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Economic Commentaries

Basel III and major Swedish banks´capital requirements

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This Economic Commentary studies the effects the recently completed Basel III agreement will have on the major Swedish banks' capital requirements.

More precisely, it analyses the effects of those parts that are expected to have the greatest effect on the major Swedish banks, such as a leverage ratio requirement, a floor for risk-weighted assets and changes to the framework for the banks' internal models. When these parts of the Basel III agreement are fully introduced in Sweden, the assessment is that the major Swedish banks' minimum capital requirement will increase from the current levels but their total capital requirements will still be determined by the size of the special national capital requirements that Sweden chooses to introduce.

The Basel Committee on Banking Supervision has long been working on developing joint standards to coordinate the supervision of international banks and on what requirements should be made of these banks. Following the most recent financial crisis, an extensive work was initiated within the Basel Committee to further strengthen global financial stability. One purpose was to impose tougher demands regarding capital and liquidity levels for internationally active banks. This work has now been completed[1] and thus resulted in the Basel III agreement (Basel III), which it is intended to be fully implemented on 1 January 2027.

This Economic Commentary provides an overall description of the parts of the Basel III agreement judged to have the greatest effect on the major Swedish banks'[2] capital requirements going forward. These are the leverage ratio requirements, the floor for risk-weighted assets and the new regulations regarding the banks' internal models. The Commentary also presents an analysis of what effects these changes may have on the major Swedish banks' capital requirements. The analysis can be summarised as follows.

- The leverage ratio requirement will mean that the minimum required Tier 1 capital level will be 3 per cent of the total assets.
- A fully implemented floor for the banks' risk-weighted assets will imply that the major Swedish banks' minimum Common Tier 1 (CET1) capital requirements will increase. However, this new minimum requirement for the banks' CET1 capital is lower than the total CET1 capital levels that the major Swedish banks have today. The size of the major banks' *total* CET1 capital requirements will in the future depend on how Finansinspektionen (the Swedish Financial Supervisory Authority) chooses to set the national requirements for Sweden.
- The revision to the framework for the banks' internal models will only marginally affect the major Swedish banks' risk-based capital requirements.

Basel III – a reform package following the crisis

The most recent financial crisis made it clear that the banks and the prevailing regulations were not adequate to manage the risks to which the global banking system was exposed. In particular, the Basel Committee noted that banks in general had too little capital of sufficiently good quality and that in many cases they were not managing their liquidity risks in a satisfactory manner. At the same

[1] The Basel Committee has reached a final agreement, although some details, such as how to manage some of the banks' market risks, remain to be resolved.

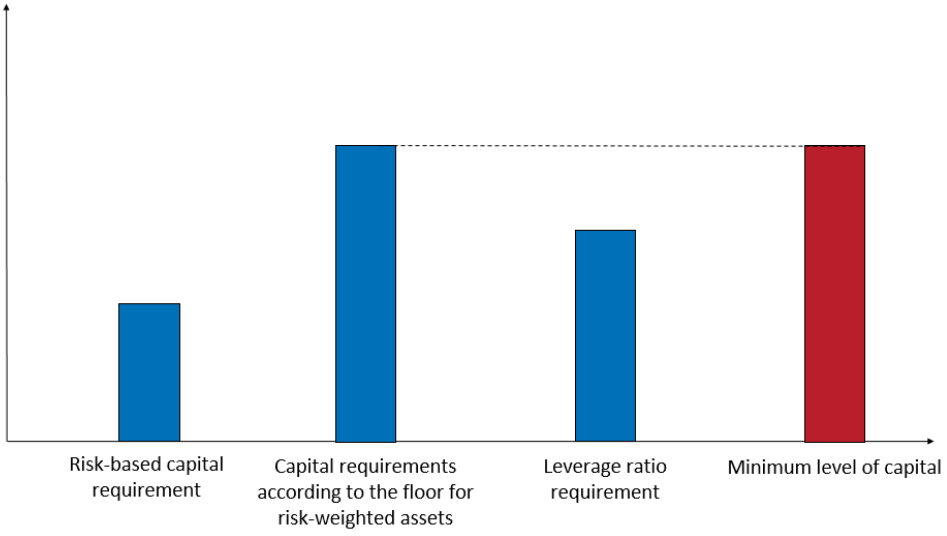
[2] The major Swedish banks her refers to Nordea, SEB, Svenska Handelsbanken and Swedbank.

time, it was obvious that some banks had too much leverage before the crisis broke out and thus were very vulnerable to changed conditions on the market. One reason for this was that the banks had been given considerable freedom to calculate their risk-weighted assets themselves with the aid of internal models[3]. These risk-weighted assets are used to determine a bank's capital requirements; low risk-weighted assets give a lower capital requirement and vice versa. The banks thus have considerable incentive to reduce their risk-weighted assets.

In 2010, the Basel Committee presented a package of new reforms, the Basel III agreement. Its main purpose was to strengthen the requirements regarding the banks' capital and to improve the banks' liquidity management, and it is the final parts of the Basel III agreement that have been completed now in December 2017.

When Basel III is fully implemented, the banks will need to meet three different sorts of capital requirements. These are the risk-based capital requirement calculated with the aid of internal models, the capital requirement according to the new floor for risk-weighted assets and the leverage ratio requirement. These three capital requirements will be three *parallel* requirements. This means in this context that the banks must have more capital than the largest of the three indicates. Chart 1 below illustrates this.

Chart 1. Illustration of a fictitious bank's minimum permitted capital level.



Within the scope of Basel III, however there are several different types of capital and corresponding requirements for them. For instance, there are requirements regarding the size of a bank's CET1 capital[4], Tier 1 capital[5] and total capital[6]. In the Basel III agreement, most of the capital requirements concern the banks' CET 1 capital, which is the capital that can primarily be used to cover negative results. However, the leverage ratio requirement is expressed in terms of Tier 1 capital.

Why are the capital requirements revised in Basel III?

The size of the risk-based capital requirements has varied over time. As of 2010, internationally active banks need to have a CET1 capital level that exceeds 4.5 per cent of the

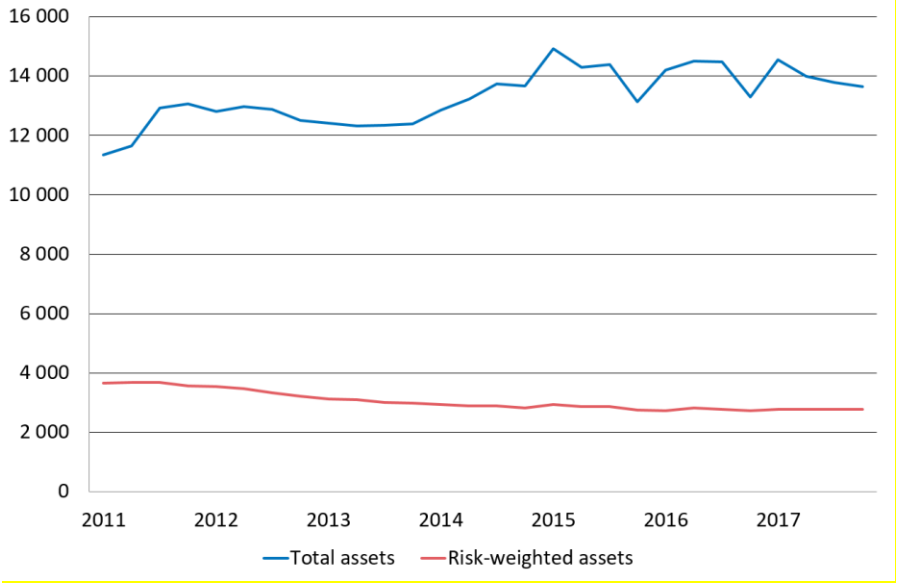
[3] So-called IRB-models (Internal Risk Based models) that were part of what is usually referred to as the Basel II agreement.
[4] CET1 capital consists, put simply, of the bank's equity capital and accumulated profits adjusted for certain deductions and additions.
[5] Tier 1 capital consists, put simply, of the CET1 capital and certain debt instruments with permanent maturity.
[6] Total capital consists, somewhat simplified, of Tier 1 capital and certain debt instruments with a maturity of more than five years.

risk-weighted assets. In addition, there are requirements for a capital conservation buffer of a further 2.5 per cent that the banks need to meet to be able to freely determine the size of the dividends they pay to shareholders and the bonuses paid to employees. The minimum level for the banks' CET1 capital is thus in practice at least 7 per cent of the risk-weighted assets. In addition, national supervisory authorities have the right to introduce further capital requirements for the banks, including a requirement regarding so-called countercyclical capital buffers, systemic risk buffers and pillar 2 requirements. With regard to the major Swedish banks, the latter requirements entail more than half of their total capital requirement. They are determined by Finansinspektionen and can change when it is assessed as appropriate without Sweden making any departure from the Basel III agreement.

In 2013, the Basel Committee published several reports where they analysed the risk-based capital requirements the banks had calculated using internal models. One conclusion was that there are major differences in the banks' capital requirements that cannot be explained by differences in the underlying risk of their assets. The same credit portfolio can thus result in different capital requirements, depending both on which bank estimated the risk and on which country the bank is domiciled in. One likely reason for this is that banks and supervisory authorities have interpreted and applied the international regulations in different ways. This distorts competition and reduces confidence in the regulations.

Many banks' risk-weighted assets, and thereby capital requirements, have also declined in recent years. This applies to the major Swedish banks' whose risk-weighted assets have declined, despite their total assets having increased (see Chart 2). This can be partly due to the banks having changed the composition of their assets and lending money to less risky customers than before. But one contributory factor is that internal models have been introduced for an increasingly large share of the banks' portfolios. This has led to a discussion of whether the capital requirements calculated using internal models adequately reflect the actual risks in the banks.

Chart 2. The major Swedish banks' risk-weighted assets and total assets from 2011 and onwards (SEK billion).



Sources: Bank reports and the Riksbank.

Another criticism that has been aimed at the banks' internal models is that they are complex and often difficult to understand properly. It is therefore difficult for most people to understand the exact assumptions behind the capital requirements. This can reduce

confidence in the banks' capital levels and thereby also in financial stability as a whole, which is one reason why the banks' capital requirements are now being revised.

How will the banks' internal models be limited?

An overall idea in the earlier Basel standards (the Basel II agreement) was that most credit risks in a banks' assets could be calculated with the aid of internal models. The banks using internal models must therefore use them for most of their credit exposures. The idea behind this was that the banks themselves would not be able to choose which credit portfolios the internal models would be applied to and thus introduce them only where the capital requirements were expected to be lower than otherwise.

Now the Basel Committee has decided to introduce limits regarding the use of internal models. A large part of the revision aims to reduce the use of overly complex internal models for exposures, where there is insufficient relevant information on earlier losses. The credit portfolios primarily affected by these changes are the banks' exposures to other banks and large companies.

What does a floor for risk-weighted assets entail?

A bank that does not use internal models to calculate its risk-weighted assets instead uses so-called standardized approaches[7]. The standardized approaches are determined by the Basel Committee and are a simpler and more transparent method of calculating the risk-weighted assets than using the internal models mentioned above. To ensure that these standardized approaches are still applicable for use, the Basel Committee has recently agreed on some revisions to them. For example, the standardized approach for credit risk has now become more risk sensitive than before. For many types of exposure, such as when a bank lends money against collateral in a property, the existing standardized approach method often gives the same risk-weighted assets and thereby capital requirements, regardless of the borrower's loan-to-value ratio. In the revised standard method, the size of the risk-weighted assets instead depends on the loan-to-value ratio.

When internal models were introduced into the regulations, the banks needed to meet the so-called Basel I floor, which somewhat simplified meant that the banks' risk-weighted assets were not allowed to fall below 80 per cent of what they had been according to the earlier regulations. On the basis of the revised standard method for credit risk, the Basel Committee has replaced the Basel I floor with a new floor for risk-weighted assets. This floor will be phased in between 1 January 2022 and 31 December 2026. From 1 January 2027, the bank's internally calculated risk-weighted assets will not be allowed to fall below 72.5 per cent of what they would be e using the standardized approaches contained in Basel III. Thus, the floor regulations will be a safety barrier against too low capital requirements calculated using internal models.

A leverage ratio requirement keeps capital levels up

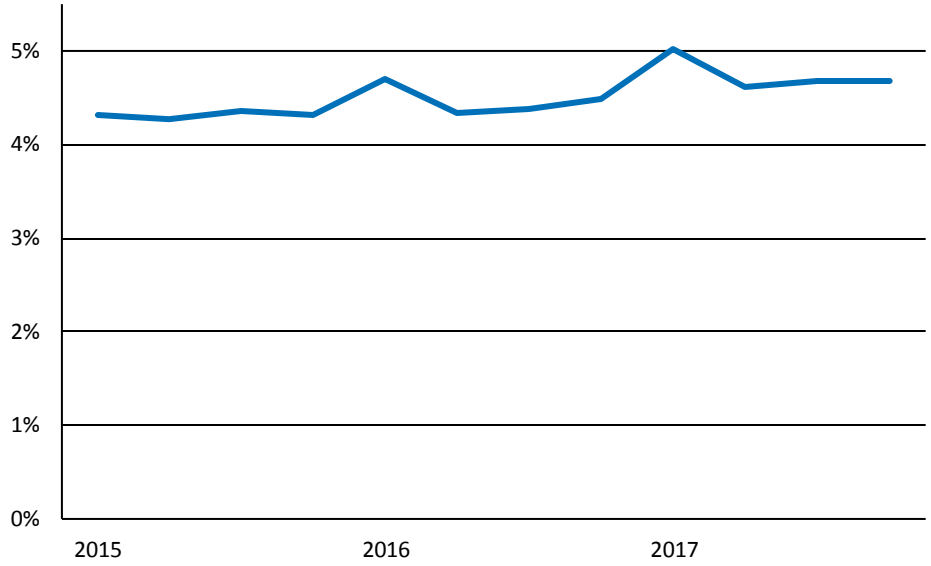
As mentioned above, during the years prior to the most recent financial crisis, many banks were able to increase their leverage too much by substantially expanding their balance

[7] Within the Basel III agreement there are standardized approaches for several risk categories, such as credit risks, operational risks and market risks.

sheets, without increasing their equity at the same rate. One important reason for this was that the capital requirements had become very low for several different types of assets.

The idea behind the coming leverage ratio requirement is that it shall be a relatively simple and transparent supplementary capital requirement that prevents other capital requirements and the banks' capital levels from falling too low. The Basel Committee has agreed to introduce a national minimum requirement for the banks' leverage ratios of 3 per cent, with higher requirements for banks that have global system importance, what are known as G-SIBs. With regard to Sweden, the Basel III agreement means that Nordea, which is assessed to be a GSIB will need to have a Tier 1 capital of at least 3.5 per cent of its total assets, while the other major banks will face leverage ratio requirements of 3 per cent. Below is a chart of the major Swedish banks´ leverage ratio over time.

Chart 3. The major Swedish banks' leverage ratio over time .



Source: The Riksbank.

Given the risks and vulnerabilities in the Swedish banking system, the Riksbank is of the opinion that the leverage ratio requirement, like the risk-weighted capital requirements, should be higher than the agreed international minimum levels. The Riksbank has therefore recommended[8] that the major Swedish banks should have to meet a leverage ratio requirement of 5 per cent[9] with effect from 1 January 2018.

The new floor for risk weighted assets and the leverage ratio requirement will affect the major banks the most

How will the major Swedish banks' capital requirements be affected when the new floor, restrictions in the use of internal models and a leverage ratio requirement are introduced? As mentioned above, there are several different types of capital and capital requirements. In addition, a bank's capital requirements can be formulated in several different ways. Usually, the capital requirements are expressed as a percentage of risk-weighted assets or in SEK. Another way of describing the capital requirements is as a ratio between the capital

[8] See Financial Stability Report 2017:2 (2017)
[9] The Riksbank's internal calculations moreover provide support for a socio-economically well-balanced level for the leverage ratio of major Swedish banks to be somewhere in the interval of 5 to 12 per cent of their total assets.

requirements (measured in SEK) and the value of the bank's total assets. In the analysis below, we study both how the coming changes will affect the capital requirements in relation to the banks' total assets, and how they will affect the capital requirements in SEK.

At present, the major Swedish banks' total CET1 capital corresponds to around 4.2 per cent of their total assets. At the same time, the total CET1 capital requirements[10] are around 3.8 per cent of the major banks' total assets. Of these 3.8 per cent, the internationally agreed minimum CET1 capital requirements constitute 1.5 percentage points[11]. The remaining 2.3 percentage points are CET1 capital requirements that are country-specific Swedish requirements, that is, Finansinspektionen has decided on these in addition to the internationally agreed minimum requirements. This is illustrated in the blue column in chart 4 below.

The analysis shows that it is the new floor for risk weighted assets and the leverage ratio requirement that will affect the major Swedish banks' minimum capital requirements the most going forward. The dark red column in the image below shows the major banks' total minimum CET1 capital requirements calculated using internal models. The light red area of 0.1 percentage points shows how much the requirements are expected to increase as a result of the Basel Committee's revision to the framework surrounding the banks' internal models.

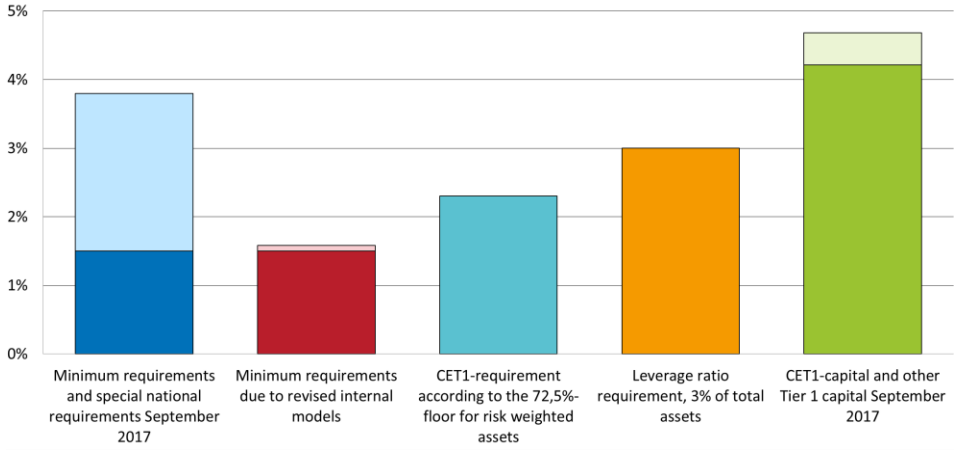
The turquoise column in the chart below shows what the minimum CET1 capital requirements will be with a floor for risk-weighted assets of 72.5 per cent. In relation to the major banks' total assets, this would entail a minimum CET1 capital requirement of around 2.3 per cent of total assets. This requirement is thus lower than the current total CET1 capital requirement of 3.8 per cent of the total assets, but higher than the current minimum CET1 capital requirement of 1.5 per cent.

The column that is orange shows a coming leverage ratio requirement of 3 per cent of the total assets.

The dark green column shows the major banks' total CET1 capital levels and the light green column depicts the size of the share of their Tier 1 capital that is not CET1 capital.

[10] CET1 capital requirements in pillar 1 and pillar 2. This corresponds to 19 per cent of the major banks' total risk-weighted assets.
[11] In this context, minimum CET1 capital requirements refers to a CET1 capital requirement of 4.5 per cent of the risk-weighted assets plus a requirement for a capital conservation buffer of 2.5 per cent of the risk-weighted assets. This corresponds thus to 7 per cent of the risk-weighted assets, although it is expressed here as a percentage of the total assets.

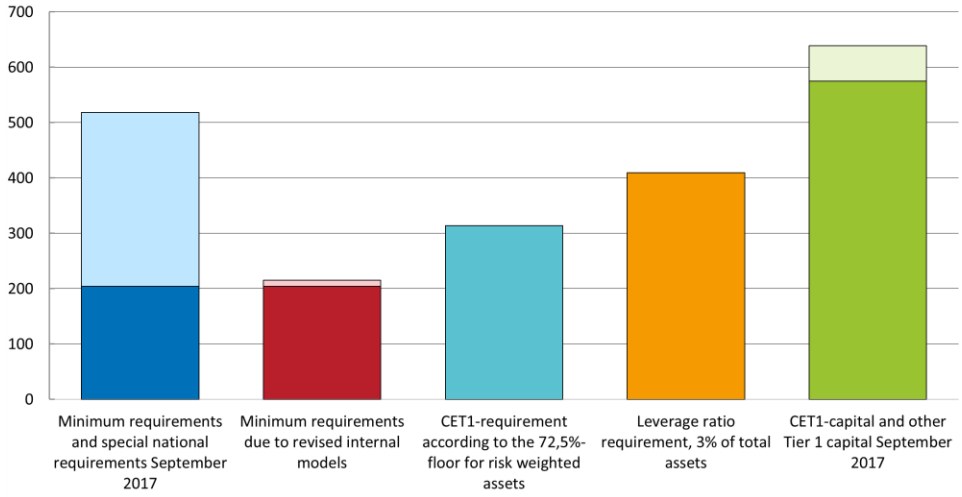
Chart 4. Different capital requirements and capital levels for the major Swedish banks in total (percentage of total assets).



Sources: Bank reports and the Riksbank.

The chart below is based on the same assumptions as in chart 4, but instead shows the different capital requirements and the major banks' capital levels expressed in SEK billions.

Chart 5. Different capital requirements and capital levels for the major Swedish banks in total (SEK billion).



Sources: Bank reports and the Riksbank.

Conclusions

As shown in chart 4 and chart 5 above, the assessment is that when the Basel III agreement is fully introduced in Sweden, the major Swedish banks' future minimum requirement for CET1 capital and Tier 1 capital (see the turquoise and orange columns respectively in the chart above) will increase. The size of these future capital requirements is less than the major banks' *actual* capital levels (see the green column in the charts above). Exactly which total capital requirements the major Swedish banks will face going forward will depend, as it does now, on which country specific requirements (illustrated in the light blue column above) Sweden chooses to add to the coming minimum requirements that follow from the Basel III agreement.

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