

High commodity prices and downside risks to economic activity

Box 2

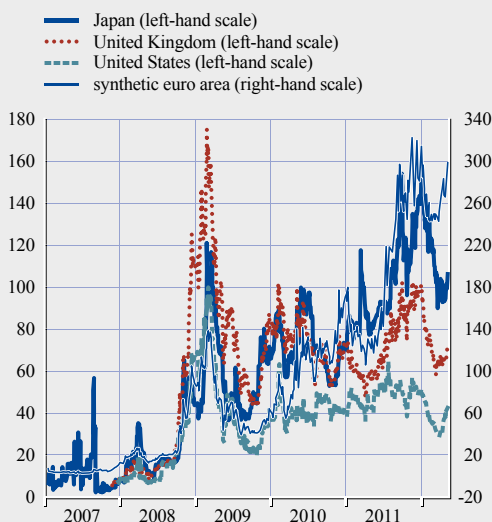
EXTRACTING FISCAL RISK SIGNALS FROM SOVEREIGN CREDIT DEFAULT SWAP SPREADS

Sharp increases in sovereign credit default swap (CDS) spreads have attracted considerable attention during the financial crisis, especially the high CDS spreads of euro area sovereigns under stress. Reflecting the broad-based fiscal deterioration in conjunction with the recent crisis, rising CDS spreads have been observed in advanced economies not only inside but also outside the euro area. Notwithstanding the recent tightening, between October 2010 and January 2012, five-year sovereign CDS spreads nearly tripled in Japan, almost doubled in the United Kingdom and rose marginally in the United States (see Chart A). In contrast to the experience of some countries in the euro area, however, the rise of sovereign CDS spreads in Japan, the United Kingdom and the United States was not accompanied by a simultaneous increase in government bond yields.¹ In these countries, the latter broadly declined, which raises the question of the extent to which rising CDS spreads signal changes in market perceptions regarding country-specific credit risk.

¹ For a discussion on the relationship between CDS spreads and government bond yields, see A. Fontana and M. Scheicher, "An analysis of euro area sovereign CDS and their relation with government bonds", *ECB Working Paper Series*, No 1271, 2010.

Chart A Sovereign CDS spreads

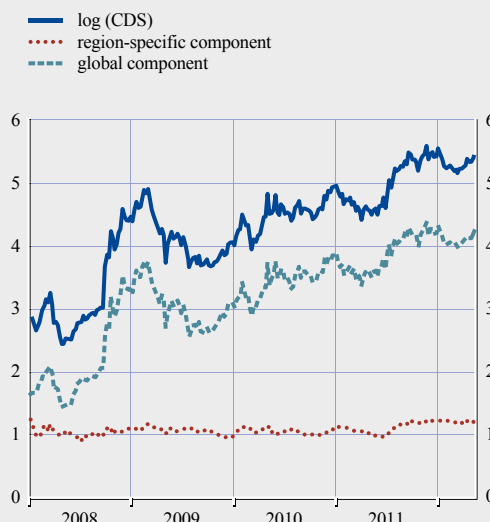
(Jan. 2007 – May 2012; basis points; five-year maturities)



Sources: Thomson Reuters and ECB calculations.
 Note: The euro area CDS spread is the GDP-weighted average of nine euro area countries for which data are available from January 2007.

Chart B Decomposition of the euro area sovereign CDS spread

(Jan. 2008 – May 2012; logarithm of CDS spread; five-year maturities)



Sources: Thomson Reuters and ECB calculations.
 Note: The euro area CDS series are GDP-weighted averages of the German, Greek, Irish and Spanish CDS spreads and their estimated country-specific and global components.

The literature on sovereign default risk highlights that the dynamics of sovereign CDS spreads may be driven by several determinants, ranging from global factors such as risk aversion, illiquidity or contagion risk to sovereign credit risk.² Therefore, movements in CDS spreads may not necessarily signal changes in country-specific credit risk. In order to isolate a signal that is specific to a country, the log of the CDS spread can be decomposed into a global risk component and an idiosyncratic, or country-specific, component. This decomposition is based on a common factor model using five-year sovereign CDS spread data for Japan, the United States, the United Kingdom, Brazil, Germany, Italy, Ireland and Spain.³

The results suggest a differentiated contribution of global and local factors that depends on the country. For the euro area, it is apparent that the dynamics of the euro area aggregate CDS spread and the global component are closely synchronised (see Chart B). This suggests that at the current juncture, investors relate global risk in part to developments in euro area sovereign CDS markets.

Given that global dynamics can have sizeable effects on a country's CDS spread, the headline spread may bear little relation to investors' perception about the country's fiscal risk. For instance, the decomposition in Chart C shows that the country-specific component of the United Kingdom

² See, for instance, R. De Santis, "The euro area sovereign debt crisis: safe haven, credit rating agencies, and the spread of the fever from Greece, Ireland and Portugal", *ECB Working Paper Series*, No 1419, 2012.

³ These eight countries account for about one-third of the global CDS market in terms of the gross notional amount outstanding. Greece was excluded from the sample as its sovereign CDS temporarily ceased trading on 9 March, after a credit event had been identified by the International Swaps and Derivatives Association.

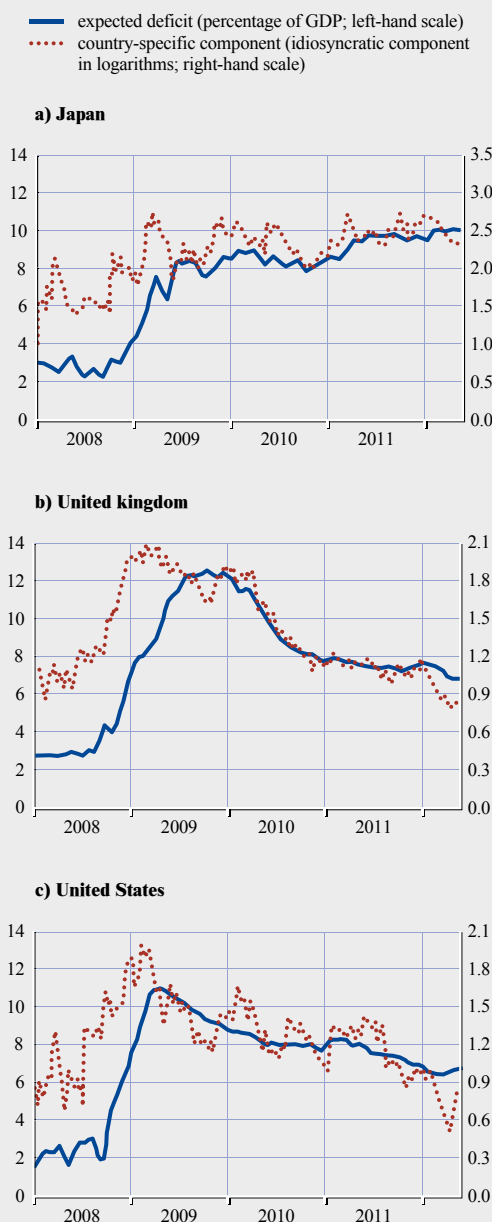
has in fact been declining since 2010, while its sovereign CDS spread has doubled. This indicates that global dynamics were underlying the rise in its sovereign CDS spread. In Japan, by contrast, the idiosyncratic component increased sharply after the Great East Japan Earthquake and largely accounted for the rise in sovereign CDS spreads over the past year.

To the extent that the country-specific CDS components reflect country-specific credit risk, one can assess whether movements in the idiosyncratic components are related to developments in fiscal fundamentals. As Chart C shows, the country-specific CDS component closely tracks the expected one-year-ahead fiscal deficit as derived from the Consensus Economics survey. The close relationship between the two variables indicates the potential of country-specific CDS components to provide a forward-looking fiscal risk signal for these countries. The visual indication is also confirmed by statistical evidence. Linear and non-linear regression approaches show that the expected 12-month-ahead fiscal deficit has a positive and statistically significant relationship with the country-specific CDS component. Moreover, this relationship tends to be stronger when the expected deficit-to-GDP ratio rises above a certain level. With respect to the United States, for example, a threshold regression points to a level value of 2.3%, whereas threshold values of about 3% result in a better fit of the model to the United Kingdom and Japan.

While the deficit explains the low-frequency movements of the country-specific CDS component, its short-term dynamics also react to events with potential implications for public finances. For example, this can be observed for Japan in March 2011, following the earthquake, and in the United States in July 2008, when the US Treasury Secretary requested government funds to support the government-sponsored enterprises Fannie Mae and Freddie Mac.

Chart C Country-specific CDS spread components and the expected fiscal deficits

(Jan. 2008 – May 2012)



Sources: Thomson Reuters, Consensus Economics and ECB calculations.
 Notes: The country-specific CDS component has been derived from the logarithm of the respective CDS spreads. The decomposition was implemented with a state space model that relates the observed five-year CDS spreads of Japan, the United States, the United Kingdom, Brazil, Germany, Italy, Ireland and Spain to an unobserved common component and the respective idiosyncratic components, which are estimated with the Kalman filter on the basis of weekly data from December 2007 to May 2012. The results are robust to different country samples. The expected deficit is the expected one-year-ahead fiscal deficit-to-GDP ratio, which is derived from Consensus Economics forecasts.

In conclusion, rising sovereign CDS spreads may reflect different underlying dynamics, depending on whether the increase is driven by changes in global or in country-specific risks. It is important to distinguish between these sources of risk for financial stability analyses as they may entail quite different policy implications. Given that the country-specific component is closely related to expected fiscal fundamentals, the idiosyncratic component may be interpreted as a market-based signal of fiscal risk that can serve as a monitoring tool for financial stability assessments. By partially isolating this indicator from the influence of global risk factors, the idiosyncratic sovereign CDS component can provide a more precise signal about investor sentiment towards a country's medium-term fiscal sustainability than the headline CDS spread. Overall, given the close relationship between the idiosyncratic component and the expected fiscal deficit, the results also underscore the need for fiscal discipline to maintain market confidence in a country's public finances.