Box 14

ESTIMATING POTENTIAL WRITE-DOWNS CONFRONTING THE EURO AREA BANKING SECTOR AS A RESULT OF THE FINANCIAL MARKET TURMOIL

As the global financial turmoil has unfolded, several estimates have been made, both by public and private sector institutions, of the potential losses to be absorbed by financial systems. In order to assess the magnitude of probable losses the euro area banking sector faces, this box presents an estimate of total potential write-downs until the end of 2010. Combining these estimates with what is already known about banks' write-downs on credit-linked securities and losses on loans since the eruption of the market turmoil in August 2007, an estimate of total (past and expected) write-downs is also made.[1]

The first step in estimating potential losses is to gauge the size of exposures of euro area banks to various types of securities where losses could be faced. This was done following a bottom-up, bank-by-bank, approach. In particular, individual bank financial reports were investigated to assess the nature and scale of exposures of euro area banks to US-originated securities.[2] Loan exposures of euro area banks, as well as write-offs on these loans in 2007 and 2008, were taken from the ECB's MFI statistics and data on loan loss provisions were extracted from the ECB's consolidated banking data.[3]

1 The methodology adopted in this box broadly follows that used by the International Monetary Fund in the estimates published in the Global Financial Stability Report in April 2009, with an important difference that the euro area loan loss estimates presented here are based on empirical relationships estimated in euro area data.
2 This information was complemented with data published by the European Securitisation Forum on exposures across various types of securities.
3 It should be noted that there are differences in the consolidation approaches used in these two data sets. The consolidated banking data are consolidated both across borders and across sectors so that data on branches and subsidiaries located (from the reporting country's point of view) outside the domestic market are included in the data reported by the parent. In the ECB's MFI statistics, the data are not consolidated at the level of the banking group, with each instituition reporting on a so-called solo basis. The consolidated banking data are only reported annually, while the ECB's MFI statistics are available at a monthly frequency. In addition, the consolidated banking data is less timely than the ECB's MFI statistics.

Estimated potential write-downs for the euro area banking sector

(USD billions)

	Euro area banks securities	
	Outstanding	Cumulative implied write-downs
US-originated securities		
Sub-prime/Alt-A securities	106	59
Prime mortgages backed securities (MBSs)	94	2
Total		**61**
European-originated securities		
Residential mortgage-backed securities (RMBSs)	397	60
Collateralised debt obligations (CDOs) – non-sub-prime	158	32
Commercial mortgage-backed securities (CMBSs)	68	19
Consumer asset-backed securities (ABSs)	69	5
Other ABSs	15	1
Collateralised loan obligations (CLOs)	40	11
Corporate debt	553	29
	1,500	**157**
Total for securities		**218**

Sector	Euro area bank loan exposures	
	Outstanding	Realised and expected losses
Households	**6,520**	**200**
o/w mortgages	4649	44
o/w consumer	847	62
o/w other	1,024	95
Corporates	**6,489**	**230**
Total for loans	**13,009**	**431**
Total for loans and securities		**649**
Bloomberg estimate of write-downs as of 28 May 2009		215
Loan loss provisions and write-offs in 2007-08		150
Potential further losses		**283**

Sources: Individual banks' disclosures, European Securitisation Forum, IMF, ECB and ECB calculations.
Note: Euro values were converted to US dollar figures using the average exchange rate in the period from March to May 2009 (EUR 1 = USD 1.33).

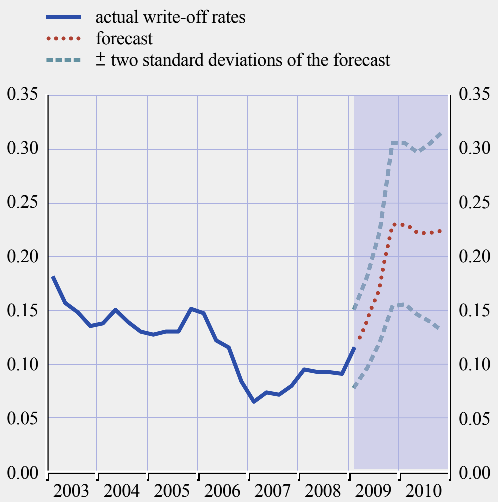
An estimate of the cumulative implied losses due to write-downs on securities – i.e. the mark-to-market of losses that banks have suffered as a result of falling securities values – was calculated by combining information on the magnitude of the exposures of euro area banks with information on default probabilities extracted from various CDS indices (or CDS spreads). The loss ratios from particular securities were derived from changes in securities prices and multiplied by the outstanding amounts held by euro area banks. The resulting figures represent the cumulative implied write-downs on securities exposures since the beginning of the turmoil. In principle, because such prices are forward-looking, they should embed expectations of future net losses on the assets that ultimately lie behind the securities. While this means that it is not necessary to compute a figure for expected losses on securities, it is important to bear in mind that this estimate will change as securities prices change.

Total losses on loans were calculated by adding up the net write-offs and provisions[4] reported by banks in 2007-2008 and expected future write-offs and provisions in 2009-2010. The expected write-offs and provisions were estimated by projecting a path for future write-off rates. These

4 Provisions and write-offs take account of net value readjustments, such as net write-back and recovery following earlier value adjustments.

Chart A Write-off rates on household mortgages extended by euro area banks

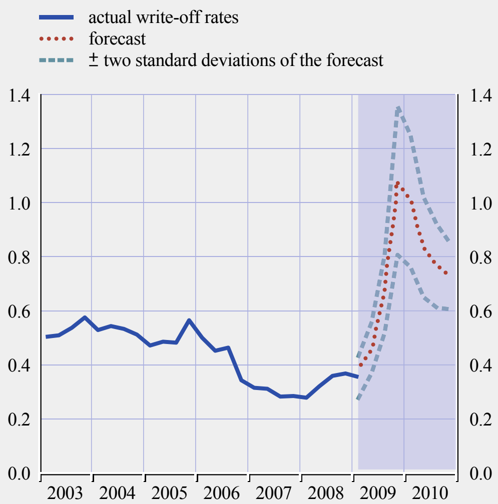
(Q1 2003 – Q4 2010; percentage)



Sources: ECB and ECB calculations.

Chart B Write-off rates on loans to corporates extended by euro area banks

(Q1 2003 – Q4 2010; percentage)



Sources: ECB and ECB calculations.

projections were based on empirical regressions which related household and corporate loan write-off rates to a set of macroeconomic variables, such as GDP growth, the unemployment rate, house price changes and expected default frequencies. The paths of exogenous variables for 2009 and 2010 were based on the macroeconomic forecasts for the euro area published by the European Commission in early May 2009. These forecasts see euro area GDP contracting by 4% in 2009 and by 0.5% in 2010. In the absence of quarterly data on loan loss provisions, these were assumed to be proportional to write-offs.[5]

The results show that euro area banks could face cumulative total losses of USD 218 billion on their exposures to securities, and an additional USD 431 billion of losses on their loan books (see Table A). This comes down to a total loss estimate of USD 649 billion over the period 2007-10. By the cut-off date of this FSR, the write-downs on securities by euro area banks had amounted to USD 215 billion.[6] At the same time, in 2007 and 2008 euro area banks provisioned and wrote-off USD 150 billion of their loan exposures. Looking ahead, therefore, there is potential for euro area banks to suffer a further USD 283 billion in losses, mainly originating from loan exposures. These losses would have to be buffered by additional provisioning and retained earnings over the next two years. There is however a high degree of uncertainty surrounding the outlook for banking sector profitability, which makes it very difficult to forecast banks' future retained earnings with a reasonable degree of accuracy.

Adequate interpretation of the loss figures requires that important caveats and limitations underlying these estimates are acknowledged. First, there is uncertainty about the scope and distribution of banks' exposures to securities, since some banks do not provide sufficiently detailed information on their exposures to various assets to make accurate calculations. Second, the confidence intervals surrounding the projections of write-off rates on mortgages and corporate

5 The proportionality factor used was the average ratio of write-offs to provisions in 2006 and 2007.
6 According to Bloomberg.

loans are rather wide (see Charts A and B), meaning that the estimates of total loan losses are likewise characterised by a high degree of uncertainty. This is especially the case for mortgage lending where write-off rates were unusually low over the last few years. Third, accounting rules in some euro area countries allow banks to delay reporting write-offs on loans to some extent. This may contribute to under-reporting of loan losses in good times and to substantial increases in provisioning during downturns. Against this background, write-off rates could increase by more than currently anticipated. Finally, a possible further deterioration in the economic environment would shift the projected path for write-off rates further upwards, thus increasing the loan loss estimates. Worsening macroeconomic conditions could also put pressure on securities prices and increase the likelihood of further losses on banks' securities exposures. That said, if macroeconomic conditions were to develop more favourably than currently forecast, loan losses might well turn out to be lower than indicated by these estimates.

All in all, there are many uncertainties surrounding estimates of the potential losses that euro area banks are likely to face over the next 18 months. These uncertainties reflect the availability and timeliness of data, the assumptions made in modelling and forecasting loan losses, as well as the macro-financial scenario envisaged. This means that differences in methodologies or assumptions can result in substantial differences in loss estimates. Against this background, and in the absence of detailed supervisory information about loan and securities exposures, no individual figure should be taken at face value. The wide range of estimates published by private and public sector institutions calls rather for constant monitoring and cross-checking of findings by central banks and supervisory authorities.