

MEMORANDUM



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(Obligatory in replies)

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Risk weight floor for Swedish mortgages

Summary

Finansinspektionen is implementing a risk weight floor of 15 per cent for Swedish mortgages. It is crucial to the stability of the Swedish financial sector and individual firms alike that financial firms preserve own funds which cover risks in Swedish mortgage portfolios. The risk weight floor will be implemented during Finansinspektionen's supervisory review and evaluation process as part of its supervisory work related to Pillar 2.

When the Basel 2 agreement went into force in Sweden in 2007, the largest Swedish mortgage lenders received permission from Finansinspektionen to use internal models to calculate the risk weights for their credit exposures. As a result, the risk weights for Swedish mortgages fell drastically. Today, several of the largest actors have average risk weights at around 5 per cent, which can be compared to risk weights of 50 per cent in the Basel 1 regulations in force up until 2007 and 35 per cent using today's standardised approach.

The supervisory review and evaluation process is forward-looking and Finansinspektionen's assessment of the level of the risk weight floor therefore takes into consideration the new, higher capital requirements in the expected Swedish implementation of the Basel 3 agreement.

This measure locks an additional SEK 20 billion of common equity Tier 1 capital into the banking system. Common equity Tier 1 capital is the capital which initially absorbs losses. Finansinspektionen has also made the assessment that the financial firms to a large extent have already taken the higher capital requirements that this floor would entail into consideration in their capital planning. Finansinspektionen wants to use this measure to ensure that a reasonable amount of capital is also maintained in the future.

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1. Introduction

A considerable portion of the Swedish banking assets is comprised of mortgage lending. The largest Swedish mortgage lenders have a total exposure of close to SEK 3,500 billion in mortgages – almost as much as Sweden’s GDP in 2012. Close to SEK 2,500 billion of these are Swedish mortgages.¹ It is therefore crucial to the stability of the Swedish financial sector and individual firms alike that firms preserve own funds which cover risks in this lending.

Finansinspektionen (FI) is presenting in this memorandum the authority’s measure for ensuring that the Swedish financial firms have sufficient own funds to cover the credit risks in their Swedish mortgages. Affected parties were given the opportunity to submit feedback on the measure. The submitted feedback is discussed in conjunction with each section.

2. Background

2.1 Current risk weights for Swedish mortgages

In order to determine the capital requirement for credit risk, the exposure amount for each credit exposure is multiplied by a risk weight. This results in a risk-weighted amount, and it is this amount that is subject to capital requirements.

The capital requirement is currently 8 per cent of the risk-weighted amount, of which at least 2 percentage points must be common equity Tier 1 capital. In conjunction with the implementation of the Basel Committee on Banking Supervision’s Basel 3 agreement in the EU via a new European capital requirement directive (CRD 4)² and a capital requirement regulation (CRR)³, the capital requirement will be raised through the addition of buffer requirements. The definition of own funds will also change, which strengthens the quality of the capital.

When the Basel 2 agreement entered into force in Sweden in 2007 through amendments to the capital requirement directive (CRD 2), several Swedish firm received permission from FI to use the internal ratings-based approach (IRB approach) to calculate the risk weights for their credit exposures. As a result, the risk weights for Swedish mortgages fell drastically. All of the predominant mortgage lenders in Sweden currently use the IRB approach, and several of the largest actors have average risk weights at around 5 per cent for

¹ The calculation includes Handelsbanken, Nordea, SEB, Swedbank, Landshypotek, Länsförsäkringar Bank and SBAB. Data as of Q1 2013. The term “mortgage” in this memorandum refers to the “retail exposure” class and its subgroup “exposures secured by real estate”. See the exact definition in section 7.1.

²<http://register.consilium.europa.eu/pdf/en/13/st07/st07746.en13.pdf>

³<http://register.consilium.europa.eu/pdf/en/13/st07/st07747.en13.pdf> and <http://register.consilium.europa.eu/pdf/en/13/st07/st07747-co01.en13.pdf>

these exposures. This can be compared to risk weights of 50 per cent in Basel 1, i.e. the regulations applicable until 2007, and 35 per cent in the current standardised approach⁴. However, the impact of the IRB approach's lower risk weights is thus far limited by the presence of transition regulations which prevent own funds from being less than 80 per cent of the capital requirement calculated in accordance with Basel 1.⁵

2.2 About the IRB approach

The IRB approach consists of two parts:

- the risk weight formula – which is set out in the regulations and serves as the basis for the calculation of the capital requirement, and
- expected loss (see the fact box) – which is estimated by the banks in accordance with the regulations' minimum requirements and is input data for the risk weight formula.

The expected loss is set per exposure. An individual risk weight is subsequently calculated for each individual exposure in the portfolio. The estimation of the expected loss is based on historical credit loss data. The calculation methodology is set out in legislation and regulations and will be regulated in an EU regulation, which is directly binding, when CRD 4/CRR is implemented.

The low risk weights ensuing from the IRB approach reflect the very low credit losses for Swedish mortgages in the past 20–25 years. Swedish firms meet the minimum requirements for using the IRB approach for Swedish mortgages and carry out the calculations in accordance with the requirements set out in the regulatory framework and established industry practice.

EXPECTED LOSS

Expected loss is a simplified term for the estimates made by banks within the IRB approach. Banks in fact estimate three risk parameters for exposures to mortgages.

- **PD**, Probability of Default
- **LGD**, Loss Given Default

⁴ In order to properly compare the approaches, the expected loss amount, less reserves and other value adjustments, must be added to the capital requirement in the IRB approach. However, for most firms, this amount is currently a small part of the total capital requirement for the Swedish mortgages. In this context, it should also be noted that, unlike in Basel 2, lending collateralised by tenant-owned apartments does not count as lending collateralised by residential property in Basel 1, and therefore were risk-weighted at 100 per cent.

⁵ For more information about how the transition regulations function in relation to the risk weight floor, see section 7.4.

- **Exposure amount**, also called EAD, Exposure At Default

Default in this context means approximately that the credit counterparty is really late with payment or that the lender makes an assessment that it is probable that the counterparty will not be able to pay on time.

Expected Loss (EL) is obtained by multiplying the three risk parameters by each other.

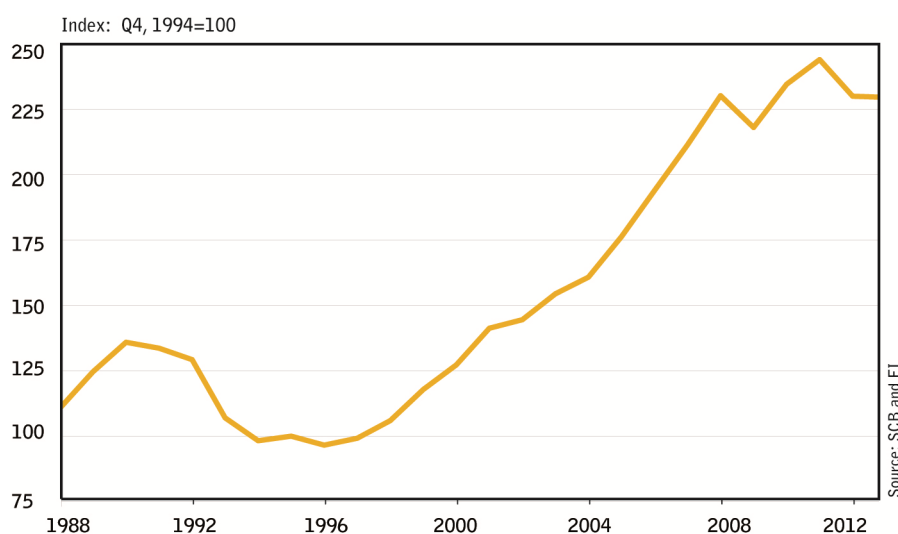
3. Description of the Swedish housing and mortgage market

3.1 Developments and structural changes since the 1990s

Introduction

Credit losses on Swedish mortgages have been very low in the past 20 years, which also includes the crisis years of the 1990s. One reason is that the payment capacity of Swedish households has shown a positive trend throughout this entire period. While housing prices in other countries have fallen since the start of the current crisis in 2008, and in some cases fallen sharply, housing prices in Sweden have even increased slightly.

Diagram 1: Real housing prices in Sweden



One reason for this contrary trend is that the increase in Swedish housing prices has been driven by the income growth of households, declining real interest rates and the low level of new construction projects. The Swedish housing and mortgage market, however, has changed since the crisis of the 1990s, and there are signs indicating that the risk level is higher today than it was back then, even though this has not yet materialised in the form of credit losses.

Household indebtedness

Mortgage lending has increased sharply in the past 20 years. The annual growth rate of mortgage institutions' lending in the middle of this century's first decade was more than 15 per cent.⁶

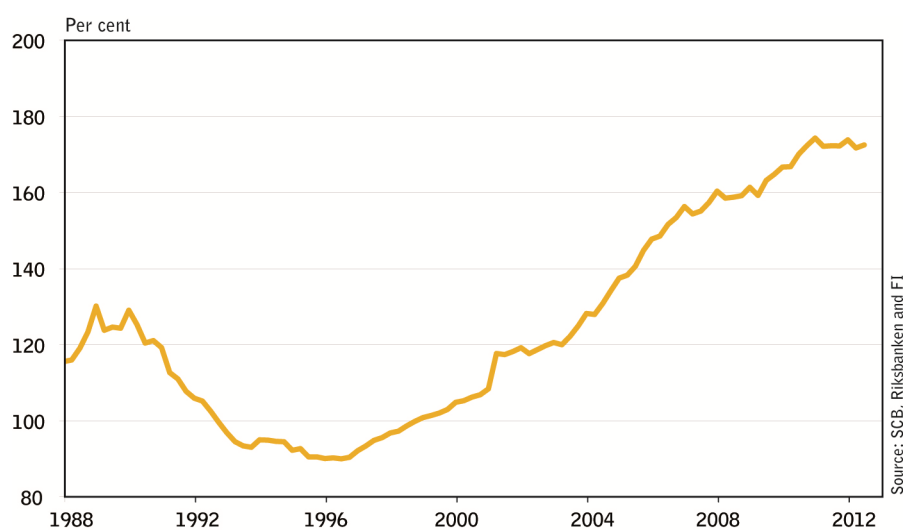
*The loan-to-value ratio*⁷ of new mortgages has increased steadily for most of the past ten years. Between 2002 and 2010, the average loan-to-value ratio for

⁶ SCB, Financial Market Statistics.

new mortgages rose from barely 60 per cent to just over 70 per cent on an aggregate basis. However, the mortgage cap has had an effect in that the loan-to-value ratios of new mortgages in 2011 decreased⁸ and stabilised at this level in 2012⁹. In addition *the actual repayment periods* are growing, as well as *the share of unamortised loans*.¹⁰

The factors described above have led to higher household *indebtedness* in Sweden compared with many other countries in Europe. Swedish households currently have an average indebtedness¹¹ of 170 per cent of their annual disposable income¹², which is significantly higher than the levels before the crisis in the 1990s.

Diagram 2: *Indebtedness in Sweden*



The Department of Real Estate and Construction Management at KTH Royal Institute of Technology highlights that some of the key information that is needed to assess the risks associated with the increased loan-to-value ratios is missing. The institution takes the position that if the increased loan-to-value

⁷ The loan-to-value ratio states the size of the mortgage in relation to the market value of the home.

⁸ Finansinspektionen (2012), *The Swedish Mortgage Market*.

⁹ Finansinspektionen (2013), *The Swedish Mortgage Market*.

¹⁰ However, during 2012 we have been able to see that the Swedish Bankers' Association's recommendation of amortisation for all loans with loan-to-value ratios exceeding 75 per cent is currently being applied, see Finansinspektionen's report, *The Swedish Mortgage Market* (2013).

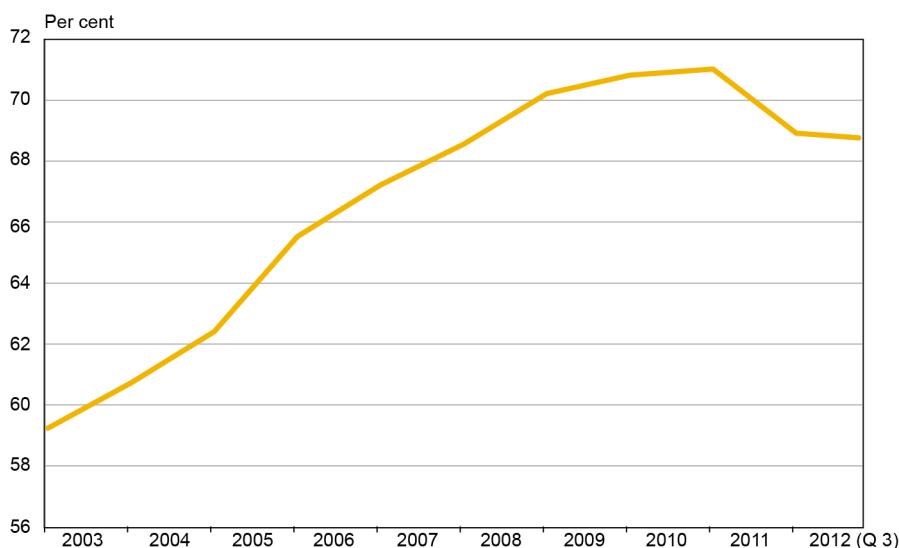
¹¹ Measured as the households' debt divided by disposable income.

¹² The debt ratio for the households that were recently granted a mortgage, however, is significantly higher. Of the households in the sample that were analysed in FI's mortgage report (*The Swedish Mortgage Market*, 2013), 21 per cent have a debt that is more than five times as large as their disposable income, although this represents a decrease compared to the results from the sample from the previous year, which was 27 per cent.

ratios are primarily the result of an increase in lending among households with low loan-to-value ratios, the risks are completely different than if the households that are taking on more loans already have high loan-to-value ratios.

FI's report, *The Swedish Mortgage Market (2013)*, goes into a more detailed analysis of the loan-to-value ratios of new mortgages over the past three years. Unfortunately, this level of detail is not available in the historical data that is available, which includes the years up until 2010 when the average loan-to-value ratios were rising quickly. However, FI would like to state that even if the increase in the average loan-to-value ratio is a result of an increase in lending among households with low loan-to-value ratios, this still contributes to an increase in the total risk level. There is therefore good reason to use the development in the average loan-to-value ratios in new mortgages as a risk indicator, despite the absence of more detailed data. FI is making efforts, though, to further develop its analysis and has recently appointed an analysis group for the mortgage market together with Sveriges Riksbank as part of the Council for Cooperation on Macroprudential Policy.

*Diagram 3: Loan-to-value ratio (volume-weighted) for new lending, Swedish mortgages**



Source: Calculations by Danske Bank, Handelsbanken, Länsförsäkringar Bank, Nordea, SBAB Bank, SEB, Skandiabanken and Swedbank.

**This definition of mortgage differs from the definition otherwise used in this memorandum. Here, "mortgage" only includes mortgages to private individuals.*

Interest rate risk and income risk of households

Another change that has occurred in recent years is related to the interest rate which households choose to pay on their mortgages. It used to be common for mortgage rates to be reset every five years to the current market rate, which was determined solely by the lender. Since the 1990s, borrowers have been offered greater freedom of choice, and fixed interest terms have gradually

shortened. Today it is common for households to choose freely between loans with fixed and *variable interest rates*. Variable interest rate loans – in practice loans with interest rate adjustments every third month – have become predominant. Since around 1999, approximately half of the loan volume consists of variable interest rate mortgages.¹³ This makes households more sensitive to interest rate changes, particularly in light of their high indebtedness.

When combined with factors such as high indebtedness and high loan-to-value ratios, the choice of variable interest rates means that households today are more vulnerable both in terms of interest rate risk and income risk. High indebtedness exposes households to greater interest rate risk since their expenditure is more affected by interest rate changes than it would be if they had lower debt.

The consequences can to some extent be mitigated through expansive social safety nets, for example unemployment and illness compensation. In this context it is important to note that fewer have unemployment insurance today. Also, Swedish unemployment and illness insurance has changed since the 1990s and an increasing number of people are reaching the unemployment benefits payment ceiling. Changes to the welfare system may have affected the financial resilience of households.

The Department of Real Estate and Construction Management at KTH Royal Institute of Technology takes the position that the risks on the housing market can be overestimated if consideration is not given to the fact that variable interest rates can stabilise the economy during downturns. According to the Institution, what can really cause problems is the combination of a downturn in the business cycle and rising interest rates, but it says that risk of such a scenario occurring is improbable.

FI agrees that, under normal conditions, variable interest rates can help stabilise the economy across business cycles. However, it is important to emphasise in this context that the capital requirement aims to cover the losses that may arise during high financial stress and thus should even cover improbable events. It is therefore appropriate to point out that the increasing share of variable interest rates is a risk factor when analysing the risks in a heavily stressed scenario. One such “improbable” event, which we have seen examples of in several European countries in recent years, is an increase in the banks’ funding costs during an economic downturn due to investors’ faltering trust in the banks rather than an increase in the key interest rate by the central bank, and that these rising funding costs are transferred to consumers in the form of higher mortgage rates.

¹³ Sveriges Riksbank (2011), *The Riksbank’s inquiry into the risks in the Swedish housing market*

Overview of risks

FI believes that the risk of high credit losses on Swedish mortgages is currently still low. Swedish households have, despite everything, strong payment capacity. Stress tests that FI carried out on the data from the 2012 and 2013 mortgage surveys show that most households that were granted a new mortgage have a strong repayment capacity and can handle increases in the interest rate. Even assuming sharp price drops combined with unemployment, only a limited portion of the households are affected. FI believes that the mortgage cap has been effective. Households' loan-to-value ratios for new loans decreased during 2011 for the first time since 2002 – the first year comparable data was available. The increase in lending to households decreased to 4.7 per cent in 2012, which can be compared to the average of 10.5 per cent between 2003 and 2010.¹⁴ From an international perspective, the Swedish social safety net is still sound and extensive, which helps safeguard this payment capacity even in a poorer economic climate. However, the capital requirements should also cover improbable events and the structural changes over the past 20 years mean that it is possible that the losses that may arise in Swedish mortgages in a future financial crisis could be significantly higher than during the crisis in the 1990s.

3.2 Indirect effects of risk weights that are too low

In addition to the main reasons described above, there are also further circumstances to suggest that a measure to secure own funds for Swedish mortgages has a positive effect on Swedish financial stability. Even if the household can make the payments related to the mortgage, and therefore fulfils its commitments to the banks, the banking system may be indirectly affected. When the expenses of households increase, or their income decreases, this most likely will lead to reduced consumption. Lower demand for goods and services has a negative impact on small and medium sized companies, which can result in credit losses in other parts of the banks' loan portfolio.

In addition, Swedish financial institutions have chosen to fund their mortgage lending to a great extent by issuing covered bonds. A drop in housing prices could, even if no significant credit losses arise, cause stability problems. If, due to the drop in prices, the financiers of banks were to see significant uncertainty related to their investments, this could lead to them withdrawing their funding. This could in turn result in a liquidity shortage in the financial system. Furthermore, investors in covered bonds have a crucial interest in the firms preserving sufficient capital to cover the risks in mortgage lending. There is thus a very close relationship between capital requirement, credit risk and liquidity risk. From a wider perspective, funding via covered bonds means that the funding which firms take in via deposits is released to fund loans to firms and other counterparties. If the possibility of obtaining funding through

¹⁴ FI follows the developments on the mortgage market on an ongoing basis and conducts an annual mortgage survey. Read the latest report, *The Swedish Mortgage Market*, from 2013-03-07 at www.fi.se.

covered bonds is cut off, this could thus have consequences not just for mortgage lending, but for all types of lending.

Board of Swedish Industry and Commerce for Better Regulation believes that the housing market debate should be reflected in a broader perspective in order to be able to develop the correct policies in the long run. The Board writes that if nothing is done to improve how the housing market functions, there is a clear risk that new disruptions will arise on the financial markets in the future and, in the long run, create problems at the macroeconomic level. The Board therefore believes that there needs to be better cooperation between the affected authorities to highlight and analyse how the housing and capital markets work together.

FI believes that it is not possible to fully understand how the mortgage market functions without also understanding how the housing market functions, and the reverse, and therefore quite understands the Board's point of view. However, it is not part of FI's mandate to improve how the housing market functions. FI does see, though, the need for these issues to be highlighted from as wide of a perspective as possible. Therefore, FI has formed an analysis group together with Sveriges Riksbank as part of the Council for Cooperation on Macroprudential Policy to analyse the consequences of structural changes to the housing market from a long-term perspective. Just because a broader analysis has been requested, this does not mean that efforts should not be made to ensure that the banks are holding sufficient capital to cover the risks in their mortgage portfolios.

4. The limitations of the IRB approach

4.1 About the IRB approach

Despite its name, only certain parts of the internal ratings-based approach are an internal approach. The calculation of the capital requirement and the use of the approach are governed by detailed regulations. The firms estimate the expected loss themselves (see fact box on page 4) based on historical credit loss data, and this is converted into a capital requirement using the risk weight formula specified in the regulations. According to this calculation, the capital requirement should correspond to the loss arising during high financial stress.

4.2 Limitations to the risk sensitivity of the IRB approach

Several interacting factors have contributed to Swedish households only causing the banks a small extent of credit losses historically. These factors are described in section 3. Consequently, the models based on historical credit loss data show very small risks in mortgage credits. The Swedish firms meet the minimum requirements for using the IRB approach for Swedish mortgages.

The IRB approaches used by firms today are risk-sensitive in the sense that they differentiate appropriately between various counterparties and collateral. However, the risk-sensitivity is deficient in that the approaches are constructed so as to capture changes in the risks relating to individual counterparties and collateral, but do not primarily capture more general changes in the risk profile. The models therefore work relatively well for estimating losses as long as fundamental economic and contractual factors governing the repayment capacity of customers is comparatively stable. Such factors may include the general income trend, debt ratios and interest rate-setting mechanisms with regard to customers. Various political conditions can also come into play, such as how the tax and welfare systems are set up. However, the scope of the models does not fully capture these and more far-reaching changes, which cannot be attributed to normal cyclical fluctuations alone.

Section 3 describes how changes have occurred in several fundamental economic factors which affect the Swedish housing and mortgage market. FI believes that the IRB approaches of firms currently do not sufficiently capture the risk in Swedish mortgages. The risk that we may see higher credit losses in the Swedish mortgage portfolio in the future during periods of heavy financial stress than the loss level predicted by the IRB approach calculations needs to be handled.

4.3 Other possible improvements in risk sensitivity

In parallel with the measure described in this memorandum, FI is considering whether it is suitable to require, within the framework of the regulations governing the IRB approach, that firms adjust their estimates of expected loss to capture observable changes in the general risk profile. Even if such a

practice were to be developed, it would not be an alternative to the measure presented in this memorandum, but rather a supplementary measure.

There is a potential contradiction between, on the one hand, requiring that firms base their estimates on sufficiently long and reliable loss data series and, on the other hand, introducing a predominant expert assessment feature in determining the final result - regardless of whether or not this assessment in the end leads to higher or lower capital requirements. FI is therefore endeavouring to find a method which balances these two approaches in a way that works well not only for Swedish mortgages but for all assets included in the IRB approach.

4.4 Current discussions regarding internal models

An international discussion is currently underway about the reliability of internal models. For example, both the Basel Committee on Banking Supervision and the European Banking Authority have appointed working groups to investigate this issue. One of the topics being discussed is how long data series actually need to be to achieve acceptable accuracy in predicting the loss levels at the levels of financial stress the capital requirement is to cover. The risk estimates made by Swedish firms for Swedish mortgages are based on data extending back in time over 20 years, which is a relatively long data series compared to current practice for credit risk models. However, according to observable patterns for credit losses in mortgage portfolios, this time series includes no more than a single credit cycle.

Sveriges Riksbank believes there is a need for a thorough, general overview of how internal models are used with the aim of trying to handle both the methodology problems and the economic implications that are associated with these models. The Riksbank takes the position that such an overview is also motivated by the ongoing international discussion about internal models.

FI shares the Riksbank's view that an overview of the use of internal models is needed. FI is already contributing to such an overview by participating in the international working groups that are investigating this issue, more specifically working groups under the Basel Committee on Banking Supervision and the European Banking Authority. Some investigation is also being conducted within the framework for FI's cooperation with Nordic and Baltic authorities.

5. Risk level assessment

5.1 Current risk cover

The purpose of the measure described in this memorandum, as previously mentioned, is to ensure that Swedish financial institutions have sufficient own funds to cover the risks to which the firms are exposed due to their exposure to Swedish mortgages. Own funds should cover the losses which may be expected to arise during periods of high financial stress.

The exposure-weighted average risk weight according to the IRB approach for the major banks is between 5 and 8 per cent for Swedish mortgages. This corresponds to a capital requirement of between 0.40 and 0.64 per cent of the exposure amount (risk weight multiplied by the capital requirement of 8 per cent). Following the implementation of CRD 4/CRR, the capital conservation buffer as well as systemic risk buffers will be added to the capital requirement (8 per cent).

5.2 Comparative loss levels

FI is of the opinion, as described in section 3, that there is reason to believe that the loss levels which Swedish mortgages may incur in the future risk being higher than the losses during the Swedish crisis of the 1990s. In terms of guidance for what could be a reasonable forward-looking risk level, analysing the loss data from this period is nevertheless of interest. One perspective is to consider these loss levels as a starting point for the discussion regarding the extent of losses which may arise in future periods of high financial stress.

Unfortunately, it is difficult to obtain loss data from the crisis of the 1990s that is presented in a way that makes it comparable with the portfolio the measure is intended to cover. A cautious calculation based on historical data used by the four major Swedish banks as a statistical basis for IRB model estimates indicates that the loss level for Swedish mortgages during the crisis of the 1990s was nearly 0.25 per cent per annum¹⁵. The losses during the crisis were sharply aggravated primarily during a period of around three years. These years give an aggregate loss of nearly 0.7 per cent, which corresponds to a risk weight of just under 9 per cent¹⁶. Other available data, which covers fewer banks or a non-comparable portfolio, indicates slightly lower loss levels. A risk weight of 9 per cent therefore may be viewed as a conservative, i.e. slightly overstated, estimate.

¹⁵ These figures do not represent exact accounting losses. Partly, the data is based on economic loss (which in this context tends to be lower than accounting loss, thus bringing the estimation down), and partly, there are limitations in the regulations regarding how low *loss given default* (LGD), may be set (which pushes the estimation up). FI's best assessment of the overall effect is that the figures, if anything, overestimate reported losses.

¹⁶ 0.7 per cent divided by the capital requirement of 8 per cent. The calculation method involves a simplification in that the expected loss amount is not included.

In this context, it ought to be pointed out that the regulations for the IRB approach are based on the assumption that the capital requirement will cover the losses which may arise during a period of one year (and not three, like in this case). There is therefore reason to discuss if the capital need should be related to losses during a period as long as three years. However, because the allocation of loss provisions can partly be affected by the firms themselves (the provisions can be taken out early in a crisis or spread over several years for precautionary reasons), FI believes that, to support the assessment of the capital need, it is reasonable in this particular case to include the total loss levels of the crisis.

Another valuable element in assessing a reasonable risk level in Swedish mortgages is the Swedish mortgage lenders' own assessments of which losses may arise in a scenario of high financial stress, assessments which are made with the support of stress tests on the portfolio's actual customers, their income and loans. In other words, this alternative calculation method is not based at all on historical relationships, unlike the IRB approaches. These stress tests result in a maximum amount which the firms risk losing of around 0.5 – 0.8 per cent of the exposure amount, corresponding to a risk weight of around 6 – 10 per cent.

As a final point of comparison, FI wishes to highlight the loss levels used by the Riksbank in its stress tests of the Swedish banking system. The Riksbank calculates in its most recently published stress test¹⁷ that the Swedish firms, during three years of financial stress, lose in total 0.95 per cent of their exposures to Swedish households. This loss level corresponds to a risk weight of just under 12 per cent.¹⁸ When the level is set in relation to a capital need, account must be taken of the level of financial stress the test aims to analyse. In the quantitative calculation method of the IRB approach, the significance level, the corresponding level of stress in the economy, was set at 99.9 per cent. The Riksbank has not assigned to its scenario a quantitative significance level that makes it directly comparable to the level of financial stress the Pillar 1 capital requirement intends to cover. FI makes the assessment that the loss levels illustrated in the Riksbank's stress scenario should correspond to a slightly lower level of financial stress than what the capital requirement is intended to cover.

5.3 Comparative risk weight levels

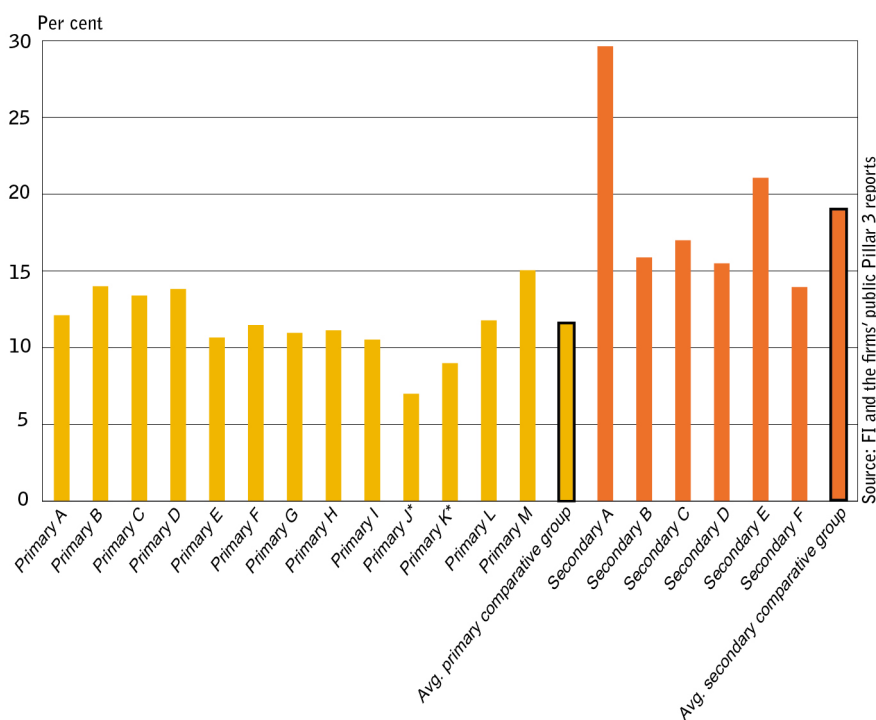
In the absence of sufficiently representative and reliable credit loss data, a comparative study of risk weight levels is an important component in determining the risk level for Swedish mortgages.

¹⁷ Sveriges Riksbank report, Financial Stability 2012:2, from November 2012

¹⁸ In its consultation statement regarding the risk weight floor for Swedish mortgages, Sveriges Riksbank states that the stress test implies an average risk weight of 11.9 per cent. 11.9 per cent multiplied by 8 per cent (the capital requirement) implies 0.95 per cent in credit losses.

In order to make this comparison, FI used public data (data published in accordance with Pillar 3 in the Basel 2 agreement) from the largest western European financial groups that use the IRB approach for their mortgage portfolios¹⁹. FI has subsequently divided them into two groups by region. A primary comparative group consists of groups from the Nordic region and from an additional number of western European countries with a historically relatively robust mortgage market, such as France, Germany, the Netherlands, Belgium and Switzerland (13 firms in total). A secondary comparative group is also reported that consists of Spain, Italy and the UK (6 firms in total). The primary comparative group has an average risk weight of just under 12 per cent while the average for the secondary comparative group is 19 per cent. As shown in the diagram, the risk weights also vary considerably between the two comparative groups.

Diagram 4: Average risk weights for mortgage portfolios at comparable European financial groups, data as of Q4 2012.



*data from Q4 2011

In a comparative study, it is also useful to include the market's assessment of the risk, and in this case debt investors are of particular interest. The assessment of credit rating agency Standard & Poor's can serve as an indication of the market's view of the risk in Swedish mortgages. One of the components in Standard & Poor's credit rating methodology²⁰ is the institution's own capital adequacy calculation, which uses adjusted risk weights. The institution divides the world's banking system into 10 different

¹⁹ IRB exposure class "retail/residential mortgage"

²⁰ The methodology is available at www.standardandpoors.com.

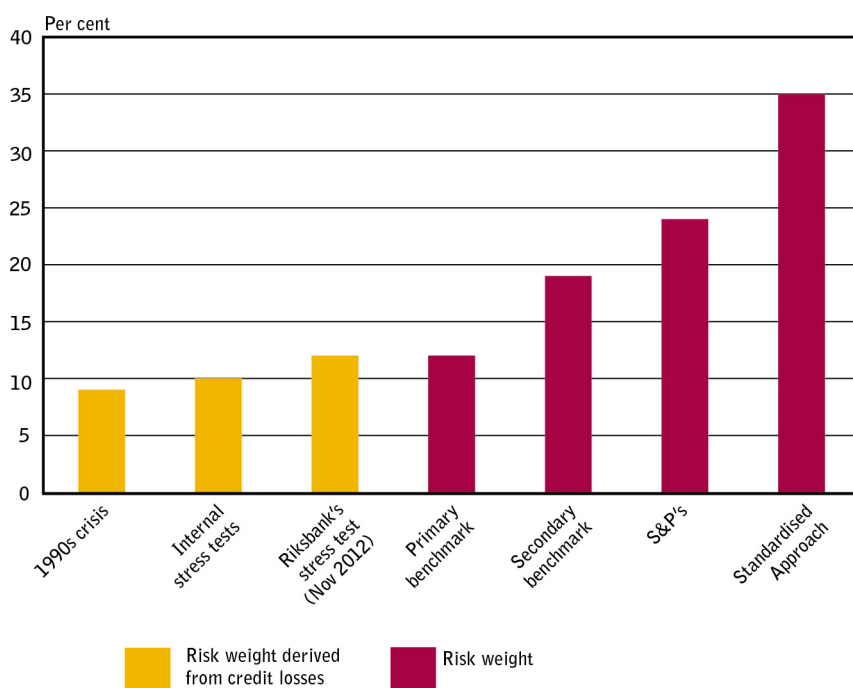
economic risk groups, where Group 1 has the lowest risk and Group 10 the highest. Sweden belongs to Group 2. Standard & Poor's allocates a risk weight of 24 per cent to mortgages from Group 2 countries. As a comparison, mortgages from Group 1 countries are given a risk weight of 19 per cent, and mortgages from Group 3 30 per cent.

Finally, FI wishes to mention the risk weight level applicable to mortgages in the standardised approach, which is the method all firms must use to risk-weight their assets if they have not applied for and been granted permission to use the IRB approach. The risk weight for mortgages in the standardised approach is 35 per cent. The risk weights in the standardised approach can be viewed generally as a conservative estimation of the risk level for the mortgage portfolio in an average internationally active bank in a developed country. Because FI considers the Swedish housing and mortgage market to be a less risky market than the international average, in spite of the changes in a slightly negative direction in recent years, FI deems it reasonable for the risk level for Swedish mortgages to be below that stipulated by the risk weights of the standardised approach.

5.4 Overall assessment

A compilation of the points of comparison regarding the risk in Swedish mortgages described in this section confirms the conclusion that firms' IRB approaches do not sufficiently capture the risk in Swedish mortgages. All the points of comparison are clearly above the risk weight levels of 5 per cent, which is the result of many of the largest Swedish firms' IRB approaches. At the same time all points are much lower than the 35 per cent risk weight of the standardised approach.

Diagram 5: Compilation of comparative risk weight levels



Because the capital requirement aims to cover future losses, it is not possible to specify the “correct” risk weight level with exact precision. The capital need assessment is therefore inevitably a result of an overall assessment of future loss levels at a high level of financial stress. Furthermore, FI believes that there are reasons to suggest that, in the event of uncertainty about the loss level, and the corresponding risk weight level, making a conservative assessment – i.e. choosing a slightly higher risk weight level – is warranted. The strong dependence of the Swedish firms on market funding makes them particularly sensitive to investor confidence in their capital strength. If this confidence were damaged, the consequences for Swedish financial stability could be serious. FI’s overall assessment, taking account of the risk weight levels indicated by the comparative data and FI’s assignment to safeguard financial stability, in the memorandum submitted for consultation was therefore that the capital need for Swedish mortgages corresponds to an average risk weight of 15 per cent. This assessment is based on the levels and the allocation of capital ensuing from the forthcoming capital requirement regulations according to Pillar 1 in CRD 4, including the new buffer requirements (which are described in more detail in section 6.2).

The Swedish Bankers’ Association makes the point that 15 per cent is a conservative assessment of the risks associated with Swedish mortgages. The Association writes that this means that Swedish banks’ risk weights for mortgages will be at the average EU level, which should be viewed in part against the background that the Swedish mortgages have historically given rise to very few credit losses and in part against the background that the general perception of the Swedish mortgage market is that it is robust and functions well from an international perspective.

Sveriges Riksbank, however, believes that there are grounds for analysing if a floor of 15 per cent is sufficient. The Riksbank also believes, more specifically, that there is a need to analyse if the risk weight floor is sufficient for covering future unexpected losses related to mortgages in accordance with the capital adequacy regulation’s aim. The Riksbank believes that an analysis is also needed of whether the floor provides a sufficient safety margin for the uncertainty surrounding how well the estimated losses reflect the credit risk. The Riksbank also writes that higher risk weights than the proposed floor may be required in order to give greater consideration to indirect effects associated with mortgages.

FI agrees with the Riksbank that there are grounds to regularly evaluate whether the risk weight for Swedish mortgages sufficiently covers the future risk in Swedish mortgages. It is built into the construction of the supervisory review and evaluation process that if new conditions arise that require a re-assessment of the risk level in a firm or a group of firms, FI will carry out such an assessment.

As stated above, FI believes that a conservative assessment of the risk weight level is warranted. This prudent position is well justified, in FI’s opinion. There

currently is no reason to set the risk weight floor at any other level than 15 per cent. Should circumstances change in such a manner that a new assessment of the general risk level for Swedish mortgage portfolios is required, FI intends to publish the new risk weight level with its reasoning.

6. Legal prerequisites for raising the risk weights

6.1 Higher risk weights through regulation

Current rules

Detailed regulations about how a firm is to calculate its risk-weighted exposure amount for retail exposures are set out in Chapter 39 of Finansinspektionen's regulations and general guidelines (FFFS 2007:1) regarding capital adequacy and large exposures (the regulations). The rules are based on parts 1– 3 of Appendix VII to the Credit Institution Directive (also called the Capital Requirement Directive, CRD 3).

Because the Credit Institution Directive is in parts a minimum harmonisation directive, there are possibilities for individual countries to introduce stricter requirements than those prescribed by the directive. For example, FI can, within the framework of the present authorisation, make changes in the detailed rules for calculating risk-weighted exposure amounts. Such changes could, for example, involve a minimum permitted limit for how low a risk-weighted exposure amount for a certain exposure class can be. In light of this, FI could, according to the applicable rules, relatively simply and with precision achieve a state in which the banks preserve a certain amount of capital in relation to their mortgages.

Pending regulations

Changes to the regulations would certainly be effective and appropriate, but only for a limited time since detailed rules for the calculation of risk-weighted exposure amounts are proposed in CRR. FI has therefore wanted to wait until CRR and CRD 4 were adopted to see if it would be possible to raise the risk weights through changes to the law or regulations. However, FI can now state that the proposed possibilities will not be able to achieve the desired effect.

Increase of the risk weights during a limited period of time

Article 443a of CRR proposes to give national authorities the possibility to, during a limited period of time (2 years), raise the risk weights for exposures secured by residential and commercial properties under certain conditions. Since the general aim of FI's new practice is to strengthen the firms' resilience from a significantly longer perspective than two years with a potential extension such a measure is not sufficient. Furthermore, the proposal states that competent authorities primarily should try to achieve the same results within the framework for Pillar 2, before a measure in accordance with Article 443a CRR is implemented.

Floor for the firms' own LGD estimations

In Chapter 3 of CRR, regarding the IRB approach, Article 160 regulates how loss given default (LGD) should be calculated. It states that the average LGD value for all retail exposures collateralised by real estate may not fall below 10 per cent. This floor rule is already applied today. A new feature of CRR is that the competent authority should assess on an annual basis whether the minimum values for LGD are appropriate within its territory or whether it is appropriate to establish higher minimum values.

The LGD value has a direct linear relationship with the capital requirement for individual credits and hence also for the credit portfolio as a whole. If the minimum level of LGD were to be raised from 10 per cent to e.g. 30 per cent, this would mean that firms which currently have average risk weights for mortgages of 5 per cent would have risk weights of 15 per cent, i.e. an increase of 10 percentage points. A firm with an average risk weight of 10 per cent would have a new average risk weight of 30 per cent, i.e. an increase of 20 percentage points. FI believes it would be unfortunate to further amplify the differences in risk weights which derive from the firms' variations in internal approaches for calculating risk-weighted exposure amounts, but which are often fundamentally not motivated by a difference in the actual risk of the exposures. Given this background, utilising the option set out in Article 160 of the regulation would be less appropriate.

6.2 Raised risk weights through supervisory measures (Pillar 2)

FI, according to the current rules (Chapter 2, sections 2 and 3 of the Capital Adequacy Act), may decide that a firm shall have greater own funds than the minimum level which otherwise applies if it is deemed necessary, in connection with a capital adequacy assessment, to cover the risks to which the firm is exposed.

It is not expressed by law which considerations FI should make in the capital adequacy assessment in question. However, the underlying article, Article 136.2 of the Credit Institution Directive, refers to the review and evaluation which shall be performed in accordance with article 124 of the same directive. Article 124 is matched in Swedish law by the provisions regarding FI's supervision in sections 29 and 30 of the Capital Adequacy and Large Exposures Ordinance (2006:1533) (the capital adequacy ordinance). These supervisory provisions are applied, for instance, in FI's supervisory review and evaluation process. Part of the supervisory review and evaluation process is to review the firms' methods for managing and measuring risk, with the purpose of calculating losses in financially stressed conditions, and to evaluate and preserve capital that is sufficient in its amount, class and distribution to cover the risks, i.e. the internal capital adequacy assessment process that the firms are obligated by law to conduct.

The capital need assessment for Swedish mortgages is performed as part of the supervisory review and evaluation process – that is, in an overall assessment of

the firm's total capitalisation. This assessment covers all of the firm's risks. Thus, an altered assessment of the capital need for a specific risk must not necessarily be matched by the exact same change to the total capital need, since any changes to the assessment of other risk types must be added.

FI's supervisory review and evaluation process is firm-specific in many ways. This means that FI takes account of quantitative and qualitative aspects of the firm's internal capital adequacy assessment. The firms' internal capital adequacy assessments normally vary in both of these respects. It is therefore not possible to specify in advance the exact extent to which all firms with internal approaches for calculating risk-weighted exposure amounts in Pillar 1 have a need to preserve more or a different type of capital than they already do today. However, the risk that the firms' internal models currently do not take sufficiently into account is common to all firms with Swedish mortgage portfolios.

Supervisory review and evaluation process taking account of forthcoming regulations

Both the internal capital adequacy assessment of firms and FI's supervisory review and evaluation process are forward-looking. In both respects it will be necessary to take into account probable changes in the regulations brought about by CRD 4 as early as in 2013. FI already possesses the authorisations needed to be able to take the measures now under discussion and CRD 4 does not contain any limitations in this regard. However, the considerations FI must make in the supervisory review and evaluation process, and the risks which can typically give rise to a greater capital need than that stipulated by the statutory minimum requirement will become clearer. For example, a clarification is proposed to enable the authority to decide on greater own funds if it is probable that the risks will be underestimated, despite the applicable requirements in the regulation and directive being met. A conceivable example of when the provision could be applied is if a firm uses an approved internal model to calculate risk-weighted exposure amounts, but the method, in the opinion of the authority, entails an underestimation of the risks and hence of the capital need.

Therefore, the practice FI plans to apply for the supervisory review and evaluation process in 2013 should be based on the proposals that are in the new regulation, in particular the Swedish implementation of CRR and CRD 4.

In this context, it can be mentioned that, in CRD 4, a possibility is proposed for the competent authority to perform similar supervisory review and evaluation processes for firms which e.g. have similar risk profiles or similar geographic areas for their exposures, or which constitute similar systemic risk. In such a case, it should be possible to make any decisions regarding increased own funds requirements in a similar or identical manner.

All of the industry associations (Swedish Bankers' Association, Association of Swedish Finance Houses, Swedish Investment Fund Association and Swedish

National Savings Banks Organisation) state that they would like to have a dialogue with FI regarding how the supervisory review and evaluation process will be applied when CRR and CRD 4 are implemented.

FI is aware that there is a need to make some clarifications regarding the interplay between the Pillar 2 process and the changes to the capital adequacy regulations as a result of CRR and CRD 4. FI intends to be as clear as possible and to maintain a continuous dialogue with the firms about these issues. Before the Swedish legislation is in place, however, it is not possible to answer with certainty all outstanding questions.²¹

6.3 Level and capital type considerations

In addition to the capital requirement of 8 per cent of risk-weighted assets, CRD 4 also includes a combined buffer requirement. The combined buffer requirement consists of a capital conservation buffer and systemic risk buffers.

In a press release in November 2011, FI, the Riksbank and the Swedish Ministry of Finance communicated that the ambition is to impose on systemically important firms an extra capital requirement for systemic risk amounting to 3 per cent as of 2013 and 5 per cent as of 2015 (the November accord).²² The press release also specified that the requirement would at least apply to the four major Swedish banks, i.e. Handelsbanken, Nordea, SEB and Swedbank, and be placed at group level. The size of the capital conservation buffer is 2.5 per cent. The countercyclical buffer is intended to vary over time in line with changes in the business cycle.

No calculation can precisely provide the optimal capital need for an overall Swedish mortgage portfolio. This is not least apparent in the fact that largely all firms with internal approaches for calculating risk-weighted exposure amounts have arrived at differences that are far from insignificant in their capital needs for relatively homogeneous portfolios. FI thus deems (see section 5) that a capital need for Swedish mortgages corresponding to an average risk weight of 15 per cent matches the risk (the “risk weight floor”). By specifying the capital need in the form of an average (exposure-weighted) risk weight, however, the need for predictability and equal treatment in FI’s supervisory review and evaluation processes is satisfied.

²¹ At the Cabinet meeting on April 19, 2012, it was decided that a special investigator should submit a proposal for the changes that must be made in Swedish law to implement CRR and CRD 4. See Dir. 2012: 34.

²² See the press release dated 25 November 2011 on www.fi.se: New capital requirements for Swedish banks. Exactly how the November accord will be implemented in Swedish law, given the options set out in CRR and CRD 4, is left to the discretion of the lawmakers. However, FI states that, with regard to Swedish mortgages, there is nothing in CRR and CRD 4 that would prevent the implementation of the November accord in the manner described in the press release.

FI shall assess the overall capital needs of individual firms in its supervisory review and evaluation process. In order to be able to develop a floor that can be used by all IRB firms, FI based its capital requirement levels on the capital requirement regulations according to Pillar 1 as determined by CRD 4, including the combined buffer requirement in accordance with the November accord. Because the countercyclical buffer is hard to predict, both in terms of how large it is and when it is to apply, it has not been taken into account in the assessment of the risk weight floor level.

In the assessment of a suitable risk weight floor level, FI has also taken into account the type of capital the firm would have needed to cover the risk if it had been within the statutory minimum requirement in Pillar 1. The common equity Tier 1 capital ratio that a firm shall have according to the minimum requirements in CRD 4, including buffers, will hence be reflected in FI's assessment of the capital need for risks associated with Swedish mortgages. This does not involve a formal requirement for a certain capital ratio in Pillar 2, but is an account of how FI intends to make a uniform and consistent assessment of the capital need. The fact that the extent to which such an explicit possibility will be afforded by Swedish legislation when CRD 4 is implemented is unclear does not matter in this context; FI's starting point in the standardised description given in this memorandum about the requisite risk weight for Swedish mortgages is that the capital used to meet the overall capital requirement is such that is pursuant to the Pillar 1 requirements, including the combined buffer requirement in accordance with the November accord, with the exception of the counter-cyclical buffer.

The Swedish Bankers' Association believes that it clearly states in Article 100 of the proposed directive that Pillar 2 requirements shall be covered by the total own funds and therefore is opposed to the additional capital need being covered by a specified distribution of capital.

If it is the case that Article 100 of the proposed directive changes FI's possibilities to have an opinion about a firm's distribution of capital, this will be apparent first when the directive is implemented into Swedish law. The assessment of the required risk weight for Swedish mortgages that FI makes in this memorandum assumes that the capital being used to cover the capital need is distributed in accordance with the Pillar 1 requirements. If the legislation grants a firm the right to cover risk with capital of lower quality, FI will need to make a new assessment of the required risk weight level.

7. Description of the selected measure

7.1 Detailed approach

This section contains a detailed description of the calculation method which Finansinspektionen will use in the supervisory review and evaluation process for the specific assessment of whether a firm is preserving sufficient capital to cover the risks in its Swedish mortgage exposures.

Scope

The firms covered by the measure are the firms authorised to use an internal model to calculate the capital requirement for credit risk (the IRB approach), and which have an exposure to Swedish mortgages. This currently applies to seven financial groups and the firms included therein (if they have not been granted exemptions from using the IRB approach): Handelsbanken, Nordea, SEB, Swedbank, Landshypotek, Länsförsäkringar Bank and SBAB. Six savings banks are also included: Bergslagens, Färs & Frosta, Rekarne, Sjuhärad, Vimmerby and Ölands.²³

If a new firm were given authorisation to use the IRB approach to calculate the capital requirement for Swedish mortgages, this firm too would be covered by the measure. Firms using the standardised approach to calculate the capital requirement for credit risk are not affected.

Entry into force

The measure which FI is now implementing is a change in practice and not a new regulation. There is thus no formal date of entry into force. The change in practice instead is effected immediately in FI's ongoing supervisory review and evaluation processes.

In the supervisory review and evaluation process, which is forward-looking, FI takes account of the regulatory changes expected to be implemented in the near future. This means that, although the new capital requirement levels in CRD 4/CRR and changes in legislation due to the Swedish November accord have not yet come into force, the assessment of the capital need – and the translation between risk weights and the capital need into Swedish kronor – is made with account taken of the new, higher capital requirements.

Definition of affected portfolio

The portfolio covered by the risk weight floor, and which in this memorandum is, in simplified terms, referred to as “Swedish mortgages”, consists of Swedish exposures in the “retail exposures” class and its sub-group “real estate credits”. The exposure class predominantly consists of mortgages for private individuals, but can also include certain exposures to small firms with loans

²³ All of them are included in the Swedbank group, except Bergslagens Sparbank since Swedbank sold its holding of shares to the Savings Bank Foundation in 2010. However, they nevertheless have permission to use an internal model as individual firms.

collateralised by real estate and exposures that are loans collateralised by real estate other than residential properties. For an exact definition, see Chapter 37, sections 4 and 5 of the Capital Adequacy Regulations.

To the extent that this definition changes due to the entry into force of CRR, FI will adapt the supervisory review and evaluation process to the new definition. FI intends, at least in this initial step, to apply the new assessment approach only to *Swedish* mortgages, as described above.

There are major advantages in applying a definition which is already established by regulations. The fact that FI is using the same exposure classification in the supervisory review and evaluation process as in the firms' calculations in the IRB approach makes it easier for the firms affected. This also means that the effects of the measure are easier to analyse and report.

Definition of average risk weight

The risk weight floor relates to the exposure-weighted average risk weight. The exposure-weighted average risk weight is calculated by dividing the portfolio's risk-weighted assets by the exposure amount.

Capital requirement and capital type

As explained, the supervisory review and evaluation process takes account of the new higher capital requirements in CRD 4/CRR. The level of the risk weight floor of 15 per cent assumes that the calculation of the capital need, besides the capital requirement of 8 per cent, includes the capital conservation buffer of 2.5 per cent and, for major banks, the systemic risk buffer of 3 per cent as of 2013 and 5 per cent as of 2015 – as described in the legal prerequisites in section 6. The stated floor level further assumes that the capital is of a type (i.e. the distribution between common equity Tier 1 capital, Tier 1 capital and Tier 2 capital) which reflects the provisions of CRD 4/CRR and the November accord.

Calculation example

In order to calculate the capital need in SEK for Swedish mortgages using this measure, the exposure amount of the portfolio is first multiplied by 15 per cent (the risk weight floor). This amount is then multiplied by the common equity Tier 1 capital requirement (which is 7 per cent, including the capital conservation buffer) and the requirement on Tier 1 capital and Tier 2 capital that together total 3.5 per cent, i.e. a total of 10.5 per cent. For the major banks, there is an additional amount for systemic risk of initially 3 per cent and then 5 per cent as of 2015, in accordance with the November accord.

Calculation example A, increase in capital need:

Group A, which is *not* one of the four major banks, has an exposure amount of SEK 100 billion for Swedish mortgages. The current average risk weight is 5 per cent. For this group, the risk weight floor of 15 per cent involves an increased capital need of SEK 1.05 billion, of which SEK 0.7 billion consists of common equity Tier 1 capital, according to the calculation below.

Increase in the average risk weight (floor reduced by the current average risk weight):

$$15 \% - 5 \% = 10 \%$$

Increase in the risk-weighted assets (increase in the average risk weight multiplied by the exposure amount):

$$10\% * SEK 100 bn = SEK 10 bn$$

Increased capital need (increase in the risk-weighted assets multiplied by the own funds requirement, which is 10.5 per cent including the capital conservation buffer):

$$SEK 10 bn * 10.5\% = SEK 1.05 bn$$

Increased amount covered by common equity Tier 1 capital (increase in the risk-weighted assets multiplied by the common equity Tier 1 capital requirement, which is 7 per cent including the capital conservation buffer):

$$SEK 10 bn * 7 \% = SEK 0.7 bn$$

Calculation example B, increase in capital need:

Group B, which *is* one of the four major banks, has an exposure amount of SEK 500 billion for Swedish mortgages. The current average risk weight is 10 per cent. For this group, the risk weight floor of 15 per cent involves an increased capital need of SEK 3.4 billion, of which SEK 2.5 billion consists of common equity Tier 1 capital, according to the calculation below.

Increase in the average risk weight (floor reduced by the current average risk weight):

$$15 \% - 10 \% = 5 \%$$

Increase in the risk-weighted assets (increase in the average risk weight multiplied by the exposure amount):

$$5 \% * SEK 500 bn = SEK 25 bn$$

Increased capital need (increase in the risk-weighted assets multiplied by the own funds requirement, which is 13.5 per cent including the capital conservation buffer and an additional amount for systemic risk of 3 per cent):

$$SEK 25 bn * 13.5 \% = SEK 3.4 bn$$

Increased amount covered by common equity Tier 1 capital (increase in the risk-weighted assets multiplied by the common equity Tier 1 capital requirement, which is 10 per cent including the capital conservation buffer and an additional amount for systemic risk of 3 per cent):

*SEK 25 bn * 10 % = SEK 2.5 bn*

7.2 Expected loss

The capital requirement, expressed in relation to the risk-weighted assets, aims to cover unexpected losses, expressed simply as the losses which exceed the expected loss (see also the fact box on page 4) and which arise in a certain level of financial stress. The expected loss, which is more or less the long-term average loss, is normally covered in an average year by the firm's accounting provisions. The IRB rules specify that there is an additional deduction from own funds in cases where the total expected loss amount, calculated using the IRB approach, exceeds the firm's provisions and other value adjustments according to its accounting. Because provisions in an average year in general can be expected to correspond to the expected loss, the deduction is currently small in relation to the capital requirement for mortgages for most of the firms affected.

The expected loss amount's impact on capital adequacy is not covered by the measure described in this memorandum. Its impact on own funds will thus be calculated in the same way going forward.

7.3 Potential effect on firms' capital planning buffer

Already today, as part of their internal capital adequacy assessment process, firms take into account the need for a buffer so that they can cope with a stressed economic scenario in the next few years without ending up in a situation where the capital adequacy ratio involves restrictions for the firms' freedom of action. The firms' need to preserve a capital planning buffer does not decrease on the basis of FI's assessment that the long-term risks in Swedish mortgages are higher than those to be matched by the risk weights in the IRB approach.

The risk weight floor means, however, that the part of a capital planning buffer that currently covers increased risk weights due to migrations in the risk classes for Swedish mortgages will no longer be required, as long as the average risk weight is below 15 per cent for the entire scenario.

7.4 Risk weight floor in relation to current transition regulations

Landshypotek AB requests a clarification of how the risk weight floor for Swedish mortgages interacts with the current transition regulations in the capital adequacy regulatory framework.

The transition regulations are set out in section 5 of the Capital Adequacy and Large Exposures (Implementation) Act (2006:1372). This provision states that a firm with permission to use an internal method to calculate risk weights shall have own funds corresponding to a minimum of 80 per cent of the capital requirement calculated using the previously applicable regulations, Basel 1.

FI would like to clarify the following. The transition regulations apply to the total capital requirement, not to risk weights for individual portfolios. Since the supervisory review and evaluation process should be forward-looking, the assessment of the capital need should also take into consideration the higher capital requirements ensuing from CRR/CRD 4 and the November accord.

In order for the risk weight floor *not* to result in additional capital needs in Pillar 2, one of the following prerequisites must be met:

- the firm's *total* capital requirement in accordance with the transition regulations exceeds the firm's expected capital requirements calculated in accordance with CRR/CRD 4, the November accord and the risk weight floor

or

- the firm's average risk weight for Swedish mortgages is at least 15 per cent without taking into consideration the transition regulations.

This means, in other words, that an additional capital need for Swedish mortgages *can* occur in Pillar 2 as an effect of the risk weight floor, even in cases where the capital requirement specifically for the mortgage portfolio is higher under the transition regulations than the risk weight floor. This applies if the transition regulations are not binding at the aggregate level, i.e. that the firm's total capital requirement under the transition regulations is less than the firm's expected capital requirement in accordance with CRR/CRD 4, the November accord and the risk weight floor.

Sveriges Riksbank states that when CRR/CRD 4 is finalised, consideration should be given to whether the risk weight floor will need to be reassessed depending on whether the current transition regulations will apply even after the implementation of the new regulations or whether other corresponding rules will be implemented as a Pillar 1 requirement. The Riksbank also writes that, in this context, FI should also evaluate the risk weight floor from the perspective that this requirement should not be lower than the requirement in the current transition regulations.

The CRR/CRD 4 proposal does not include any new, permanent floor rules in Pillar 1. The current transition regulations are still in effect. However, each competent authority has the option of choosing not to apply them. FI takes the position that it is stated in the Swedish November accord that the transition

regulations are not intended to be applied when the accord's new, higher capital requirements enter into force.

As clarified in the answer to Landshypotek's question, the effects of the transition regulations must be evaluated in relation to the total capital requirement. The transition regulations, in the manner they are implemented into Swedish law, do not establish a floor for either risk weights or individual portfolios, but rather only for the total capital requirement.

8. Consequence analysis

8.1 Consequences for affected firms

Capital cost

All else being equal, a higher own funds requirement entails firms having to preserve greater own funds. The cost of preserving own funds exceeds the cost of other funding. A simple analysis therefore indicates that FI's measure will involve higher costs for the firms covered by the measure. The analysis of the ultimate net expense, or if the measure even gives rise to a net expense at all, is not so easy, however.

The capital requirement calculated using IRB approaches is far from the only factor affecting the extent of own funds that firms choose to preserve. Other factors are the firms' internal capital adequacy assessment in accordance with Pillar 2 and the requirements placed by investors and other market players on the firms' capital adequacy. These requirements are in turn affected by these players' assessment of the firms' risk level and confidence in the firms' risk weights. The cost of the part of the funding that does not belong to the firm's own funds is not constant either, but is rather highly affected by the firm's capital strength. The better the capital adequacy – and the greater the confidence in the firm's capital strength – the lower the cost of this funding. Given these many factors, whose effects are difficult to distinguish, it is difficult to calculate with any precision whether the measure will involve a cost for the firms, and in this case how high it will be.

Because the risk weight floor is being introduced as part of the supervisory review and evaluation process according to Pillar 2, the reported capital ratios will not be affected because these calculations are made in accordance with the Pillar 1 regulations. What the floor entails is that firms' must preserve greater total own funds – insofar that they do not already themselves set aside capital exceeding the floor level for the Swedish mortgages. The affected firms have largely already opted to preserve a capital buffer for mortgages in excess of the capital requirement in the IRB approach. This choice is largely a result of the firms' own, and the market's, assessment of the risk level in Swedish mortgages. The fact that FI is now introducing a floor for the minimum permitted average risk weight is therefore a way to formalise a requirement which is already being placed on firms to a certain extent. However, it cannot be ruled out that the requirements of the market have also been affected to a certain extent by an expectation of FI undertaking a measure to ensure that capital covers risk. For certain firms, the measure will also involve an actual increase in the capital they have set aside for mortgages.

If a comparison is only made with the present risk weights in accordance with the IRB approach in Pillar 1, and without account taken of the capital the firms have themselves chosen to set aside for mortgages, the floor entails more than SEK 20 billion in additional common equity Tier 1 capital being locked into

the banking system. How far the individual groups will be affected is determined by the size of their exposure to Swedish mortgages on the one hand, and by the group's average risk weights for Swedish mortgages according to the IRB approach on the other.

Table 1: Effect per financial group, data as of Q1 2013

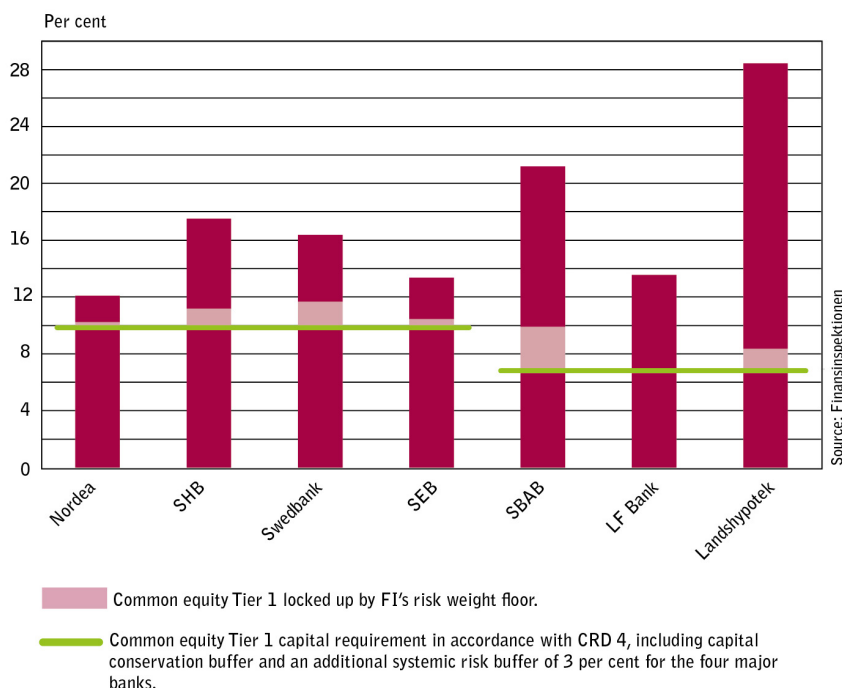
	Volume Swedish mortgage (SEK billions)	Risk weight according to IRB (%)	Risk weight with floor (%)	Additional common equity Tier 1 capital need* (SEK billions)	Effect on the common equity Tier 1 capital ratio** (% points)
Nordea	352	5.5	15.0	3.3	0,2
SHB	565	4.9	15.0	5.7	1,2
SEB	380	8.0	15.0	2.7	0,5
Swedbank	747	4.7	15.0	7.7	1,7
Landshypotek	57	10.3	15.0	0.2	1,4
LF Bank	120	16.3	16.3	-	-
SBAB	224	6.6	15.0	1.3	2,9
Total	2 445			20,9	

*Calculated using common equity Tier 1 capital requirement in accordance with CRD 4, including the capital conservation buffer and an additional systemic risk buffer of 3 per cent for the four major banks.

**The calculation is an estimation. The risk-weighted assets have not been adjusted for Basel 3 effects in the calculation of the size of the effect.

In order to calculate the effect in terms of the common equity Tier 1 capital ratio, FI has reduced the banks' common equity Tier 1 capital by the additional common equity Tier 1 capital requirement (see Effect on the common equity Tier 1 capital ratio in Table 1 and the shaded area in diagram 6).

Diagram 6: Common equity Tier 1 capital locked up by the measure, in terms of the common equity Tier 1 capital ratio* of the financial groups, data as of Q1 2013



*Common equity Tier 1 capital ratios for the major banks including estimated effects of Basel 3 and IAS 19 (deductions from current common equity Tier 1 capital ratios). SBAB, LF and Landshypotek according to Basel 2.5.

The cost of preserving this capital is determined by the required return for the firms' common equity Tier 1 capital in relation to the cost of other funding. Because this varies over time and from firm to firm, it is reasonable to provide the cost of different levels of required return. A required return span of 8–16 per cent, in addition to the cost of other funding, entails an increased total capital cost for all affected firms of between SEK 1.7 and 3.3 billion annually, not taking into account any effects on the cost of other funding.

However, the cost calculation above assumes that the more than SEK 20 billion, to which the risk weight difference corresponds, involves the common equity Tier 1 capital preserved by the firms for mortgages actually increasing to the same extent. In reality, FI's extra capital requirement in the framework of the supervisory review and evaluation process does not involve an actual corresponding increase in the capital preserved by the banks for Swedish mortgages. The net cost is probably much lower than the maximum annual cost increase of SEK 3.3 billion (which, as a comparison, corresponds to less than 5 per cent of the 2012 net profit of the affected firms). The fact that FI is now choosing to describe a view of the risk level for mortgages and the consequences of this view in the supervisory review and evaluation process could increase confidence in the firms' capital strength and, as a result, decrease in their overall funding cost. Since the firms have already largely adapted to the requirements and thus already set aside the necessary capital, the total effect could even be a decrease in the overall funding cost.

Financial costs

The measure does not involve any financial costs in the form of e.g. fees or higher taxes.

Administrative costs

The administrative costs involved in the measure for the firms concerned are deemed low. The systems necessary to perform the calculations and allocate capital to profit/loss centres and individual exposures are already in place, so investments in systems are not necessary. The administrative cost brought about by the measure is therefore limited to the work input involved for the firms for recalculating and potentially allocating capital according to the new level. Because these calculations are supported by automated systems already used by the firms today, FI considers this work input to be low. If the firms affected choose to let their internal capital allocation and pricing calculation be affected as a consequence of the measure, there may also be additional costs for any information-related initiatives for loan officers and other staff affected in such a case.

8.2 Consequences for competition and the market

The measure affects the capital need for mortgages in two ways, each of which can have a bearing on competition on the mortgage market. First, the capital need will be higher for most affected players, affecting competition between the firms. Second, the marginal capital requirement, for the players who currently have average risk weights under 15 per cent, will be the same for each new mortgage, which can affect competition in different market segments.

On the whole, FI believes that the effects on *competition between the firms* will be small. As described in the section above, a change in the assessment of the capital need does not automatically mean that the capital which firms set aside in reality will also increase to the same extent, because the firms have largely already adapted their internal capital planning. Potential discernible effects diverge in opposite directions. Currently, the largest players on the market use the IRB approach. If their capital need increases, the difference to firms using the standardised approach decreases, and in this case the relative competitive opportunities of these firms improve. This effect could thus have a positive effect on competition. A negative effect on competition is also possible insofar that profitability on the market deteriorates if capital costs rise, which would make it less attractive for firms to increase their market shares.

FI furthermore believes that the consequence for *competition in different market segments* will not be affected to any great extent either. Although the marginal capital requirement through FI's measure will be the same for all Swedish mortgages (with the exception of the firms whose average risk weight for Swedish mortgages using the IRB approach exceeds 15 per cent), there is nothing to stop the firms from continuing to apply risk-differentiated capital allocation, and thus pricing, in the future as well. In the IRB approach, there is certainly a major difference in capital requirements between the credits in the

portfolio deemed to carry the highest risk and the lowest risks. In terms of new credits, however, the difference is smaller. The firms applying the IRB approach today use relatively standardised criteria to assess the creditworthiness of the counterparty, and the value of the collateral, and the accepted credits are thus not permitted to stand out too much in terms of heightened risk when the credit is granted. FI also observes that many firms do not apply risk-differentiated pricing in the mortgage segment, despite current capital requirements being risk-differentiated. FI takes a positive view to firms differentiating price according to the risk assessments in the IRB approach, even though FI puts a floor on the average risk weight.

Sveriges Riksbank encourages FI to be aware that a floor can be an incentive to lend more to borrowers with relatively higher risk and that, after a reasonable period of time, FI should evaluate the effects of and alternatives to implementing the floor at the aggregate portfolio level.

The Swedish Bankers' Association says that a risk weight floor weakens the banks' incentives to handle and control risks and it is therefore interested in continuing to maintain a dialogue with FI on this matter.

FI is aware of the consequences of the risk weight floor for the risk-differentiated capital requirement, but FI also takes the position that the importance of a risk-differentiated capital requirement for lending for Swedish mortgages should not be overestimated. Already at early phases of the analysis that formed the basis for the risk weight floor, FI consulted with both the Riksbank and the Swedish Bankers' Association about potential consequences of the approach and welcomes a continued dialogue. FI follows all of the significant changes to the firms' lending strategies within the framework of its ongoing supervision.

8.3 Consequences for society and consumers

The fact that FI, through an express practice of applying a floor for risk weights in the supervisory review and evaluation process, confirms that firms must preserve more capital for Swedish mortgages than the level specified by the IRB approach, the ability of firms to withstand financial crises improves in the long term. By also taking into account major changes in the economy, FI ensures that the Swedish bank sector will also be strong going forward. FI also believes that the measure will increase confidence in the Swedish firms and the capital strength of the Swedish banking system. High confidence in the resilience of Swedish firms to financial crises is important, not least in light of the dependence of the affected firms on international capital markets for their funding. FI therefore believes that the measure will help to strengthen financial stability in Sweden. The maximum annual capital cost of between SEK 1.7 billion and SEK 3.3 billion²⁴ for the affected firms cannot be directly translated

²⁴ These cost estimates, as stated above, do not take into consideration that improved confidence in the firms' capital strength could decrease the cost for their other funding and, consequently, their total funding cost may not necessarily rise.

into an expense for the national economy since the increased cost for the firms preserving more capital is offset by a lower probability of the use of implicit government guarantees, which may in turn decrease the Swedish state's borrowing costs. The potential cost of taking measures should also be seen in relation to the positive effect of a reduced risk of financial instability. The effects of heightened capital requirements are described more thoroughly in FI's third Bank interest rates and lending report. In light of this, the measure's positive effects on the economy are believed to outweigh its potential cost.

Because the firms covered by the measure include all of Sweden's predominant mortgage lenders, the measure has the potential of affecting pricing on the mortgage market. The consequences that the measure may involve in reality for mortgage customers, however, is closely correlated with the assessment of the consequences of the measure for the affected firms' capital cost, and for competition on the market. The affected firms have largely already adapted to the capital need which the measure aims to secure. In turn, this leads FI to believe that the effect on the pricing of mortgages potentially brought about by a higher capital cost and altered competition has already largely been implemented in current price levels.

The Swedish National Board of Housing, Building and Planning writes in its feedback that they, unlike FI, consider there to be a considerable risk that part of the potential increase in capital cost will be transferred to the mortgage customers.

Due to this point, FI would like to clarify that, to the contrary of what the Swedish National Board of Housing, Building and Planning writes, FI has not made the assessment that part of a potential increase in capital costs will not be transferred to the mortgage customers. FI's analysis only goes so far as to say that since the firms largely have already adapted to the change, the potential price effect will not be significant.