Box 3

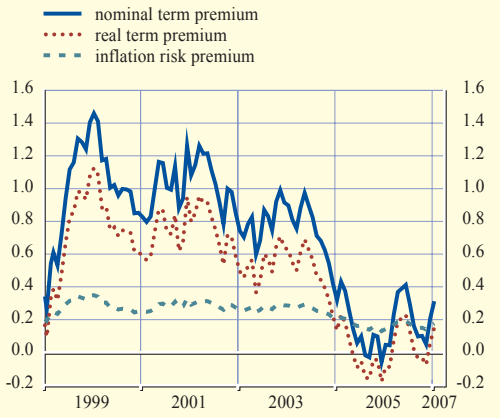
LONG-TERM REAL AND INFLATION RISK PREMIA IN THE EURO AREA BOND MARKET

In line with developments in the global bond market, long-term interest rates in the euro area have remained at relatively low levels in recent years. At the same time, the euro area yield curve has flattened considerably, to which the gradual removal of monetary policy accommodation by the ECB since December 2005 has also contributed. There is strong evidence that low long-term rates and flat yield curves in the euro area and elsewhere reflect, to a large extent, very low levels of risk premia embedded in long-term interest rates. For example, in the December 2006 issue of the Monthly Bulletin, it was shown that the term structure of nominal risk or term premia estimated from an arbitrage-free term structure model for the euro area, having been relatively steep in early 2004, had almost flattened, at a very low level, by the end of 2006.[1]

This box presents the results of an extended version of such a model, which provides a decomposition of nominal term premia into one part that compensates investors for real interest rate risks, the real term premium, and another part that compensates for inflation risk, the inflation risk premium.[2]

Decomposition of the 10-year nominal term premium in the euro area

(percentages per annum; monthly data)



Sources: Bloomberg, Reuters and ECB calculations.

The chart indicates that since the introduction of the euro in January 1999 movements in the overall (nominal) ten-year term premium have largely been driven by movements in the real term premium, whereas the inflation risk premium has been relatively stable at low levels throughout that period. In particular, the sharp decline in the nominal term premium between mid-2004 and the latter half of 2005 was accompanied by an almost parallel decline in its real component. This, in turn, supports the hypothesis that the developments leading to very low long-term bond yields were mainly driven by a number of special factors which were influencing "real term premia" in the global bond market, such as a stronger demand for bonds from institutional investors relating both to changes in the regulatory framework and to demographic factors, Asian central banks accumulating foreign exchange reserves, and oil exporting countries investing their windfall profits from the strong increases in oil prices.[3]

1 See the box entitled "The recent flattening of the euro area yield curve: what role was played by risk premia?" in the December 2006 issue of the Monthly Bulletin.
2 The model is similar to the model developed by Kim and Wright for the United States. See, Kim, D. H. and J. H. Wright: "An arbitrage-free three-factor term structure model and the recent behavior of long-term yields and distant-horizon forward rates", Board of Governors of the Federal Reserve System, Finance and Economics Discussion Series 2005-33, 2005.
3 See the box entitled "Recent developments in long-term real interest rates" in the April 2005 issue of the Monthly Bulletin.

According to the model estimates, the typical fluctuations in the estimated inflation risk premium appear rather muted, which is broadly in line with the stable developments seen in long-term break-even inflation rates, which reflect investors' long-term inflation expectations and an inflation risk premium. Hence, it appears that market participants see the ECB's price stability objective as being highly credible and that it thus provides a solid anchor for investors' inflation expectations.

The changes in the estimated inflation risk premium over recent years appear negligible as compared with the relatively large swings in the nominal and the real term premium. However, it has to be stressed that the estimation of term premia, and even more so the decomposition into estimated real and inflation risk premia, is surrounded by a considerable amount of uncertainty related to the shortness of the available data sample, the difficulty in specifying a suitable econometric model, and the general estimation uncertainty associated with such a model.