Recent developments in marked-based indicators of inflation expectations

ECB Bond Market Contact Group
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Key messages:

• Market-based indicators of inflation expectations are strongly affected by movements in the inflation risk premium

• The declining trend in longer-term inflation swap rates seen in the second part of 2014 has been stopped

• Deflation risk derived from inflation options remains low
Market-based indicators continue to be below survey measures.

**Expected path of inflation**

(Percentages per annum)

- Realised y-o-y HICP inflation
- Swap-implied HICP inflation path (21 Jan 15)
- Swap-implied HICP inflation path (3 Dec 15)
- Swap-implied HICP inflation path (12 Jan 16)
- Consensus Forecast (Dec.15 for 2015 and 2016, Oct15 for the rest)

**Model estimates of the inflation risk premium**

(Percentages per annum)

- Inflation risk premium 5y5y (Affine term structure model)
- Inflation risk premium 5y5y (Rotated Dynamic Nelson Siegel model)

**Sources:** Consensus Economics, ECB and Thomson Reuters.
**Note:** The latest observation is for 12 January 2016.
Historical movements in 5y5y inflation swap rates are mainly due to risk premia.

Model based decomposition of 5y5y rates into premium and expectations (percentages per annum)

Sources: ECB and Thomson Reuters.
Notes: Decomposition based on an ATSM (Affine term structure model) fitted to the euro area zero-coupon inflation linked swap curve. The estimation method follows Joslin, Singleton and Zhu (2011).

Last observation: January 2016
The declining trend of longer-term inflation swap rates has been stopped.

**Forward inflation-linked swap rates**
*(percentages per annum)*

- 1-year rate 1 year ahead
- 1-year rate 4 years ahead
- 1-year rate 9 years ahead
- 5-year rate 5 years ahead

**Years for euro area inflation to reach 2%**
*(years)*

Sources: Thomson Reuters and ECB calculations.
Notes: Vertical line denotes last GC meeting on 3 December 2015. The latest observation is for 12 January 2016.

Sources: Thomson Reuters and ECB calculations.
Notes: The index referenced is the HICP ex tobacco that historically has been around 0.1% lower than HICP. The latest observation is for 12 January 2016.
Deflation risk remains low

**Price of inflation/deflation protection**  
*basis points*

Sources: Thomson Reuters and ECB calculations.  
Notes: Price of inflation (deflation) protection refers to the price of a year-on-year inflation option with a 4% cap (0% floor) for a horizon of five years. The latest observation is for 12 January 2016.

**Option-implied risk-neutral distribution of inflation expectations**  
*percentages*

Sources: Bloomberg, Reuters and ECB calculations.  
Notes: Probabilities implied by five-year zero-coupon inflation options. Risk-neutral probabilities may differ significantly from physical, or true, probabilities. The latest observation is for 12 January 2016.