Box 3

RECENT DEVELOPMENTS IN GOVERNMENT BOND YIELD SPREADS

During the course of the financial turmoil, differences between German and other euro area government bond yields have been increasing, with a particularly strong upsurge between late February and mid-March (see Chart A).[1] At that time, spreads reached peaks that were close to or even exceeded the maximum since the respective country joined European Monetary Union. The market turmoil and the deterioration in the European financial sector outlook might have contributed to triggering the repricing of sovereign credit risk. In particular, renewed attention has been given by market analysts to countries with large fiscal and external imbalances.

This box takes a closer look at recent developments in euro area sovereign bond spreads, pointing to the potential roles of credit risk and liquidity risk premia. It illustrates that investors increasingly discriminated between countries concerning the role of government bonds as a safe haven. Finally, spread developments are set in relation to the countries' fiscal situation and economic outlook.

Credit risk and liquidity risk as explanatory factors

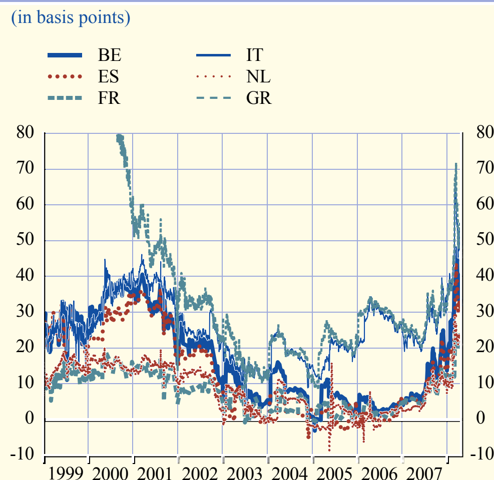
The recent widening of sovereign spreads can be attributed to both the relative liquidity of the respective bonds and the differences in the creditworthiness of the issuers.[2] Concerning the first aspect, bonds that can be traded immediately, with low transaction costs and without triggering large price changes, will ceteris paribus tend to offer lower yields. As for the second aspect, it

1 In this box the charts refer to the five biggest euro area countries (Germany, Spain, France, Italy and the Netherlands) as well as to the high debt countries (Belgium, Greece and Italy).

2 Concerning the general determinants of sovereign bond spreads in the literature, Favero, Pagano and von Thadden (2007), "How does Liquidity Affect Government Bond Yields?", IGIER Working Paper No. 323, emphasize a common trend related to aggregate risk. Beber, Brandt and Kavajecz (2006), "Flight-to-Quality or Flight-to-Liquidity? Evidence from the Euro-Area Bond Market", NBER Working Paper 12376, claim that the major part of sovereign yield spreads can be explained by differences in credit quality, whereas liquidity factors tend to dominate in times of market stress. Finally, Manganelli and Wolswijk (2007) "Market discipline, financial integration and fiscal rules – What drives spreads in the euro area government bond market?", ECB Working Paper No 745, point to the co-movement of sovereign spreads with short-term interest rates.

Chart A Ten-year government bond yield spreads against Germany

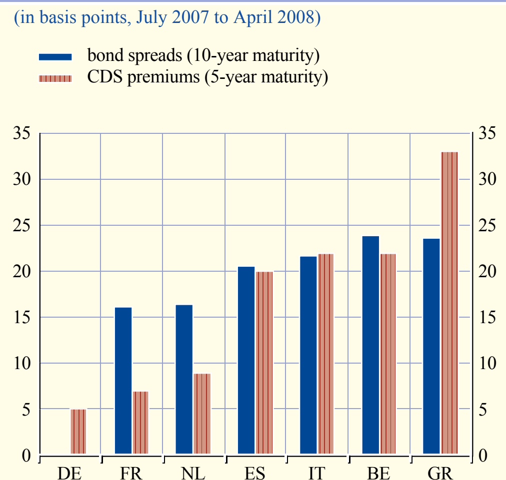
(in basis points)



Source: Bloomberg.
Note: The ten-year spread between Greek and German government bonds was over 300 basis points on 1 January 1999.

Chart B Changes in euro area government bond yield spreads against Germany

(in basis points, July 2007 to April 2008)



Source: Bloomberg.

is important to note that not only perceived relative credit risk (the amount of risk) determines the spread but also the required compensation for such risk (the price of risk), which is in turn related to the overall level of investors' risk aversion.

Looking at these two determinants in more detail, the repricing of euro area sovereign risk is consistent with the general rise in risk aversion observed in global financial markets. Spreads for all classes of risky financial assets have widened since the start of the financial turmoil. Sovereign spreads reacted with some lag, but did not escape some contagion. As shown in Chart B, all euro area countries have seen an increase in their credit default swap (CDS) premium, a measure for the default risk of sovereign bonds.

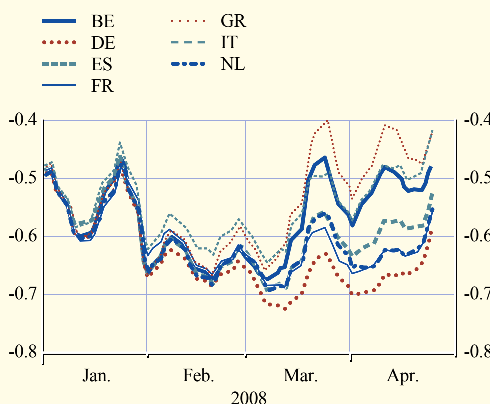
During the various episodes of market turbulence experienced since August 2007, euro area government bond market liquidity has been concentrated mostly in the German government bond futures market (in the Eurex exchange), which has benefited German debt relative to other sovereign debt. This might explain the outperformance of Germany against other countries perceived as having the same or even a better fiscal outlook. The drying-up of liquidity in the euro area government bond market observed in the first half of March has probably exacerbated the widening of sovereign bond spreads. This drying-up of cash market liquidity happened at a time when more difficult refinancing conditions reportedly led some leveraged investors to liquidate some of their holdings in higher yielding government bonds accumulated over past years.

These two factors (the credit premium and the liquidity premium) contributed to the outperformance of those sovereign debt securities perceived as having a higher level of safety and liquidity, in particular German government bonds. The first factor (the reassessment of credit risk) was undoubtedly the stronger force behind this repricing.

These market factors were dominant during the abrupt spread widening observed in the first half of March. The slow normalisation of liquidity conditions and the return of some risk appetite generally observed in credit markets triggered a narrowing of sovereign spreads in April.

Chart C Time-varying correlation between daily stock returns on the Dow Jones EURO STOXX 50 index and ten-year government bond yields

(five-day averages, 1 January 2008 to 25 April 2008)



Sources: Thomson Financial Datastream, ECB calculations.
Note: The correlations are computed using a bivariate GARCH-type model (BEKK).

Widening spreads as a reflection of discrimination in flight-to-quality behaviour

The increasing differentiation in the assessment of sovereign bonds is also reflected in the extent to which government bonds of individual issuers are perceived as a safe haven. In times of turbulent financial markets, investors tend to rebalance their portfolios towards safe and liquid assets. One measure of the strength of such flight-to-quality behaviour is the time-varying correlation between returns on government bonds and those on risky assets, often represented by a broad-based stock price index. The stronger the flight-to-quality behaviour, the more negative – ceteris paribus – the correlation is expected to be. In fact, the correlation of returns on euro area long-term government bonds and the returns on the EURO STOXX 50 index became strongly negative during the recent financial turmoil.

Since the beginning of 2008 the flight-to-quality behaviour has become increasingly discriminating (see Chart C). While the correlation measures stood at around -0.5 with very little dispersion at the beginning of January, they started to fan out in February. Since mid-March, the measure has been discriminating, with Germany having the lowest correlation (reflecting the strongest impact of flight-to-quality flows). The least negative correlations have been exhibited by Greece, followed by Belgium and Italy.

Recent fiscal developments and economic outlook

Widening sovereign bond yield spreads reflect a number of country-specific risk factors, notably fiscal positions. While fiscal balances in several euro area countries reached relatively sound levels in 2007, high deficit and debt levels remain in some countries and risks to the fiscal outlook are concentrated on the downside. The European Commission Spring 2008 Economic Forecast projects deficits of 2% of GDP or clearly above for France, Italy, Portugal and Greece in 2008, reflecting a loosening of fiscal policies in the former two countries. For 2009, the Commission projects no consolidation in the high deficit countries. Public debt levels remain high in Italy, Greece and Belgium, or increase in Ireland, Portugal and France (see table).

According to the European Commission Spring 2008 Economic Forecast, at the euro area level GDP growth in 2008 is projected to turn out around 0.6 percentage point lower than in the countries' stability programmes. The largest differences are recorded for Italy (-1.0 percentage

Table General government balance and debt

(% of GDP)

	Balance			Debt		
	2007	2008	2009	2007	2008	2009
Belgium	-0.2	-0.4	-0.6	84.9	81.9	79.9
Germany	0.0	-0.5	-0.2	65.0	63.1	61.6
Ireland	0.3	-1.4	-1.7	25.4	26.9	28.8
Greece	-2.8	-2.0	-2.0	94.5	92.4	90.2
Spain	2.2	0.6	0.0	36.2	35.3	35.2
France	-2.7	-2.9	-3.0	64.2	64.4	65.1
Italy	-1.9	-2.3	-2.4	104.0	103.2	102.6
Cyprus	3.3	1.7	1.8	59.8	47.3	43.2
Luxembourg	2.9	2.4	2.3	6.8	7.4	7.6
Malta	-1.8	-1.6	-1.0	62.6	60.6	58.8
Netherlands	0.4	1.4	1.8	45.4	42.4	39.0
Austria	-0.5	-0.7	-0.6	59.1	57.7	56.8
Portugal	-2.6	-2.2	-2.6	63.6	64.1	64.3
Slovenia	-0.1	-0.6	-0.6	24.1	23.4	22.5
Finland	5.3	4.9	4.6	35.4	31.9	29.1
Euro area	-0.6	-1.0	-1.1	66.4	65.2	64.3

Source: European Commission Spring 2008 Economic Forecast.

point), Spain and Luxembourg (-0.9 percentage point), Ireland and France (-0.7 percentage point), and Greece (-0.6 percentage point). Weaker fiscal consolidation plans, together with lower growth prospects, may signal to capital markets the need for additional sovereign borrowing, and put pressure on long-term interest rates for countries with fiscal imbalances. Moreover, macroeconomic uncertainty coincides with large current account deficits in several countries, which require large inflows of external financing.

Furthermore, there is a risk that additional fiscal pressures may emerge over the year related to a reversal of past windfall revenues and possible costs from direct government intervention to support financial institutions (as also reflected in the development of the CDS spreads above). Such risk could raise government expenditure and debt levels, with possible second-round effects via higher interest burdens.

To sum up, the repricing of risk across financial markets and the rise in investors' risk aversion has resulted in outflows from perceived risky assets to government bonds, which are considered the safest. During the first quarter of 2008 differences between German and other euro area government bond yields were widening as investors started to increasingly differentiate between issuing countries. This took place against the background of higher perceived country-specific risks related to the fiscal and macroeconomic outlook, but increased required risk compensation probably also played a role. In addition, the drying-up of liquidity in the government bond market has significantly contributed to the divergence between intra-euro area yield spreads.