Box 14

LEVERAGED LOAN EXPOSURES AND MARK-TO-MARKET WRITE-DOWN RISKS OF EURO AREA LARGE AND COMPLEX BANKING GROUPS

Between 2004 and 2007 the issuance of leveraged loans (loans extended to below investment-grade-rated companies) almost tripled in the euro area, reaching around €240 billion. A number of mutually reinforcing factors contributed to the substantial pick-up in this type of lending by euro area banks. In particular, a boom in global leveraged buyout (LBO) activity increased the supply of these loans which were readily absorbed by investors due to the rapid expansion of a secondary market for such loans and the growing popularity of collateralised loan obligations (CLOs) which also took leveraged loans into their underlying collateral pools. The growth in the leveraged loan market also coincided with a shift by many large banks from a "buy and hold" business model towards an "originate and distribute" one. However, distribution of collateralised debt securities into the markets became very difficult from the second half of 2007 onwards as a result of the market turbulence. This meant that many banks were forced to "warehouse" leveraged loans that they had originally been planning to securitise. This left them exposed to credit and market risks on these loans. Against a background in which only a relatively small share of leveraged loan exposures had been written down by euro area LCBGs by early May 2008,[1] this box makes an attempt to estimate the magnitude of total mark-to-market write-downs on banks' leveraged loan exposures.[2]

Estimates of the potential write-downs that could be facing euro area LCBGs in the period ahead can be made by combining information on the market value of leveraged loan tranches implied by credit default swap spreads for these loans with individual bank-level data on LCBGs' leveraged loan exposures. The market's view about the net present value of leveraged loans, taking into account expected default rates, is reflected in the LCDX index. This index consists of CDS spreads of 100 reference leveraged loans and it was developed in order to allow banks and other financial market participants to hedge their loan exposures. For the purpose of this box, the index was decomposed with a non-linear optimisation technique into the par values of five separate tranches using data on the CDS spreads on various LCDX index tranches. These implied par values of tranches were then matched with ratings.

According to the estimated implied tranche values, after August 2007 the market value of several lower-rated tranches decreased markedly (see Chart A). Since several euro area LCBGs have disclosed that they have significant holdings of leveraged loans on their balance sheets, the drops in the market values indicate that there could be a risk of significant future write-downs on these exposures. It is possible to estimate the bank-specific mark-to-market losses for euro area LCBGs on their holdings of leveraged loans by combining the information on changes in the LCDX index with information on the exposures of euro area LCBGs to leveraged loans, which can be obtained from the Dealogic database on a deal-by-deal basis.[3] The exposure of each bank to different tranches, combined with the LCDX index-implied tranche value, can provide a rough estimate of the total implied mark-to-market loss of each bank on its leveraged loan portfolio. Some caveats to

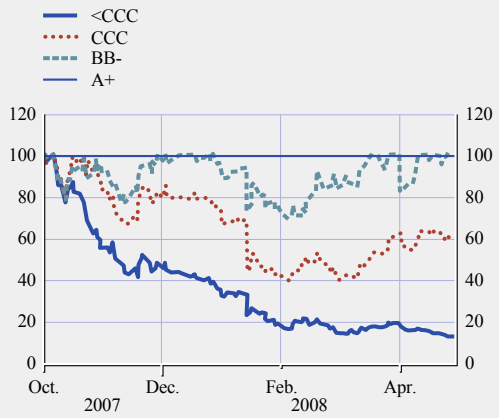
1 According to JP Morgan data, the share of write-downs across the LCBGs most heavily exposed to leveraged loans ranged between 0% and 8.7% of the total exposure. Further write-downs on leveraged loans are expected in 2008. See JP Morgan Chase & Co. (2008), "European Wholesale & Investment Banks: The Structured Credit Mark-to-Market Tracker", April.

2 This estimate is derived using the prevailing market value of leveraged loans implied by CDS prices for leveraged loans as at 29 February 2008.

3 This analysis has been restricted to the ten LCBGs for which all necessary data were available.

Chart A LCDX index-implied prices on different tranches of leveraged loans

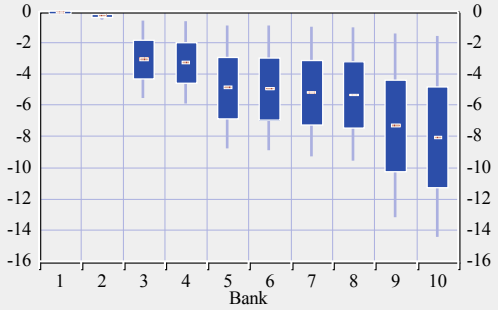
(% of par value)



Sources: JPMorgan Chase & Co. and ECB calculations.

Chart B Impact of implied mark-to-market losses on total capital ratio of euro area large and complex banking groups

(% points of capital ratios)



Sources: Individual institutions' financial reports, Dealogic and ECB calculations.
Note: Data on capital ratios refer to the 2007 year-end figures. Exposures' cut-off date is 29 February 2008, implied value of write-downs estimated as at 8 May 2008. The "length" of each individual box plot corresponds to the estimated total impact on a bank's capital ratio under different hedging assumptions: the lower end of the line represents the impact if only 10% of the portfolio is hedged, the lower end of the box 30%, the middle point 50%, the upper end of the box 70% and the upper end of the line 90%.

this approach must, however, be underlined at the outset before interpreting the results. First, the actual amount of the write-downs, if any, depends on the particular country-specific regulatory framework to which each LCBG is subject. It is probable that in those countries where mark-to-model techniques are commonly used and approved by the regulators for valuing these loans, the actual write-downs could be substantially lower than those estimated here. Second, the LCDX index-implied prices of different tranches could be affected by technical factors that have been affecting the credit markets, which could cause implied default probabilities to be higher than the actual probabilities of default.[4] Finally, and most importantly, banks typically hedge their leveraged loan exposures to some degree and information on this activity is not publicly available. All in all, these considerations would suggest that the approach taken here to value the losses incurred by euro area LCBGs on their leveraged loan portfolios provides an upper bound to the true losses these institutions may ultimately incur should the loan market not recover.

Chart B shows the impact of estimated losses in terms of reductions in individual LCBGs' capital ratios. Because of uncertainty about the extent of hedging by these institutions, the changes in the total capital ratios shown are estimated under different assumptions regarding the degree of hedging. In particular the "length" of each individual box plot in Chart B corresponds to the estimated total impact on a bank's capital ratio under different hedging assumptions: the lower end of the line represents the impact if only 10% of the portfolio is hedged, the lower end of the box 30%, the middle point 50%, the upper end of the box 70% and the upper end of the line 90%. The results suggest that even if a significant proportion of the leveraged loan exposures are hedged, a number of euro area

4 Moreover, the LCDX-implied tranche values include not only default risk but also cancellation risk in the underlying LCDX index, i.e. the risk of reduced duration of the underlying single-name loan credit default swap (LCDS) contracts due to repayment of a loan before it matures. This may contribute to an underestimation of the implied tranche values.

LCBGs would still endure sizeable losses relative to their capital if these exposures were completely written off. If, on the other hand, exposures are largely unhedged, then some institutions could suffer much larger losses. Although some institutions have already made substantial write-downs in recent months, the remaining sizes of the exposures to leveraged loans across the euro area LCBGs pose risks of further write-downs. That said, it cannot be ruled out that some recovery in market prices could take place in the period ahead, which could offset the need for further write-downs.