Analysis

The ups and downs of leverage in Luxembourg's banks

The leverage of banks is currently receiving a particular attention from both regulators and investors as it indicates the level of indebtedness of a bank and may be associated with higher levels of risk. In this article we discuss some recent research undertaken by two members of the Financial Stability Department at the Banque centrale du Luxembourg on banks' leverage behaviour in Luxembourg.

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What has happened?

The leverage ratio (assets divided by own funds) jumped into the centre of investors' and policy makers' attention towards the end of 2008. Those banks that had expanded their balance sheets during a period of low interest rates noticed that their increased leverage was unsustainable and they had to drastically shrink their balance sheets. This led to significant costs to the banking sector and also the real economy. In order to reduce the probability of future leverage cycles like the one that we saw around 2008 it is, therefore, important to understand what drives leverage in banks and what indicators can be used to predict adjustments in the level of indebtedness.

The evolution of leverage in Luxembourg's banks between January 2001 and March 2011 has mostly been driven by changes in total assets, while own funds saw comparatively little adjustments. Total assets nearly doubled in the run-up to the financial crisis, while the increases in banks' own funds were not sufficient to prevent the excess leverage. Indeed, the total banking sector's leverage increased from 21 in January 2001 to a maximum of 27.5 in October 2008, and has since been decreasing back to its pre-crisis level. This increase in leverage cannot come from marking-to-market, since a pure marking-to-market effect would reduce leverage. The increase in leverage derives from a substantial rise in total credits, with changes to securities playing a minor role. Specifically, increase in banks' balance sheets in Luxembourg is highly correlated with the growth in credits on the asset side, and with the growth in deposits on the liability side (correlation coefficients above 0.7), while these growth rates are virtually uncorrelated with the growth in securities.

How can we explain this?

In order to understand the reasons for this evolution in Luxembourg banks' leverage we empirically investigated the impact of several relevant bank-specific variables as well as macroeconomic indicators[1]. The data consist of individual banks' balance sheet reports on (a maximum of) 153 banks in Luxembourg with quarterly observations ranging from 2003 Q1 – 2010 Q1.

One of the crucial bank-specific variables is the off-balance sheet exposure. We calculate this as the sum of committed credits, guarantees and liquidity facilities. The analysis suggests that the off-balance sheet exposure constrains the growth of leverage in

a pre-crisis period, but it increases leverage growth during a crisis. This is intuitive in the sense that banks with a large amount of committed credits, guarantees or liquidity facilities are constrained in expanding their balance sheets because of the uncertainty that comes with these exposures. Banks are not always sure whether these commitments get exercised and whether they need to provide credits or not. As a precautionary measure those banks with large commitments tend to be those that increase their leverage the least. In contrast, large off-balance sheet exposures imply that during a crisis the banks cannot reduce their leverage by as much as other banks simply due to their commitments. Hence, during a crisis period, these banks have a larger growth in leverage than those with fewer commitments. In terms of macroeconomic indicators, the most important indicator for the build-up in leverage in the pre-crisis period is the spread between the Euribor 3 month rate and the Eonia rate. This spread measures the costs of obtaining funds on the interbank market net of the short-term expected movements of the ECB reference rate. It reflects the risk premia that banks attach to providing funds on the interbank market. During the last crisis, one of the main components of the risk premia was liquidity risk. There is a positive correlation between this spread and the amount of leverage in the Luxembourgish banking sector. Indeed, when interbank funding becomes more expensive due to an enhanced risk perception or liquidity crunch, then Luxembourg's banks will provide more liquidity for their mother companies or groups.

Though the aforementioned spread is a good indicator for the build-up in leverage, we find that expectations are another key driver of the downturn in leverage during the crisis. As a measure for expectations we use the Economic Sentiment Indicator[2] provided by the European Commission. Among the macroeconomic variables that we investigated, this was the best predictor for the credit decline in Luxembourg. With worsened expectations due to an uncertain economic growth perspective, reductions in collateral values, a large debt overhang of European countries and the turbulences on the financial markets in general, it is clear that even Luxembourg's banks increased their risk aversion and reduced their credits.

The impact of Basel III

As a general wrap-up we conclude, in the light of the discussions above, with some remarks on the potential impact of Basel III regulations. Firstly, the Basel III capital regulation includes an off-balance sheet augmented leverage ratio, which will reduce the extent to which banks can commit to contingent credits. In crisis periods this would imply that banks will face fewer constraints on their balance sheets as they have less commitments and can therefore adjust their assets more freely. It would, however, also imply that less credits will be provided, thus hurting the real economy. Since the Basel III liquidity regulations penalise interbank funding, we expect a shrinking of the interbank market with a potential increase in the Euribor 3 month rate. This may increase the demand for credit that Luxembourg's banks supply to their mother companies or groups. This effect will be particularly noteworthy for branches, since the liquidity regulations will be assessed on a consolidated basis. Increased funding from these branches will thus not reduce the (consolidated) Basel III liquidity ratios.

As a final point we note that both the Basel III capital regulations and the Basel III liquidity regulations are likely to alter the ups and downs of Luxembourgish banks' leverage cycle. Due to the emphasis on consolidated reporting in Basel III we envision the strongest adjustments in subsidiaries, while branches might not be significantly affected[3].

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References:
[1] The complete study is available from the authors
[2] We calculate this as the average of the Belgian, French, German and Luxembourgish indicators
[3] The views and opinions expressed in the article are those of the authors and do not necessarily reflect those of the Banque centrale du Luxembourg.