How is a capital ratio measured?

How much capital banks are obliged to retain in relation to their assets is highly important to the banking system's resilience to financial stress. The banks' capital levels are often presented in terms of various capital ratios under the framework of the Basel I, II and III Accords. This article presents a brief account of how these agreements affect the major Swedish banks' capital ratios, as well as how the Swedish banks' capital ratios compare to the capital ratios of a group of European banks.

Basel I is one of the first international standards specifying the minimum amount of capital a bank must have in relation to its assets, and was published in 1988. This standard was eventually developed into Basel II, which takes greater consideration of the risk with which a bank's different assets are encumbered when the lowest permitted capital level is calculated. Basel II was published in its first form in 2004. In light of the latest financial crisis, these regulations were revised into what is now known as Basel III, which, according to plan, is to be completely implemented no later than 2019. Within the framework of Basel III, the requirements for which type of capital may be included in the calculations of the lowest permitted capital level have been tightened compared to previous standards.

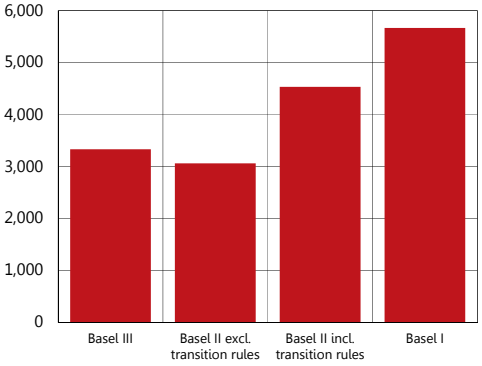
Different regulations give different risk-weighted assets

A key concept for the understanding of a bank's lowest permitted capital level under all Basel Accords is that bank's *risk-weighted assets*. These are calculated in a relatively complicated manner, but somewhat simplified, it could be said that the smaller the losses a bank is deemed to make in a highly-stressed scenario, the lower its risk-weighted assets will be.

However, the Basel Accords mentioned above stipulate different ways of calculating risk-weighted assets. The value of the risk-weighted assets generally depends on the regulations under which they were calculated. Under Basel I, there were few possibilities for a bank to affect the value of its risk-weighted assets. Under Basel II and Basel III, the banks can use an internal rating based method (IRB method) in parts of their calculations. Using the IRB method gives the banks themselves the possibility to decide the size of the risk-weighted assets by basing the calculation on models in which the risk-weighted assets are calculated based on historical data on losses. All major Swedish banks currently use the IRB method to a great extent.

For reasons of prudence, transitional regulations were introduced in connection with the changeover from Basel I to Basel II. The exact contents of these are relatively complicated, but the major Swedish banks illustrate the effects of the transitional regulations by reporting the value of their risk-weighted assets both with and without consideration of them. However, the original idea was that these transitional regulations would be phased out after a while.

Chart B1:1. The major Swedish banks' risk-weighted assets
March 2013, SEK billion

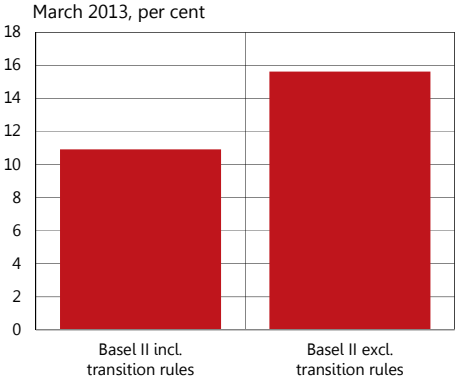


Note. The bar "Basel I" shows the Riksbank's estimate of the major banks' risk-weighted assets within the framework of Basel I. The bar designated "Basel II (with transitional regulations)" shows the major banks' illustration of the effects of the transitional regulations.

Sources: Bank reports and the Riksbank

Chart B1:2. The major Swedish banks' Tier 1 capital ratio

March 2013, per cent



Note. The bar "Basel II (with transitional regulations)" shows the major banks' illustration of the effects of the transitional regulations. Both bars show a weighted average of the major Swedish banks Tier 1 capital ratios.

Source: Bank reports and the Riksbank

Consequently, the focus has largely been on risk-weighted assets calculated without consideration of the transitional regulations. Chart B1:1 shows the total value of the major Swedish banks' risk-weighted assets calculated under the framework of the regulations described above.

Different types of capital and capital requirements under different regulations

The banking system's capital level affects the financial system's resilience to financial stress. A minimum permitted level for a bank's *capital base* is therefore specified by the different Basel Accords. Even if the precise definition of the term capital base differs between the different accords, they specify that a bank's capital base is not to fall below eight per cent of its risk-weighted assets.

The capital base is divided into several types of capital. One important component is Tier 1 capital, which can absorb possible losses arising in a bank's operations. The part of Tier 1 capital with the greatest capacity to absorb losses is known as core Tier 1 capital. The requirements for how much core Tier 1 capital a bank must retain have been tightened in Basel III, compared with earlier regulations. When Basel III is fully applied, a bank must have CET 1 not less than seven per cent[17] of its risk-weighted assets if it is to be able to freely decide whether profits are to be returned to its shareholders.[18] This is a significant difference to Basel II, which has no corresponding rule. To ensure that a bank's Tier 1 capital is not held at an excessively low level, regardless of the value of its risk-weighted assets, the Basel Committee is preparing a proposal suggesting that a bank's Tier 1 capital in relation to its total non-risk weighted assets (leverage ratio) is not to fall below three per cent.

Different capital ratios under different regulatory frameworks with and without transitional regulations

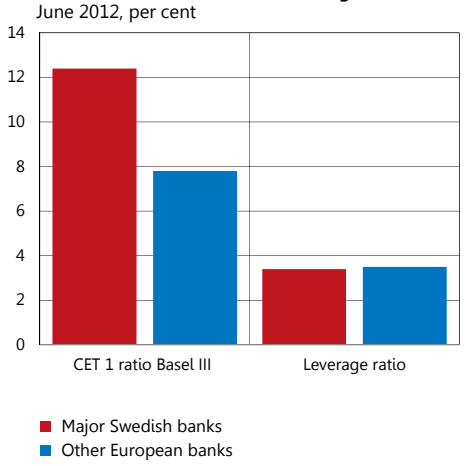
The Tier 1 capital ratio is a bank's Tier 1 capital in relation to its risk-weighted assets. As previously mentioned, the size of a bank's Tier 1 capital and risk-weighted assets depends on the regulations under which they were calculated and on whether the effect of the transitional regulations has been considered. Consequently, the same bank can have different capital ratios depending on how calculations are made. For the major Swedish banks, the different regulations can be of relatively great significance in the calculation of Tier 1 capital ratios (see Chart B1:2). The large differences in Tier 1 capital ratios arise because the risk-weighted assets are greater when the effects of the transitional regulations are considered (see Chart B1:1).

[17] If the banks also have a countercyclical buffer imposed on them at this point, this figure may exceed seven per cent.
[18] In November 2011, the Riksbank, the Ministry of Finance and Finansinspektionen agreed that new capital adequacy requirements should be introduced for the major Swedish banks. This means that a CET 1 capital requirement of twelve per cent should be imposed on the major banks from 2015.

Under the framework of Basel III, the banks also report CET 1 capital in relation to risk-weighted assets. This ratio is called the core Tier 1 capital ratio. Chart B1:3 shows this capital ratio as well as Tier 1 capital in relation to total assets for the major Swedish banks and a reference group of major European banks. According to these measures, major Swedish banks seem to be better capitalised than the reference group as regards CET 1 ratio and on a par as regards the leverage ratio.

In summary, comparisons of capital ratios between banks are relevant if the capital ratios are calculated in a similar manner and under the framework of the same regulations. It is also important to decide whether the effects of transitional regulations are to be considered in such comparisons. This particularly applies in comparisons between banks in different countries where the exact contents of the transitional regulations in general will differ.

Chart B1:3. CET 1 ratios and leverage ratios
June 2012, per cent



Note. The bars “CET 1 ratio Basel III” show a weighted average. The bars "Leverage ratio" shows an unweighted average. The bar “Leverage ratio” for the major Swedish banks shows an average of the Riksbank's estimate of this capital ratio.

Sources: Bank reports, EBA and the Riksbank