

Box 3

**CHANGE IN THE INDEX-LINKED BOND USED FOR THE CALCULATION OF LONG-TERM BREAK-EVEN INFLATION RATES**

Long-term break-even inflation rates – which are calculated as the yield differential between a conventional nominal bond and an index-linked bond issued by the same entity and with a comparable maturity – are very useful indicators of market participants’ average inflation expectations over the residual maturities of those bonds.<sup>1</sup> Since the February 2002 issue of the ECB’s Monthly Bulletin, the benchmark (“ten-year”) break-even inflation rates for the euro area have been derived from the 2012-maturity inflation-linked bond issued by the French government in November 2001. However, this bond now has a residual maturity of only around 7½ years. The issuance of a 2015-maturity inflation-linked bond (also indexed to the euro area HICP excluding tobacco) by the French government in November 2004 makes it possible to change the underlying bonds used to calculate the benchmark break-even inflation rate so that it reflects market participants’ inflation expectations over a period that is again as close as possible to ten years.

This box considers the consequences of the change in the bonds used for the calculation of the benchmark break-even inflation rates in the euro area reported regularly in the Monthly Bulletin. For the sake of consistency, a similar change has been implemented for the calculation of the reported break-even inflation rates in the United States.

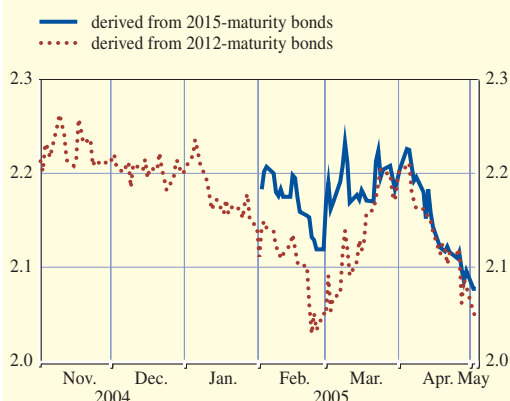
As can be seen in Chart A, the change from the 2012-maturity bond to the 2015-maturity bond has thus far led to an only small difference in the reported long-term break-even inflation rates.<sup>2</sup>

1 For further details, see the article entitled “Extracting information from financial asset prices” in the November 2004 issue of the Monthly Bulletin.

2 The break-even inflation rates derived from the 2012 and 2015-maturity inflation-linked bonds are determined on the basis of a comparison with equivalent French nominal bonds. To avoid distortions arising from maturity mismatches, nominal bonds are selected to match the maturity of the inflation-linked bonds to the extent possible. For the inflation-linked bonds maturing in 2012 and 2015, nominal bonds with maturities three months shorter were selected. As a result, break-even inflation rates derived from the 2015-maturity bond were not available until February 2005, as the underlying nominal bond was issued in February 2005.

**Chart A Break-even inflation rates in the euro area**

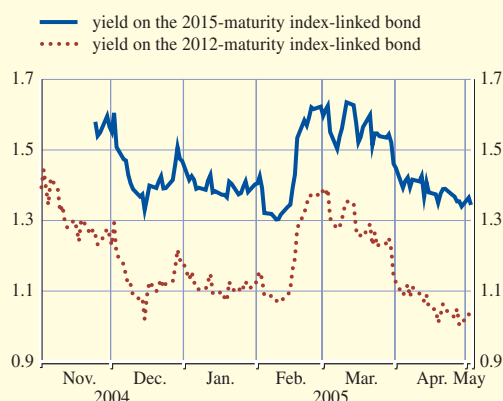
(percentages per annum; daily data)



Sources: Reuters and ECB calculations.

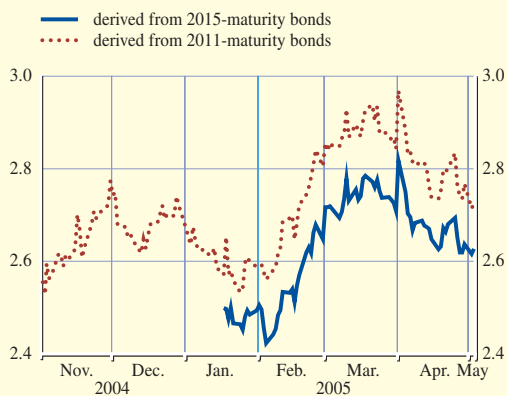
**Chart B Yield on index-linked bonds in the euro area**

(percentages per annum; daily data)



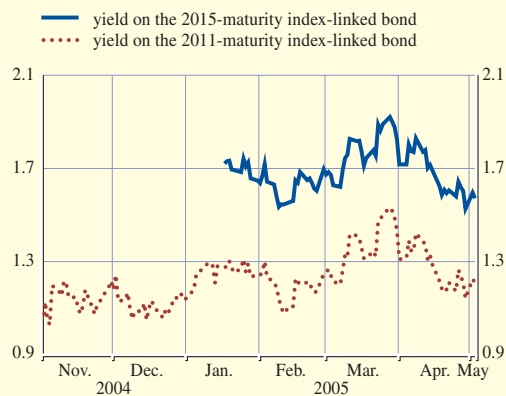
**Chart C Break-even inflation rates in the United States**

(percentages per annum; daily data)



**Chart D Yield on index-linked bonds in the United States**

(percentages per annum; daily data)



Sources: Reuters and ECB calculations.

On 3 May the break-even inflation rates derived from the 2015 and 2012-maturity bonds both stood at around 2.1%. However, Chart A also shows that the break-even inflation rates derived from the 2015-maturity bond were a few basis points higher than those derived from the 2012-maturity bond between early February and mid-March. These minor differences could, market factors aside, reflect slightly higher term premia, which increase with maturity, as well as time-varying inflation uncertainty and the related inflation risk premia embodied in the different bonds used. For instance, oil price hikes over that period may have contributed to temporarily higher inflation uncertainty at short-term to medium-term horizons than at longer ones.

By contrast, looking at long-term index-linked bond yields – a measure of long-term real interest rates in the euro area – the yield on the 2015-maturity bond on 3 May was around 30 basis points higher than that on the 2012-maturity bond (see Chart B). This reflects the fact that the yield curve for real interest rates is currently sloping upward.

A similar change in the bonds underlying the calculation of the break-even inflation rate was made for the United States, in order to ensure comparability with the euro area figures. Reported yields for inflation-indexed bonds and the corresponding break-even inflation rates in the United States are now based on a recently issued 2015-maturity inflation-indexed US Treasury bond, rather than on the 2011-maturity inflation-indexed bond used previously. On 3 May the break-even inflation rate derived from the 2015-maturity bonds stood around 10 basis points lower than that derived from the 2011-maturity bonds (see Chart C). This may reflect that market participants' inflationary concerns are at present stronger in the short and medium term than over longer horizons. The reported real ten-year yield on the 2015-maturity index-linked bond on 3 May was around 40 basis points higher than that on the corresponding 2011-maturity bond (see Chart D).