# The major banks' liquidity risk in US dollars

**In the previous Financial Stability Report the Riksbank surveyed the major banks' liquidity risk in US dollars. It was noted that the majority of the banks' market funding in US dollars is short-term, while they have illiquid long-term assets in dollars in the form of lending to the general public. This maturity mismatch between assets and liabilities in dollars constitutes a risk to the Swedish financial system. Despite the fact that the banks have acted on this and improved their liquidity situation in dollar, the Riksbank considers that risks still remain. This box presents a follow-up to the analysis in the previous Financial Stability Report.**

The Basel Committee has proposed two liquidity measures; Liquidity Coverage Ratio (LCR) and Net Stable Funding Ratio (NSFR).[67] The purpose of the first measure is that banks should hold liquidity reserves to manage short-term outflows in stressed situations, while the second measure should ensure that the maturity mismatch between assets and liabilities is not too great. This box uses these measures as a starting point and focuses on the Swedish banking system's risks in US dollars.[68]

*The liquidity risk in foreign currency is particularly problematic*

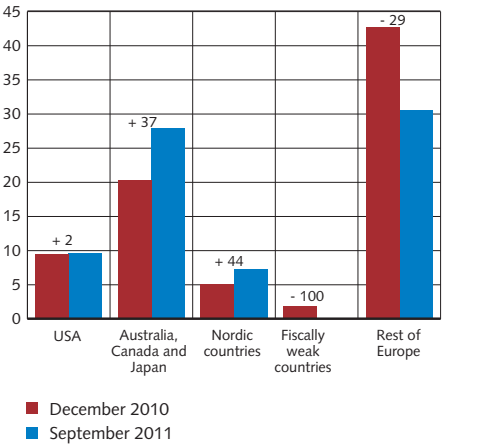
During the financial crisis, many banks, both in Sweden and internationally, encountered problems due to their dependence on borrowing in US dollars. While the liquidity problems were resolved, it was at the cost of major support measures from central banks around the world. At present there are indications that the possibilities for obtaining dollars have once again deteriorated for many European banks. The main one is that US money market funds have reduced their lending in dollars to several European banks (see Chart B3:2). At the same time, the cost of obtaining dollars on the swap market has increased substantially (see Chart 1:21).

The European Systemic Risk Board (ESRB) is currently working on analysing the risks stemming from the European banks' dependence on short-term dollar funding and the liquidity risks this entails. The purpose of this work is to prevent the dependence on dollar funding once again leading to a crisis situation similar to the developments following on from the Lehman Brothers collapse in 2008.

*Major Swedish banks' resilience to short-term stress*

The major banks' funding in US dollars entails risks. Firstly, access to funding in dollars during periods of turbulence is often more uncertain than access to funding in Swedish kronor. Secondly, most dollar funding is

**Chart B3:2. Distribution and change in US money market funds' exposure to banks**
Per cent and percentage change



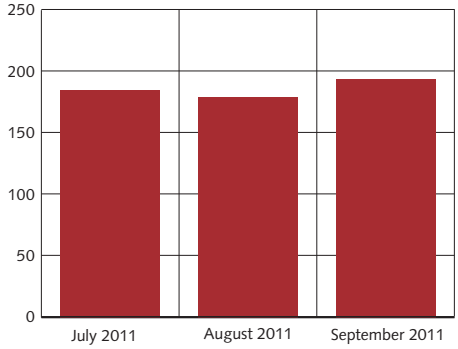

Note: Data is based on a sample of US money market funds. In September this sample accounted for 45 per cent of the US money market funds' total investment. The group of fiscally weak countries includes Portugal, Italy, Ireland, Greece and Spain.

Source: Fitch Ratings

67 The LCR measures a bank's liquidity reserve against a stressed cash outflow over 30 days. The NSFR measures how much stable funding a bank has to fund its illiquid assets. See "Stress test of liquidity in the Swedish banks" in chapter 4 for more information.

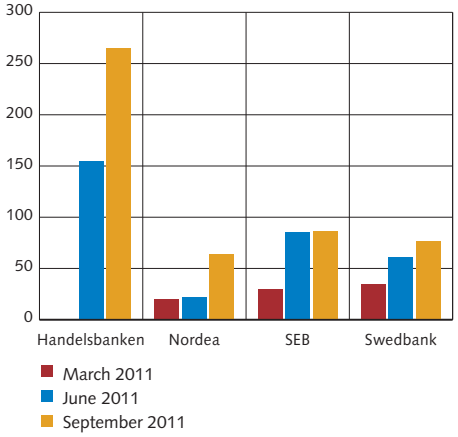
68 The Riksbank has developed a structural measure of liquidity similar to Basel's NSFR. The Riksbank's measure has therefore been equated with the NSFR in this box, even though the measures are not entirely identical.

**Chart B3:3. Average Liquidity Coverage Ratio (LCR) according to the Basel regulations**
Per cent




Sources: Finansinspektionen and The Riksbank

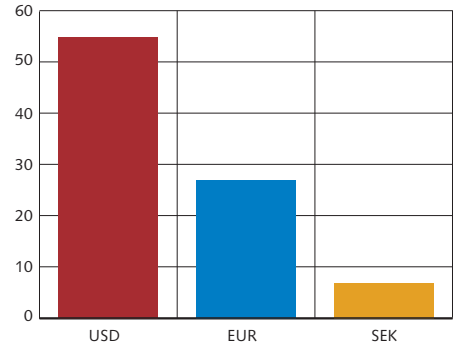
**Chart B3:4. The major Swedish banks' reported liquid assets in US dollars**
SEK billion




Note: Handelsbanken did not report its liquidity buffer by currency in its report for the first quarter.

Source: Bank reports

**Chart B3:5 Percentage of issued securities with original maturities of less than one year in the Swedish banking system**
September 2011, per cent




Note: The banks' foreign subsidiaries are not included in the statistics.

Source: The Riksbank

short-term and the banks are thus subjected to a more frequent refinancing risk. Moreover, the Riksbank's capacity to provide the banking system with liquidity in US dollars is limited. The Swedish banks have taken note of the Riksbank's concern in their interim reports and actively worked on reducing their liquidity risks. This has primarily been achieved by strengthening their liquidity reserves in US dollars during the spring and summer. It can also be noted that the banks' LCR in US dollars has increased over time and is currently well over 100 per cent on aggregate (see Chart B3:3).[69]

However, the banks' LCRs differ, partly because the size of their liquidity reserves differs (see Chart B3:4). A bank with a large liquidity reserve, all else being equal, have a higher LCR.[70]

### *Major Swedish banks' resilience to long-term stress*

Another way of analysing liquidity risk is to measure how much stable funding a bank has to fund its assets. The risk of a bank suffering a liquidity crisis depends partly on the type of funding it has, and partly on how liquid the assets it needs to fund are. The majority of the banks' market funding in US dollars is short-term, which differ from the funding in EUR and SEK (see Chart B3:5). At the same time, a large share of the major Swedish banks' assets in US dollar consists of loans to non-financial companies, which are relatively illiquid assets.

At the end of June the major Swedish banks had assets in US dollars to a value of almost SEK 850 billion, which corresponds to around 8 per cent of their total assets. At the same time, they had liabilities in dollars to a value of more than SEK 1,600 billion, which corresponds to around 14 per cent of their total liabilities. The majority of the liabilites consist of market funding and only a small portion of deposits from the public.[71] The Swedish banks thus have a surplus in US dollars that they use to fund assets in other currencies. That part of the US dollar funding that is used to fund assets in other currencies does not constitute a liquidity risks in US dollars as refinancing can be conducted in the asset currency in the event of a shortage of US dollars. It is therefore the banks' long-term assets in US dollars, which mainly consist of lending to the public, that give rise to a structural liquidity risk in US dollars. Lending to the public in US dollars differs, however, from bank to bank (see Chart B3:6)

During the first half of 2011 the major banks increased their assets in US dollars by more than SEK 250 billion, primarily by increasing their liquid assets (see Chart B3:7). At the same time, they also increased their market funding by the corresponding amount. The more illiquid assets, such as lending to the general public, have remained more or less constant during this period.

69 Put simply, a 100 per cent LCR means that a bank can survive stress for 30 days.
70 The LCR measures a bank's liquidity reserve against a stressed cash flow over 30 days. A bank that has borrowed money with a time to maturity of more than 30 days and invested it in liquid securities will thus improve its LCR. A bank with a correspond strategy, but where the borrowing has a shorter time to maturity than 30 days will not improve its LCR as, despite a larger liquidity reserve, the bank will also have a large outflow of cash within 30 days.
71 Deposits from the general public are primarily deposits by large companies.

The maturity structure of the US dollar funding has not changed significantly during the first half of 2011; the majority of the funding is short-term. The banks' increased liquidity buffers are thus in principle funded through maturities of less than one year.

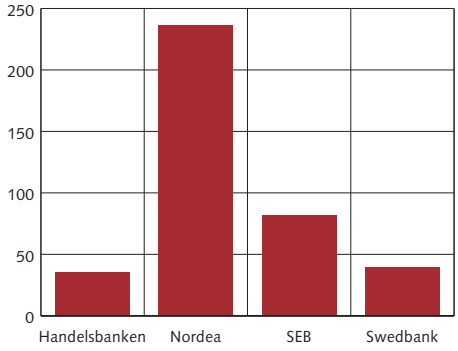
However, two-thirds of the lending to the general public has a contractual maturity of more than one year. A large part of the lending with contractual maturities of less than one year must also be regarded as illiquid during times of stress as these customers will probably also face problems in obtaining US dollars to repay their loans. The banks' lending in dollar to the general public consists mainly of loans to shipping companies, project funding and large international companies. The structural maturity mismatch between assets and the liabilities thus remains, even if the banks have increased their resilience to short-term liquidity stress, measured as the LCR.

The major banks have improved the Riksbank's structural liquidity measure in US dollars over the first six months of the year, but the risk is still greater here than in other currencies.[72] In June 2011 the banks had a structural measure of around 60 per cent, which is an improvement since December 2010. However, this can be compared with a figure of around 85 per cent if the measure is calculated on all currencies together (see Chart B3:8) or 100 per cent, which the Basel Committee has proposed as a minimum requirement for NSFR.[73]

### *Both the short-term liquidity risk and the structural liquidity risk should be measured and managed*

To summarise, in terms of the LCR, the Swedish banks have improved their resilience to short-term stress in the US dollar market during 2011. This improvement is primarily a result of having increased their liquidity reserves in US dollars.[74] However, it is important to remember that the LCR only measures resilience to short-term stress during 30 days. The LCR should thus be supplemented with a structural measure. Although the major banks' LCRs have improved, liquidity risks still remain, which is also illustrated by the Riksbank's structural liquidity measure. These risks essentially stem from the major Swedish banks' assets not being funded with sufficiently stable and long-term funding. This in turn means that the banks have insufficient resilience to manage long-term stress or a permanent change in the funding market in US dollars.[75]

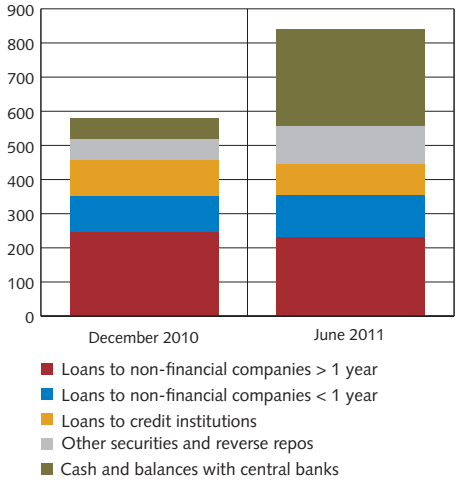
**Chart B3:6. The major banks' lending to the public in US dollars**
SEK billion




Note: Lending for Handelsbanken and SEB is per December 2010. Lending for Nordea and Swedbank is per September 2011.

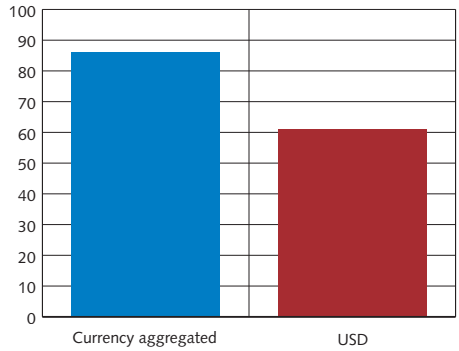
Source: Bank reports

**Chart B3:7. Development of the major Swedish banks' dollar assets**
SEK billion




Sources: Bank reports and the Riksbank

**Chart B3:8. The Riksbank's structural liquidity measure**
Per cent




Note: The measure is the average value for the four major banks. The currency-aggregated measure is based on data for September 2011 apart from SEB, where the data is from December 2010. The dollar measure is based on data for June 2011 for all the banks.

Sources: Bank reports and the Riksbank

72 The outcomes in the structural measure differ from bank to bank. The main difference between the banks is the type of assets they hold, while the time to maturity for the funding does not differ as much from bank to bank.

73 However, the Basel Committee has not proposed that the banks should manage the NSFR per currency, only for all of the currencies together.

74 The foreign banks do not need at present to pay any charge to the Federal Deposit Insurance Corporation (10 basis points). The major Swedish banks, like other non-American banks, have been able, partly because of this, to invest their money with the Federal Reserve at a higher interest rate than the funding costs. If this opportunity disappears, it will affect the banks' incentives to hold large liquidity reserves in US dollars.

75 At present there are no statutory requirements for banks to manage the LCR or NSFR in US dollars. The purpose of this box is merely to show that they are important complements to one another and that the banks should follow these measures with regard to individual currencies.