Box 10

ARE CONDITIONS IN THE MARKET FOR EURO CREDIT PORTFOLIO RISK BACK TO NORMAL?

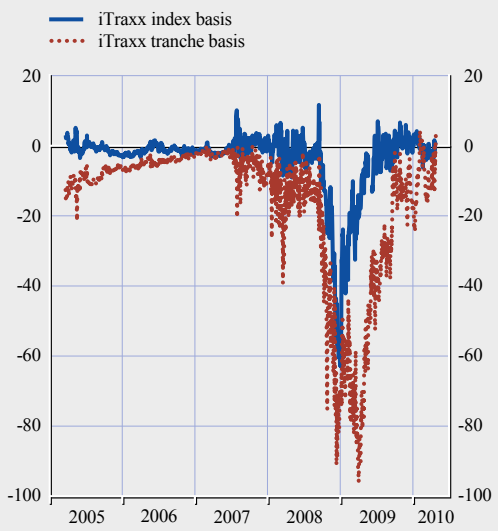
The credit market has been at the epicentre of the global financial crisis since its outbreak in summer 2007. Of great importance for euro area banks is the market for European portfolio credit risk, as it provides instruments for hedging corporate loan exposures. In this market, indicators based on market prices of standardised contracts can illustrate arbitrage opportunities, which should typically be very small if markets function normally. This box summarises how price-based indicators derived from two commonly used arbitrage strategies can provide insights into market conditions for the trading of credit portfolio risk.

Indicators obtained from combining several market prices can provide insights into potential dysfunctions in credit markets. In particular, the variety of different but related products allows investors to combine some instruments in such a way that the resulting arbitrage positions would allow them to directly profit from potential price differences. If investors had unimpeded access to sufficient funding (e.g. lending from prime brokers), then these arbitrage strategies should, over time, lead to declining pricing differentials.

For the European corporate credit market, the most relevant index is the iTraxx, which has, since its launch in summer 2004, provided a benchmark for market pricing of the credit risk of European investment-grade firms. In order to replicate a representative and diversified portfolio, the iTraxx index represents the credit default swap (CDS) premium on the equally-weighted basket of the 125 index members covering the energy sector, industrials, consumer cyclicals and non-cyclicals, insurers, banks and telecommunication companies, as well as automobile firms. Standardised credit indices such as the iTraxx index transfer the risk in an entire portfolio. The CDS premium on the index, therefore, represents the price of credit protection on the entire pool of firms, i.e. a portfolio CDS covering all 125 firms in the index. Index CDSs essentially trade like CDSs on a single firm.

Two iTraxx basis measures

(Mar. 2005 – May 2010; basis points)



Sources: JP Morgan Chase & Co. and ECB calculations.
Note: Because of data unavailability, the sample ends on 11 May 2010.

In practice, there is a small difference between the CDS premium on the portfolio and the average across the 125 firms' CDS. This difference is known as the *index basis* and is illustrated in the chart. Depending on its sign, the index basis could be arbitraged away by buying the cheaper instrument and selling the more expensive one in such a way that the resulting position has a zero initial cost and contains no default risk. Until summer 2008, this index basis was close to zero, oscillating slightly between positive and negative territory. With the dramatic flight from risk after September 2008, the CDS index market came under severe stress, which was reflected in unusually large negative levels of the index basis. The index basis did not return to levels witnessed before the collapse of Lehman Brothers until the second half of 2009.

Based on the iTraxx index as the underlying asset, there is also a market for collateralised debt obligations (CDOs).[1] Specifically, these standardised CDOs comprise six tranches with varying exposures to the cash flows from the underlying portfolio of the iTraxx index. These tranches range from "equity" tranches with a very high risk exposure to the underlying pool to "super-senior" tranches, where expected losses are much smaller. All tranches have the same maturity of typically five years.

Similar to the basis between the index contract and the individual members, the prices of index tranches also provide a basis measure. In total, the six tranches cover all the possible losses arising from defaults in the CDS index portfolio. In parallel, all cash flows from the CDS index portfolio are paid out, starting with the senior tranches and ending with the equity tranche. As all six tranches together cover 100% of the loss distribution, the difference between the (weighted) tranches and the underlying index should be zero. Hence, any deviations could again be arbitraged away. This difference is known as the *tranche basis* and is also illustrated in the chart above.

In this case, changes at the height of the crisis were very similar to those of the index basis and indicated sizable problems in the tranche market. Overall, the chart indicates that the problems in market conditions were more pronounced in the tranche market than in the index CDS market, since the volatility of the tranche basis was more than twice as high and since its absolute magnitude was also larger. The index basis recorded a minimum of -62 basis points around the year-end of 2008, whereas that for the tranche basis was -95 basis points at the beginning of April 2009.

In the first half of 2009, the two basis measures tightened significantly and the index basis approached levels close to zero, indicating – at least temporary – improvements in credit

1 For more details, see M. Scheicher, "How has CDO market pricing changed during the turmoil? Evidence from CDS index tranches", *Working Paper Series*, No 910, ECB, June 2008.

market conditions. However, the tranche basis still gives some cause for concern as it remains volatile. This relatively high variability, which has also again materialised in mid-May 2010, indicates ongoing dysfunctions in standardised CDO markets, which point to the existence of continuing liquidity premia, as well as funding constraints.