Box 2

A COMPARISON OF THE DEVELOPMENTS IN EURO AREA SOVEREIGN BOND SPREADS AND US STATE BOND SPREADS DURING THE FINANCIAL TURMOIL

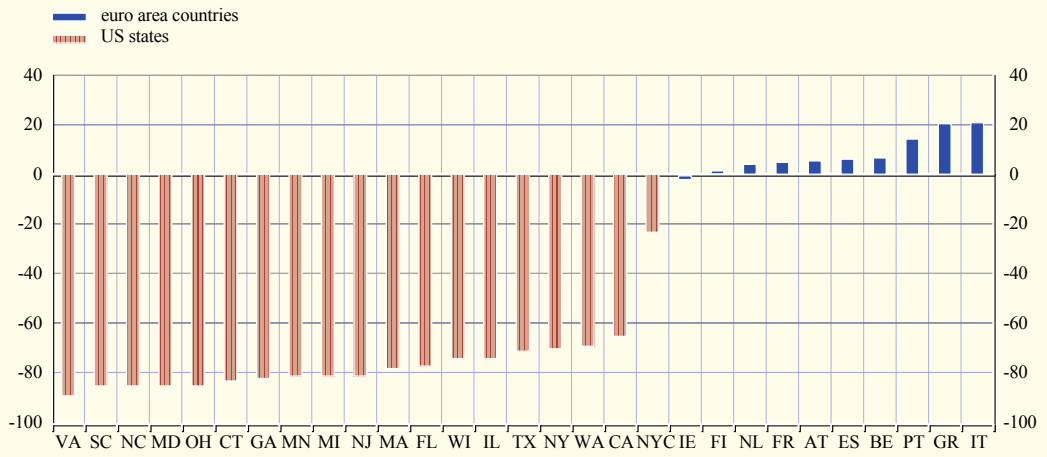
During the financial turmoil, not only have spreads and risk premia of corporate bonds been generally increasing, but also the yield differentials between bonds issued by different governments have been widening. In the euro area, sovereign bond spreads (vis-à-vis German government bonds) widened considerably and only since March 2009 have they been showing signs of narrowing again.[1] However, such a difference between yields on public debt securities in a currency area is by no means exclusively a euro area phenomenon. The yield spreads of US state bonds (vis-à-vis US Treasury bonds) have also showed very marked increases during the financial turmoil. This box looks at the developments in the two sets of spreads and explains why some caution is warranted for such a cross-Atlantic comparison.

At end-June 2007 (i.e. before the start of the turmoil), long-term euro area government bond spreads were moderate, while the bond spreads of the individual US states were all sharply

1 For an analysis of developments in euro area sovereign bond spreads, see the box entitled "How have governments' bank rescue packages affected investors' perceptions of credit risk?" in the March 2009 issue of the Monthly Bulletin, the box entitled "Recent widening in euro area sovereign bond yield spreads" in the November 2008 issue of the Monthly Bulletin, and in particular the article entitled "The impact of government support to the banking sector on euro area public finances" in this issue of the Monthly Bulletin.

Chart A Levels of selected ten-year euro area sovereign bond spreads and US state bond spreads on 29 June 2007

(basis points)



Sources: Datastream, Bloomberg and ECB calculations.

negative (see Chart A).[2] Before explaining this striking difference in sign, it is important to look at the construction of the two sets of bond spreads. Euro area bond spreads represent the difference between the yields on ten-year bonds issued by the respective member country and ten-year bonds issued by Germany. For the US states, in contrast, the state bond yields are derived from an index of several general obligation bonds issued by the US state and local governments (such as municipalities) with approximately ten-year maturities. All bonds in the index have on average the same credit rating as the state. From the thus-constructed state bond yield, the yield on a ten-year Treasury bond is subtracted. Besides this technical difference, there is an asymmetry between the relative position of the issuer of the respective benchmark bond and the issuers of the other bonds. For the United States, the benchmark bond is issued by the Treasury (i.e. the sovereign issuer), while the state bonds are issued by sub-sovereign entities. In the euro area, by contrast, the issuer of the benchmark bond (Germany) and the issuers of the other bonds are all sovereign states. The benchmark status of Germany among the set of countries arises because German government bonds have both the lowest perceived credit risk and very high liquidity.[3]

A second caveat of the cross-Atlantic comparison is the tax treatment of US state and local government bonds. The payment of interest on such bonds is generally exempt from federal income tax and, if the bonds are held by an investor resident in the state of issuance, also state and local income taxes. As a result, interest paid on bonds issued by US states is usually lower than that paid on fully-taxable bonds. Accordingly, the spreads on US state bonds are usually

2 Due to data availability, the sample for the United States covers 18 states and New York City. The abbreviations of the US states read: California (CA), Connecticut (CT), Florida (FL), Georgia (GA), Illinois (IL), Massachusetts (MA), Maryland (MD), Michigan (MI), Minnesota (MN), North Carolina (NC), New Jersey (NJ), New York (NY), New York City (NYC), Ohio (OH), South Carolina (SC), Texas (TX), Virginia (VA), Washington (WA) and Wisconsin (WI). For the euro area, countries that had adopted the euro by 2006 are considered (excluding Luxembourg).

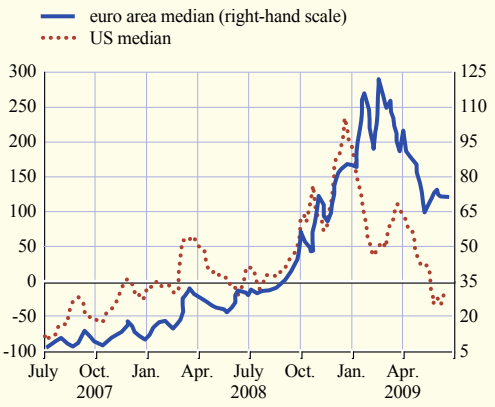
3 There is no immediate solution for making the comparison more symmetrical. There is no European federal entity issuing bonds which could assume the role that Treasury bonds play in the United States. Alternatively, it would be possible to choose one of the individual US state bonds as a reference entity to increase the symmetry of the comparison. However, such an approach would be rather arbitrary and would require that the respective benchmark state maintain low perceived credit risk for a long period of time.

negative vis-à-vis federal government debt: in the decade before the start of the current turmoil, the median ten-year yield spread on US state debt averaged about -60 basis points against comparable Treasuries. In contrast, such a relevance of differentiated tax treatments does not apply to euro area government bonds. Accordingly, euro area government bond spreads are typically positive.

The latter two points suggest that comparisons of US state bond spreads and euro area government bond spreads should be conducted with some caution. In particular, a cross-Atlantic comparison of turmoil-related spread developments should rather focus on the dynamics of bond spreads than on their levels.

Chart B Median of selected euro area sovereign bond spreads and US state bond spreads

(basis points; five-day averages)



Sources: Datastream and ECB calculations.
Note: The respective medians are computed for the same two groups of states/countries as in Chart A.

Regarding the dynamics, euro area sovereign and US state bond spreads show a marked co-movement for the period between July 2007 and end-2008 (see Chart B). The correlation of the medians of the two sets of spreads amounts to 0.93 over that period. In fact, since the financial turmoil is taking place globally, it may be expected that both euro area government spreads and US state spreads were being driven by a common "global crisis factor", capturing a deteriorating global macroeconomic outlook as well as the effect of rising investor risk aversion. This factor appears to have increased both sets of spreads more or less in tandem, while the absolute magnitude of US spread changes was exceeding that of their euro area counterparts. The latter may have partly reflected US-specific events leading to dislocations in the markets for state and local government bonds. These US-specific events include the distress in 2008 of the "monoline" insurance industry that guaranteed a large share of the US municipal bond market and repeated auction failures for municipal auction-rate securities since February 2008.

In the first quarter of 2009 the developments in the two groups of spreads started to diverge markedly. While the US state bond spread levels showed a strong decline overall, euro area spreads edged further upwards. The median spread on US state bonds narrowed by approximately 90 basis points, which resulted from declining yields on state debt and rising yields on Treasuries. Over the same period the median spread in the euro area countries increased slightly further. The decrease in US state bond spreads since the beginning of 2009 has been associated with the impact of President Obama's announcement and enactment of a large-scale stimulus package containing approximately USD 150 billion of relief to state governments, which covers a substantial share of their projected budget shortfalls over the next few years. As this represents a transfer of funds from the federal authority to the state governments, the recent declines in US state bond spreads may partly reflect a perceived transfer of credit risk between the sovereign and sub-sovereign entities within the US federal structure.[4]

4 Although the improvement in US spreads started somewhat earlier (in late December 2008) than the actual enactment of the stimulus package (on 17 February 2009), the discussion of the stimulus package went through a process spanning several months. As early as the beginning of January 2009, it was increasingly clear that federal aid would be offered to state and local governments as part of the forthcoming package.

Chart C Changes in selected ten-year euro area sovereign bond spreads and US state bond spreads between 29 June 2007 and 13 March 2009

(basis points)

Sources: Datastream, Bloomberg and ECB calculations.

Taking a snapshot at mid-March 2009 (when euro area sovereign bond spreads were near their crisis peak), it can be observed that US state bond spreads have been generally more strongly affected than euro area government bond yield spreads when compared with end-June 2007 levels (see Chart C). The main exceptions to this are Greece and Ireland. The strong increases of US state bond spreads led them all to stand at positive levels. Overall, the magnitudes of US state spreads observed during the turmoil strongly exceeded any level observed in the last decade. The most substantial increases were observed in areas particularly hard hit by the housing market downturn (California and Florida), but also in areas with a high concentration of economic sectors at the heart of the current recession, such as the automobile industry (in Michigan) and financial services (in New York). These four states had fiscal balances which were weaker than the US average in the fiscal year 2008 and were projected to deteriorate further in the fiscal year 2009.

Finally, since end-March, both euro area sovereign bond spreads and US state bond spreads have shown strong declines amid a general improvement in economic sentiment and globally decreasing risk aversion. These declines came to a halt in mid-May (in the euro area) and early June (in the United States), with spreads on both sides of the Atlantic still exceeding considerably their pre-crisis levels.

Summing up, in the course of the financial turmoil, the spreads between euro area government bond yields vis-à-vis Germany have been widening to levels not seen since the start of EMU. Similar developments have been observed in the United States, where spreads between state bond yields and Treasury bond yields have also been widening. The two sets of spreads showed a close co-movement until end-2008. In the first quarter of 2009 euro area sovereign bond spreads increased further, while US state bond spreads declined, which is probably associated with the announcement of large-scale support packages expected to transfer funds from the federal authority to the state governments. Since end-March 2009 both groups of spreads have shown marked declines amid improving economic sentiment and decreasing risk aversion. Current spread levels, however, still markedly exceed pre-crisis magnitudes. Overall, US state

bond spreads have increased more strongly than their euro area counterparts during the turmoil. This box has also stressed that some caveats apply to any comparison of euro area sovereign bond spreads and US state bond spreads. Differences in the computation of spreads and different tax treatments imply that for cross-Atlantic comparisons the focus should be on the dynamics or changes, rather than on the absolute magnitudes, of bond spreads.