, capital and capital adequacy. One example of a macro stress test is the EBA's recurring stress test of the European banking sector.

A sensitivity analysis instead starts directly with the operational risk parameters and describes how sensitive a firm's capital adequacy is to changes in these parameters. By exposing a number of firms to the same stress in a certain operational risk parameter it is possible to derive from the outcome the extent to which different firms are exposed to this specific type of risk.

If the stress of the individual operational risk parameters is determined in a methodical fashion, and the result of the test is the net effect of the outcome of the different changes, FI believes that a sensitivity analysis can be viewed as a scenario analysis with operational risk parameters. Such a scenario analysis is similar to the macro stress test in that the outcome is determined by a number of changes to the operational risk parameters. The major difference is that the scenario analysis is not calibrated from the estimated effect of different macroeconomic scenarios.

The stress test's length describes the period of time over which the scenario stretches. A short stress test focuses on the initial effect of a shock, while a scenario that stretches across a longer period of time makes it possible to assess the firm's ability to recover. A longer period of time may also be needed when the stress test methodology should take into consideration how a stress develops over time, for example as a result of gradual deterioration in the macroeconomic parameters.

### *2.2.2 FI's position*

<p>The stress test methodology is based on a scenario in which the operational risk parameters change. The scenario will stretch across a period of three years, and the largest stress will occur during the first year of the scenario.</p>
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### *2.2.3 Submitted feedback from the consultation responses*

*The Riksbank* makes the assessment that there is a risk that the stress test will underestimate the correlation between different risk parameters and thus the total effect of an economic downturn on a firm's capitalisation if it is not based on a macro scenario. The Riksbank makes the assessment that a stress test based on a macro scenario more clearly portrays the stress level of the scenario and thus the degree of severity in the stress test.

*The Swedish National Debt Office* believes that FI's choice of a simple scenario analysis is well-founded. The Swedish National Debt Office believes that FI should develop and further analyse how it ensures that an equal level of stress is imposed on the different firms.

*The Swedish Bankers' Association* considers it to be inappropriate to devise a scenario analysis with operational risk parameters without anchoring the scenario in a comparable macro scenario. The Swedish Bankers' Association believes that such an approach makes the composition of stress questionable, and makes it difficult to compare the outcome with results from other stress tests. Furthermore, the Swedish Bankers' Association believes that there is a risk that FI's probability assessment will become arbitrary since the financial stress is institution-specific and difficult to assess.

*AB Svensk Exportkredit* finds that the methodology of stressing a number of operational risk parameters together and at the same time without a link to macroeconomic scenarios introduces a risk that the scenario will be excessively conservative. AB Svensk Exportkredit believes that there is a risk that the approach will mean that parameters which in a stressed situation could have a positive effect in the selected methodology will be stressed with a negative effect on the capital situation.

*Kommuninvest i Sverige AB* (Kommuninvest) shares FI's position that a scenario-based stress test is preferable for calculating the capital planning buffer. Kommuninvest believes that the same scenarios should be used carefully for different types of firms.

#### *2.2.4 Reasons for FI's position*

FI will devise the stress test as a scenario analysis of how a number of changes in operational risk parameters affect the firm's capital situation. In choosing this approach, it is possible to create a robust stress test methodology that treats firms equally. Several consultation bodies mention in their responses that it is important for firms to be treated equally and that this can mean that the assumptions for some types of risk may need to be adapted to the institutions' different areas of activity. FI strives to treat all firms equally and takes the position that the overall decision to devise the stress test as a scenario analysis of operational risk parameters makes this possible. Exactly which adjustments will eventually need to be made to the assumptions is part of the specific calibration of risk factors. By using these adjusted assumptions in the same

way for all firms based on their area of activity, it is possible to treat the firms equally in the stress test.

The effect of a scenario with changes to the operational risk parameters is relatively easy to understand, which opens the door to a certain degree of predictability, even if the final calibration may differ from year to year. FI finds that another advantage of such a methodology is that it facilitates a methodical calibration of the stress test levels that are considered to be severe but plausible, while at the same time making it possible for FI to take into consideration the interplay between changes in operational risk parameters. Such a methodology does not require any assumptions about what has caused the financial stress or how the changes in different macroeconomic parameters affect the firm.

Several consultation bodies bring up the issue of the composition of the stress. The Riksbank is worried that FI's choice of methodology will lead to the underestimation of correlations between different risks, which means that the stress test will not be sufficiently conservative. Other consultation bodies view it to be problematic that the methodology allows for an excessively conservative correlation assumption. FI believes that it is important for the scenario with operational risk parameters to reflect the strong correlations between, for example, increased credit losses and increased funding costs, which can be expected to occur in a financial crisis. FI allows the operational risk parameters that contribute positively to the firms' capital in a certain scenario to contribute to the net result of the stress test. The selected stress test methodology enables FI to achieve this, while at the same time enabling it to clearly describe the composition of the stress.

One advantage of using a macro stress test instead is that this method contains a link between a cohesive scenario of how the real economy is developing and a number of effects on the individual firm. Compared to a scenario analysis of operational risk parameters, however, a macro stress test requires even more expert assessments. First, it is necessary to determine what constitutes a severe but plausible scenario given the current macroeconomic outlook. Such an analysis requires extensive preparations, and there is still no guarantee that the scenarios that are most probable or harmful for a specific firm, or for a "typical" firm, will be identified. Next, the macroeconomic scenario needs to be translated into effects on the operational risk parameters of the firm in question.

In some cases (for example with regard to market interest rates), the macroeconomic parameters overlap the operational risk parameters, in which case the translation is very simple. In other cases (for example with regard to credit losses), there are no explicit links between the changes in the macroeconomic parameters and their impact on the firms' income statement and balance sheet, and the exercise then becomes by necessity more model-based or subjective in nature. According to FI, there are currently no

commonly accepted methods that achieve such a translation for many important risk parameters.

Several consultation bodies take the position that one advantage of a stress test anchored in a macro scenario is that it achieves clarity regarding the stress level and comparability with other stress tests. However, FI believes that the absence of generally accepted methods to translate a certain macro scenario into changes to operational risk parameters means that this reasoning can be questioned. The clearest way to assess the stress level in a stress test is to study the changes in the operational risk parameters, for example credit losses, net commission income and lending costs.

A sensitivity analysis is well suited for identifying the particular risks to which a firm is exposed. A simple sensitivity analysis, however, is an inappropriate approach for the type of stress test methodology that is discussed in this memorandum. It is very important that the stress levels imposed in every type of risk are well supported and can be considered to be a severe but plausible financial stress. A sensitivity analysis is not sufficient in this case.

Given its position that the stress test methodology should contain a scenario with operational risk parameters, FI makes the assessment that it is appropriate to allow maximum stress to occur at a single point in Year 1. In the absence of a macro scenario with a gradual deterioration of the economic situation, the stress applied to the bank does not need to develop over time and there is therefore a limited need for the scenario to stretch over a long period of time. However, it is interesting to study the firm's ability to recover and therefore two additional years are added after Year 1 with gradually reduced stress levels. The total length of the scenario is therefore three years. Depending on the firm's earnings capacity and the design of the specific calibration of risk factors, the worst-case scenario of the stress test (the greatest deterioration of the firm's capital adequacy) can occur at any time during these years.

## **2.3 Guidelines for calibration**

### *2.3.1 Introduction*

FI needs to determine how serious the scenarios firms are exposed to should be for each type of stress test. For macro stress tests, this determination requires establishing which macroeconomic developments should be used. In a scenario analysis of how the firms are affected by changes in operational risk parameters, FI needs to determine how large these changes should be. In the capital requirements memorandum, FI clarifies that the size of the capital planning buffer should be determined by stress tests that reflect a severe but plausible financial stress. FI's methods for how the stress test should be calibrated for individual types of risk should start from this benchmark.

For example, the stress for a certain macro parameter or operational risk parameter can be determined through an expert assessment that is based on an



understanding of the dynamics of that specific parameter. This approach, where FI makes a qualitative assessment of what corresponds to a severe but plausible stress, may be necessary to use for parameters where there is a limited access to historical data.

For types of risk that have good access to historical data, a quantitative method for calibration can be used. For example, this can mean that FI defines a confidence interval that is used to determine the stress for individual macro parameters or operational risk parameters. Determining such a confidence interval in and of itself requires an expert assessment of what constitutes a severe but plausible stress in a certain risk parameter.

### 2.3.2 *FI's position*

FI will calibrate the stress for each individual risk parameter as follows. A severe but plausible financial stress, which thus could serve as a basis for the stress test, is determined based on the benchmark as being

1. a significant change in the risk parameter with negative consequences for the firm, and
2. probable that such a change occurs at least three times a century but not more than ten times a century.

### 2.3.3 *Submitted feedback from the consultation responses*

*The Swedish Bankers' Association* believes that FI should rather describe the reasons behind and the approach to the probability assessment that will be made. *The Swedish Bankers' Association* believes that the methodology adds isolated effects, which will lead to a total scenario that is very conservative and more conservative than a scenario that can be expected to occur three times per century.

*The Swedish National Debt Office* believes that the calibration of scenarios is crucial for how good the analysis will be, and that FI has not provided enough information about the considerations it has made. *The Swedish National Debt Office* states that there is no information about how often parameters will be updated and how they will be estimated. *The Swedish National Debt Office* believes that a central part of the analysis is that FI considers the correlation between the different risk parameters and how this correlation can change. *The Swedish National Debt Office* believes that FI needs to ensure that the methodology is robust over time.

### 2.3.4 *Reasons for FI's position*

FI takes the position that the size of the capital planning buffer should be decided using a stress test that corresponds to a severe but plausible financial stress. This corresponds to a financial stress that lies outside of occurrences during a "normal" business cycle, but at the same time is not as serious as the "very severe financial stress" that the minimum capital requirement must



cover. It is difficult, and perhaps not expedient, to give a more exact definition of the frequency with which such a scenario may occur. There are no data series for many of the parameters that affect the firms' earnings and capital adequacy that are sufficiently detailed and long to achieve what is considered an exact calibration with a high level of credibility. FI will therefore base the calibration of the stress test on the assessment of whether it can be considered probable that a certain financial stress can occur at least three times a century. Financial stresses that are judged not to be probable of occurring with such frequency should be considered too conservative to be used to calibrate the size of the capital planning buffer. For types of risk where there is good access to detailed, historical data, such a benchmark can serve as a basis for quantitative assumptions. If there instead is not sufficient data for a certain type of risk, the benchmark can be used qualitatively to assess and discuss whether the calibration of the stress test is reasonable.

FI believes that it could be appropriate for some risk parameters to calibrate a less severe level of stress. Otherwise, the scenario could be too hard and improbable. This is because the stress test assumes a shock that affects all input operational risk parameters at the same time. As a result, there also needs to be a bottom threshold for the stress that can be applied to a certain operational risk parameter. FI believes that such a threshold can be an assessment of whether it can be considered probable that a financial stress occurs more than ten times per century. Such an event should not be considered severe enough to be used to calibrate the size of the capital planning buffer.

Both the Swedish National Debt Office and the Swedish Bankers' Association request in their consultation responses a clearer description of how the calibration will be done. FI takes the position that the calibration is contained within the specific calibration of risk factors and therefore not described as part of this memorandum. For most types of risk, the calibration will not be a probability calculation, but rather consist of expert assessments that are based on the guidelines for calibration established in this memorandum.

Given that the specific calibration of risk factors is not formally adopted, it can be easily changed to take into consideration any changes in the dynamics of individual risk parameters or in the relationship between different risk parameters.

## **2.4 Calculation method**

### *2.4.1 Introduction*

The outcome of a certain stress test methodology can be calculated by either the firms themselves or the supervisory authority. When the outcome is calculated by the firms, it is often called a bottom-up approach.

The opposite of the bottom-up approach is the top-down approach, where the supervisory authority calculates the outcome of the stress test for all firms. A top-down approach requires good access to reported data.

#### 2.4.2 *FI's position*

Finansinspektionen will primarily do the calculations itself for what is needed to calculate the outcome of the stress test. The calculations will be based on data that the firms have reported to FI, either as part of reporting that is already regulated or in the form of an additional request for information.

For types of risk that do not have relevant reported data and where an additional request for information is judged to be too burdensome for either the firms or FI, FI will allow the firms to calculate themselves the outcome of scenarios for specific types of risk.

#### 2.4.3 *Submitted feedback from the consultation responses*

*The Riksbank* believes that it is important for the stress test methodology to be consistently applied to all of the firms, and that FI should therefore ensure that it can do all of the calculations in the stress test itself.

*The Swedish National Debt Office* agrees with FI's choice of a top-down approach. The Swedish National Debt Office is of the opinion that in the short term it is reasonable to use the bottom-up approach for the risks where FI does not have access to sufficient information, but that FI should strive in the long term to transition to a top-down approach for all risks.

*The Swedish Bankers' Association* considers FI's position to be ambiguous and unpredictable.

#### 2.4.4 *Reasons for FI's position*

The reason that FI is choosing a "top-down" approach for its calculation methodology is primarily the consistency of the assessment given that all firms are assessed in the similar manner. This consistent assessment is achieved in that the same stress is applied to all firms and the same operational risk parameters affect the outcome of the stress test. This paves the way for equal treatment of firms and for a significant measure of predictability from the perspective both of the firms and the investors.

In order for a top-down approach to be successful, it is necessary for FI to have access to good data about the firms' balance sheets and income statements. Following the implementation in 2014 of the EU reporting requirements for

banks<sup>8</sup>, FI has gained access to more detailed data than it had before. This makes it possible for FI to apply a top-down approach to most types of risk. However, there is not a sufficient amount of reported data for some types of risk, which makes it difficult for FI to calculate itself the outcome of the stress test. In such cases, FI will seek more information from the firms through an additional request for information.

A firm is well placed to consider in a balanced manner all of the specific factors that affect how it would react in the presence of a stress. If FI had selected a bottom-up approach, the firms' in-depth knowledge about their own risks and how they can affect the capital adequacy could contribute to a fair outcome in the stress test. However, a bottom-up approach would also mean that the supervisory authority would need to assure the comparability and quality of the firms' calculations and an increased risk for individual assumptions and subjective assessments. Consistent treatment of firms is particularly important for a stress test that aims to determine the size of the capital planning buffer. FI makes the assessment that this is best achieved by the supervisory authority itself making the calculations based on reported data.

However, for certain types of risk, FI may make the assessment that a bottom-up approach is the most appropriate. As described above, FI may make additional requests for information in certain situations. For types of risk where the additional request for information would be too extensive to enable a top-down approach, FI intends instead to allow the firms themselves to calculate the outcomes based on scenarios for the relevant operational risk parameters. This currently applies primarily to market risks in the banking book, where there is insufficient access to reported data.

Both the Riksbank and the Swedish National Debt Office state in their consultation responses that FI should strive to do all calculations for the stress test itself, i.e. that the stress test methodology should be top-down. FI is of the opinion that it is possible to treat firms equally even using a bottom-up approach on the condition that FI can clearly state the assumptions the firms must make in their calculations.

The Swedish Bankers' Association considers the choice of methodology to be ambiguous and unpredictable. Since the choice of the types of risk for which the bottom-up approach should be used falls within the specific calibration of risk factors, the firms will not know in detail which calculations they will need to make. It is FI's intention for the risks covered by these bottom-up calculations not to vary too much from year to year, so that a sufficient degree of predictability is achieved.

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<sup>8</sup> Commission Implementing Regulation (EU) No 680/2014 of 16 April 2014 laying down implementing technical standards with regard to supervisory reporting of institutions according to Regulation (EU) No 575/2013 of the European Parliament and of the Council

## 2.5 Balance sheet assumptions

### 2.5.1 Introduction

An important part of the stress test methodology is the assumption that is made regarding the firms' balance sheets. This assumption can have a large impact on the final result.

A dynamic balance sheet assumption means that the size and composition of the firms' assets and liabilities change during the horizon of the stress test.

A static balance sheet assumption means that the specific calibration of risk factors is adapted so the size and composition of the firms' assets and liabilities do not change during the horizon of the stress test scenario.

A static balance sheet assumption tests a firm's ability to maintain its existing lending while at the same time maintaining sufficient internal capital.

Both types of balance sheet assumptions mean that the stress test methodology will contain explicit or implicit assumptions regarding the choices firms make given the financial stress that arises. A dynamic balance sheet assumption means that FI or the firms will make assumptions about how they would act given a certain scenario, and the stress test thus takes on characteristics of a simulation. In a static balance sheet assumption, the implicit assumption is made that in the scenario the firms will replace past due credits with new credits of the same asset class and risk level.

### 2.5.2 FI's position

FI's stress test methodology will be based on a static balance sheet assumption.
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### 2.5.3 Submitted feedback from the consultation responses

*The Riksbank* believes that there are advantages to both a static and a dynamic balance sheet assumption, and that there are grounds for FI to re-evaluate this position in the future.

*The Swedish National Debt Office* considers the choice of a static balance sheet assumption to be sound. However, the Swedish National Debt Office believes that FI will need to provide additional information about which assumptions are made with regard to second-hand effects.

*The Swedish Bankers' Association* believes that the methodology makes the stress test less relevant and more likely to enhance a business cycle, and that a dynamic outcome would give a more accurate result.

*AB Svensk Exportkredit* believes that a static balance sheet assumption is a conservative approach. *AB Svensk Exportkredit* emphasises that the purpose of the capital planning buffer according to the capital requirements memorandum is to ensure that firms can continuously fulfil the minimum capital requirement. *AB Svensk Exportkredit* believes that the stress test methodology therefore needs to take into consideration that the firms can use the size of their balance sheets to stave off financial stress, for example by not issuing new loans in certain situations.

*Kommuninvest* believes that a static balance sheet assumption is the most appropriate when the same scenario is used for multiple firms.

#### 2.5.4 *Reasons for FI's position*

FI believes that it is appropriate to assume that a firm can maintain its credit supply to the real economy despite the stress to which the firm is exposed in the test. The size of the capital planning buffer will therefore be calibrated under the assumption that the firm keeps its balance sheet total constant throughout the scenario. This means that the capital planning buffer is calibrated in a manner that creates greater possibilities for the firms to maintain their credit-supplying role in the financial system even during a severe but plausible financial stress.

Dynamic balance sheet assumptions also create conditions that allow the firms themselves to influence which measures they would take given the scenario in the stress test and thus transform the stress test into a sort of simulation. It is realistic to assume that the firms' balance sheets are affected by a financial crisis and that this applies to both size and composition. Many firms state, along the same lines as the consultation responses from the Swedish Bankers' Association and *AB Svensk Exportkredit*, that in a financial crisis they will reduce their lending volumes in order to limit their exposure, or that they intend to implement stricter credit assessment procedures to attract mainly low-risk borrowers. It is reasonable to assume that these factors will change in some way in the presence of a financial stress, and it is therefore possible to argue that a stress test methodology should aim to include such strategies, which can be done through dynamic balance sheet assumptions. However, FI believes that a more important argument in the choice between a static and a dynamic balance sheet assumption is that the capital planning buffer should make it possible for firms to maintain the size of their balance sheet in the presence of a severe financial shock. This increases the possibility that the economy as a whole avoids a situation where the supply of credit is turned off.

FI also believes that the outcome of the stress test methodology should be easy to understand. Under a dynamic balance sheet assumption, the specific calibration of risk factors would become more complicated and the degree of subjectivity would also possibly rise.

The Swedish National Debt Office has stated that second-hand effects, for example when the elimination of firms' new lending leads to an economic downturn, should be built into the stress test methodology. FI would like to emphasise that the assumptions regarding second-hand effects may be used in the macro stress tests that the authority conducts in parallel to the stress test that is described in this memorandum. The stress test that is described in this memorandum aims to determine the size of the capital planning buffer in such a way that firms will be able to maintain their lending activities so that no second-hand effects occur.

## **2.6 Alternative methods for determining the capital planning buffer**

The largest firms submit an internal capital adequacy assessment process (ICAAP) to FI every year. In this process, the firms present their own stress tests of their capital situations. One way to determine the capital planning buffer therefore could have been to use each firm's own stress test methodology. Even though FI supervises how the firms work with stress tests, it has still made the assessment that it is not appropriate for the firms themselves to determine the size of their capital planning buffers. Given such an approach it would be difficult to ensure that all of the of the firms are treated equally, and it would be more difficult to consistently compare the size of each firm's capital buffer.

A direct and explicit link between the outcome of firms' own stress tests and the determination of the size of the capital planning buffer would also give firms an incentive to underestimate risks in their own stress tests. By eliminating the ties between the size of the capital planning buffer and the outcome of the firms' stress tests, the firms are able to continue to use their stress tests as a tool for risk management and risk identification. For smaller firms, however, FI may use the firms' own determinations of the size of the capital planning buffer.

## **3 Transparency**

FI will publish the size of the capital planning buffer and the methodology that is used to calculate the buffer. FI may also publish the outcome of the stress test methodology for individual firms.

### **3.1 Publication of the size of the capital planning buffer**

#### *3.1.1 Introduction*

FI expresses in the capital requirements memorandum its intention to publish the supervisory capital assessment for individual firms. Since Q3 2014, FI has published the capital need for the ten largest firms, i.e. the firms that initially will be covered by the stress tests that are discussed in this memorandum.

FI to date has published on an annual basis the methodology that has been used for its annual stability stress test. In conjunction with this, it has also published the outcomes for the four major banks. Even if the stress test that was used as part of the supervisory capital assessment often is very similar to the stability stress test, there has not been an explicit relationship between them.

### *3.1.2 FI's position*

FI intends, at least in the situations where the capital planning buffer is judged to be larger than 2.5 per cent of the risk-weighted exposure amount, to include the size of the capital planning buffer in the quarterly publication of the capital need for the largest firms.

FI may publish the detailed outcome of the stress test for the largest firms.

### *3.1.3 Submitted feedback from the consultation responses*

*The Riksbank* recommends that FI publish the size of the capital planning buffer for the largest firms regardless of whether it is less than 2.5 per cent of the risk-weighted exposure amount. The Riksbank recommends that FI always publish the detailed outcome of the stress test in conjunction with the publication of the size of the capital planning buffer.

*The Swedish National Debt Office* believes that FI should publish the outcome of the stress test for individual firms, regardless of the size of the capital planning buffer. The Swedish National Debt Office supports transparency of the methodology and outcome to give the general public, investors and analysts more balanced information about each individual bank's resilience.

*The Swedish Bankers' Association* believes that FI only should publish the size of the capital planning buffer for the firms that have a buffer larger than 2.5 per cent. The Swedish Bankers' Association also believes that no data should be published in 2016.

### *3.1.4 Reasons for FI's position*

If the capital planning buffer exceeds 2.5 per cent of the total risk-weighted amount, it will contribute to the firm's total capital need, as described previously in this memorandum. In such a situation, in FI's opinion, it is important that the excess amount be published with the aim of clarifying FI's assessment of the total capital need for the individual firm. FI believes that this applies even if it cannot make a decision on the size of the capital planning buffer if a firm is not in violation of the requirement to maintain a sufficient capital planning buffer.



The Riksbank and the Swedish National Debt Office believes that there is a large value associated with publishing all of the capital buffers of the largest firms, regardless of size, and with FI always publishing detailed outcomes of the stress test methodology. FI shares this belief and may make the assessment that it is appropriate to publish the size of the capital planning buffer even when the buffer is judged to be 2.5 per cent or less. FI will also strive to publish all of the capital planning buffers of the largest firms, regardless of size, and publish detailed outcomes of the stress test methodology. However, some developments may need to be made to procedures and processes before this can be fully achieved.

FI also believes that the outcome of the stress test methodology provides an overview of the banking sector's strengths and weaknesses, and that this information is of interest for the general public. FI may therefore present the detailed results of the stress test of the largest firms as part of its stability report or in some other way.

## **3.2 Transparency of the specific calibration of risk factors**

### *3.2.1 Introduction*

FI may choose between openly reporting the design of the specific calibration of risk factors used to determine the capital planning buffer or keeping such details of the stress test methodology confidential from the general public.

### *3.2.2 FI's position*

FI will report ex-post the specific calibration of risk factors.
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### *3.2.3 Submitted feedback from the consultation responses*

*The Riksbank* believes that it is better to announce in advance the specific calibration of risk factors. However, the Riksbank agrees that it is important for FI to be able to change the specific calibration of risk factors if needed. The Riksbank believes that it is important that FI always publish ex-post the specific calibration of risk factors.

### *3.2.4 Reasons for FI's position*

By using a transparent stress test methodology, firms and the general public are able to understand and adjust to how the size of the capital planning buffer is determined. Firms are thus able to adapt their operations to the risks that the capital planning buffer takes into account, if they were to find this to be appropriate. Firms and the general public can point out weaknesses in the assumptions to FI, which could result in the methodology being improved in a constructive manner. However, a transparent stress test methodology would need to be formally adopted, and before this submitted for consultation, which



means that FI would be limited in how quickly it could change the specific calibration of risk factors.

If FI chooses not to disclose how the stress test methodology functions, the authority has more flexibility in how quickly it can adapt the methodology to changing behaviour among the firms. In the meantime, firms would not be able to fully consider the stress test methodology in their business planning, which would impair their ability to assess their future capital needs.

A high degree of transparency regarding the overarching methodology and the specific calibration of risk factors that FI uses to determine the capital planning buffer is necessary for the market's actors to be able to have an opinion about the relevance of the methodology. However, it is also of value for FI to be able to change the methodology as needed. For example, changed behaviour at the firms could lead to modifications or extensions to the specific calibration of risk factors. Furthermore, FI is seeing a future need to enhance and develop the specific calibration of risk factors for certain types of risks that are perceived to pose a particularly large risk to individual firms or the financial system as a whole.

FI is therefore opting to keep the possibility to change the specific calibration of risk factors from year to year, but will report ex-post which calibrations and methodologies were used. It is FI's expectation that primarily the same types of risks will be covered by the specific calibration of risk factors from year to year, which will enable a sufficiently high degree of predictability. In normal cases FI intends to obtain the firms' feedback for significant changes to the specific calibration of risk factors.

## **4 Impact of the proposal**

### **4.1 Implications for FI**

FI has worked for a long time with different types of stress tests of banks, and it has also published on recurring occasions the outcome of some of these tests.<sup>9</sup> No new tasks are added to FI's activities through the stress tests discussed in this memorandum. The overarching methodologies that are submitted in this memorandum are in many respects similar to the methodology that FI has used to date for stress tests. The primary difference is that the methodology for the stress test will be transparent and available for public review.

The introduction of guidelines for calibration, however, represents a significant change in how FI calibrates the stress test. Given this position, FI now needs to

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<sup>9</sup> See, for example, [http://www.fi.se/upload/43\\_Utredningar/20\\_Rapporter/2014/stresstest\\_storbank\\_20141210ny2.pdf](http://www.fi.se/upload/43_Utredningar/20_Rapporter/2014/stresstest_storbank_20141210ny2.pdf)

more clearly justify that the stress level being used for each type of risk is within the stated interval. This introduces a limitation on how serious the scenario may be, and thus increases predictability for the firms that are covered by the test.

#### **4.2 Implications for the firms**

The overarching methodology that FI describes in this memorandum ensures equal treatment of firms and a certain predictability surrounding the outcomes of the stress test. If the outcome of the stress test exceeds 2.5 per cent of the risk-weighted assets, the size of the capital planning buffer will exceed the size of the capital conservation buffer, and the stress test's outcome will be crucial for FI's assessment of the individual firm's total capital need. FI's determination of the firms' capital planning buffers as a part of SREP 2016 due to the new guidelines for calibration may deviate from FI's previous determinations. It is FI's current assessment that the size of the capital planning buffers for the four largest firms, as they will be determined in SREP 2016 using the overarching methodology and the specific calibration of risk factors, will be less than 2.5 per cent of the risk-weighted assets.

Given that FI primarily is choosing a top-down approach for the calculation of the capital planning buffer, the impact on the work load at the firms will be small. FI therefore does not believe that the proportionality principle will cause a differentiation of the overarching stress test methodology for the largest firms. No work has been removed from the firms, since they are still expected to use stress tests as a tool in their risk management. FI's overarching methodology and specific calibration of risk factors for determining the size of the capital planning buffer should not be viewed as a guideline for how firms devise their own stress test framework.

## **Appendix - Risk factors that may be taken into consideration in the specific calibration of the stress test methodology**

This appendix provides an overview of the types of risk that FI may take into consideration in its specific calibration of risk factors. The specific calibration of risk factors will not be formally adopted, but rather may change from year to year. This appendix should be viewed as background material that aims to facilitate an understanding of the capital planning buffer memorandum.

The specific calibration of risk factors may include:

- Changes in different market interest rates, share prices, credit spreads and derivative prices. These may affect the firms' net interest income, the market value of the firms' assets and liabilities and the net value of the firms' pension commitments.
- Changes in income from different financial services provided by the firms. Different financial services may be considered to have varying sensitivity to fluctuations in the business cycle.
- Changes in costs for different financial services provided by the firms.
- Changes in personnel costs and other administrative costs.
- Credit losses. These can be calculated directly and indirectly by calculating the probability of default and loss given default.
- Operational losses, e.g. such losses linked to IT disruptions, fraud and legal costs.
- Changes in foreign exchange rates and the impact of such changes on the firms' risk-weighted assets and own funds.
- The risk-weighted exposure amount's sensitivity to migration of credit risk exposures to lower risk categories.

The calibration of the stress for each of these risk factors should be calculated using the adopted guidelines for calibration in the overarching methodology.

Finansinspektionen may take into consideration some or all of the above risk factors in the stress test to determine the size of the capital planning buffer. Finansinspektionen may also add new risk factors.