

Box I

RECENT DEVELOPMENTS IN BOND MARKET LIQUIDITY PREMIA AND IMPLICATIONS FOR BREAK-EVEN INFLATION RATES

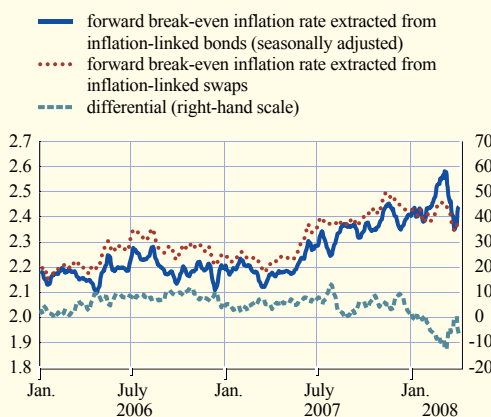
Since the beginning of 2007 longer-term break-even inflation rates extracted from inflation-linked bonds have been on an upward trend. Although the resulting overall increase – which is also confirmed by the comparable measures obtained from inflation-linked swaps – has not been dramatic, it still appears to reflect a genuine increase in longer-term inflation expectations and related inflation risk premia. In the last couple of months, however, break-even inflation rates have experienced some pronounced fluctuations, which seem to be closely related to the ongoing financial turbulence. In particular, the stronger preference among investors for safe and liquid assets has contributed to the substantial decline in the yields of the most liquid government bonds traded in the major markets. This box focuses on the implications of changing bond market liquidity premia for the assessment of developments in break-even inflation rates in the euro area and the United States.

Bond market-based measures of inflation expectations and related premia are obtained by subtracting the real yield on an inflation-linked bond from a nominal yield on a bond of comparable maturity. Although conceptually simple, this computation presumes that liquidity premia in nominal and real yields are of a similar size. In tranquil market conditions, this implicit assumption is roughly satisfied in the euro area and a break-even inflation rate may be interpreted as investors' compensation for exposure to inflation over the given horizon. Since the beginning of 2008, however, this indicator may have been partly obscured by temporary distortions, and particular caution is therefore warranted in its interpretation.

During the recent episodes of market stress, euro area nominal government bond yields declined more swiftly than yields on inflation-linked bonds of comparable maturities. Although this appeared mainly to reflect rising demand for the most liquid assets in an environment of severe market stress, it mechanically led to a pronounced decline and subsequent rebound in five-year spot break-even inflation rates in particular. In consequence, such movements are unlikely to

Chart A Five-year forward euro area break-even inflation rates five years ahead extracted from inflation-linked bonds and swaps

(percentages per annum and basis points; five-day moving averages of daily data)



Sources: Reuters and ECB calculations.
Note: The data used are zero coupon rates.

reflect genuine changes in inflation compensation. While flight-to-liquidity episodes as a rule tend to cause an underestimation of spot break-even inflation rates, the effect on forward break-even rates is generally more ambiguous. In fact, both the size and the sign of the distortions in the forward rates depend on the relative size and synchronicity of the fluctuations in spot liquidity premia across maturities. Liquidity effects may even have led to a temporary upward bias in longer-term forward break-even inflation rates.

Indeed, as shown in Chart A, the five-year forward euro area break-even inflation rate five years ahead derived from inflation-linked bonds became unusually high compared with the corresponding rate derived from inflation-linked swaps in February and March 2008.¹ The usually rather stable spread between the two measures temporarily moved well beyond its typical range. As inflation-linked swaps in principle should be unaffected by liquidity effects in government bond yields, the emergence of this wedge appears consistent with the notion that the large swings in break-even inflation rates since the beginning of this year mainly emanated from liquidity effects.

Turning to the United States, the computation of break-even inflation rates is further complicated at present by a pronounced widening of the so-called on-the-run yield premium. This premium, which is mainly a US phenomenon, can be measured as the difference between the yield on the most recently issued (also called on-the-run) nominal ten-year note, and the yield obtained when

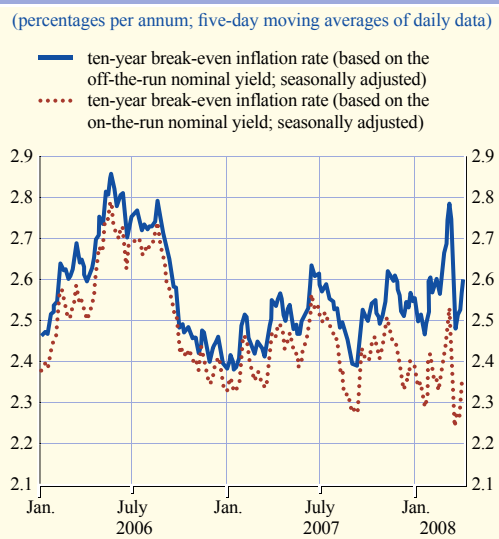
1 Sizeable deviations between break-even inflation rates derived from inflation-linked bonds and swaps have also been observed in the spot measures. However, a meaningful comparison of these measures requires an appropriate adjustment for seasonal effects in the prices of index-linked bonds as is done with data reported in the Monthly Bulletin. For methodological details, see J. Ejsing, J. A. García and T. Werner, "The term structure of euro area break-even inflation rates: the impact of seasonality", ECB Working Paper No 830, 2007.

Chart B Ten-year on-the-run premium in the United States



Sources: Board of Governors of the Federal Reserve System, ECB calculations.

Chart C Measures of the spot ten-year break-even inflation rate in the United States



Sources: Board of Governors of the Federal Reserve System, ECB calculations.
 Note: The on-the-run comparable nominal yield was computed by subtracting the on-the-run yield premium from an estimated zero coupon off-the-run nominal yield.

pricing identical cash flows using a yield curve estimated using all other bonds and notes (“off-the-run”). For reasons partly related to the functioning of the repo market, the on-the-run note is in particular high demand also under normal market conditions, and trades at a lower yield than otherwise comparable securities.² As can be seen from Chart B, this premium has increased substantially since mid-2007 and reached a level of about 25 basis points in February. Hence, using the on-the-run yield as the comparable nominal yield for break-even calculations, which is a common practice, currently leads to a significant underestimation of the ten-year break-even inflation rate (see Chart C) and even more so of long-term forward rates. It is preferable instead to perform the calculation based on nominal yields from an estimated off-the-run curve, as this reduces significantly the discrepancy between the liquidity premia embedded in the real and the comparable nominal yields.

To sum up, sizeable liquidity effects in the government bond markets have recently complicated the interpretation of important indicators derived from bond market data. Specifically, it seems that temporary liquidity factors and their subsequent unwinding, rather than genuine changes in inflation expectations and inflation risk premia, have been the principal factor behind the recent large swings in break-even inflation rates in both the euro area and the United States.

² For a discussion of the rationale behind the on-the-run premium, see M. Fisher (2002), “Special Repo Rates”, Economic Review, Federal Reserve Bank of Atlanta, second quarter, pp. 27-43.