



EUROPEAN CENTRAL BANK

EUROSYSTEM

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Member of the Executive Board  
European Central Bank

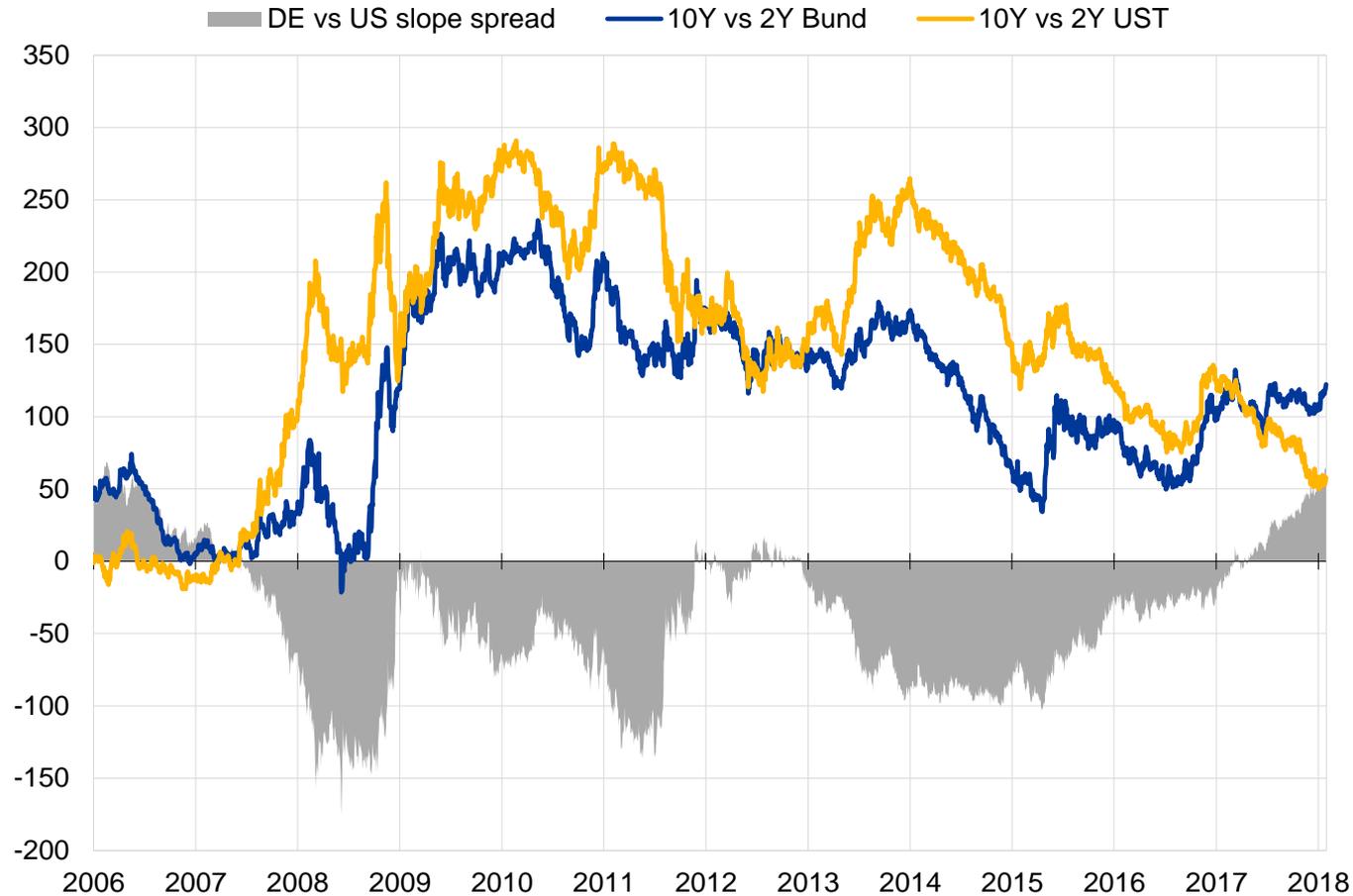
# **What yield curves are telling us**

Dublin,

31 January 2018

## Bund and US Treasury slope of the yield curve

(basis points)

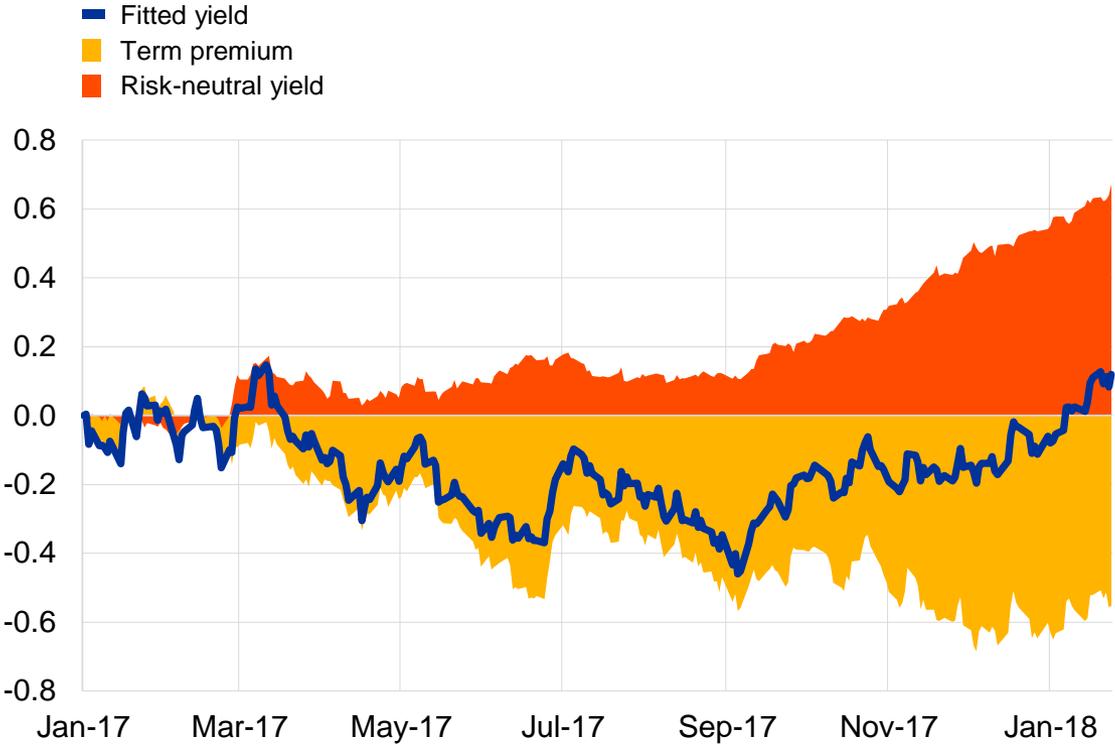


Sources: Bloomberg and ECB staff calculations.

Notes: Last observation refers to 29 January 2018.

## 10-year US Treasury yield decomposition

(percentage points)



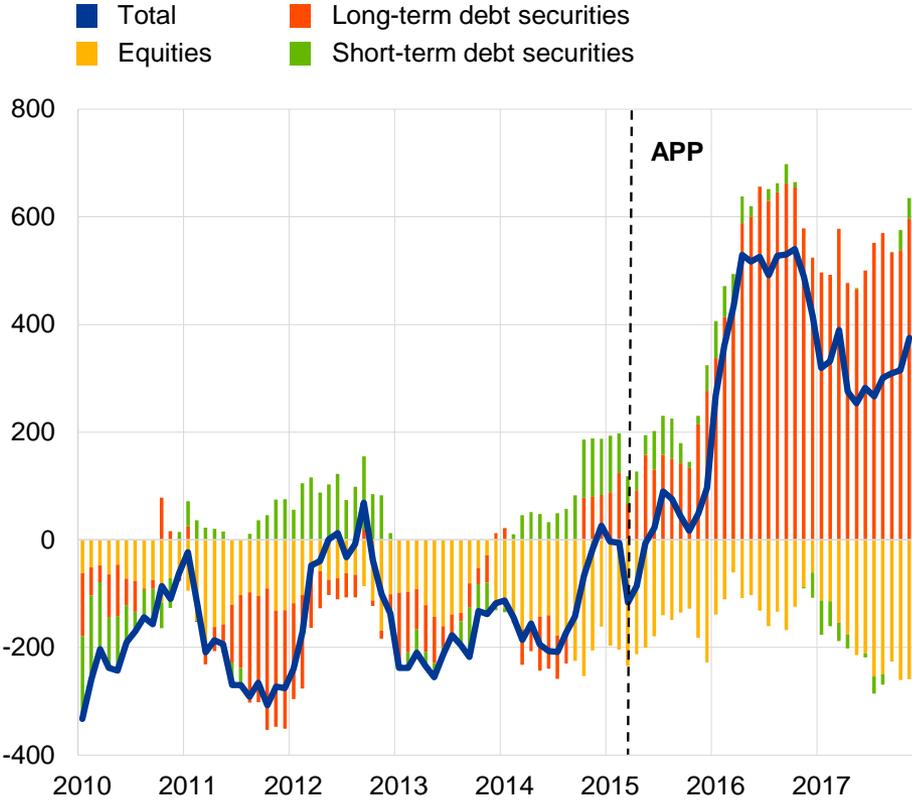
Sources: Federal Reserve Bank of New York and ECB staff calculations.

Notes: The term premium estimates are obtained from a five-factor, no-arbitrage term structure model of Adrian, Crump and Mönch (2013). Last observation is for 26 January 2018.

# APP likely to have triggered large net capital outflows

## Breakdown of euro area net portfolio investment flows

(EUR bn; twelve-month moving sums)

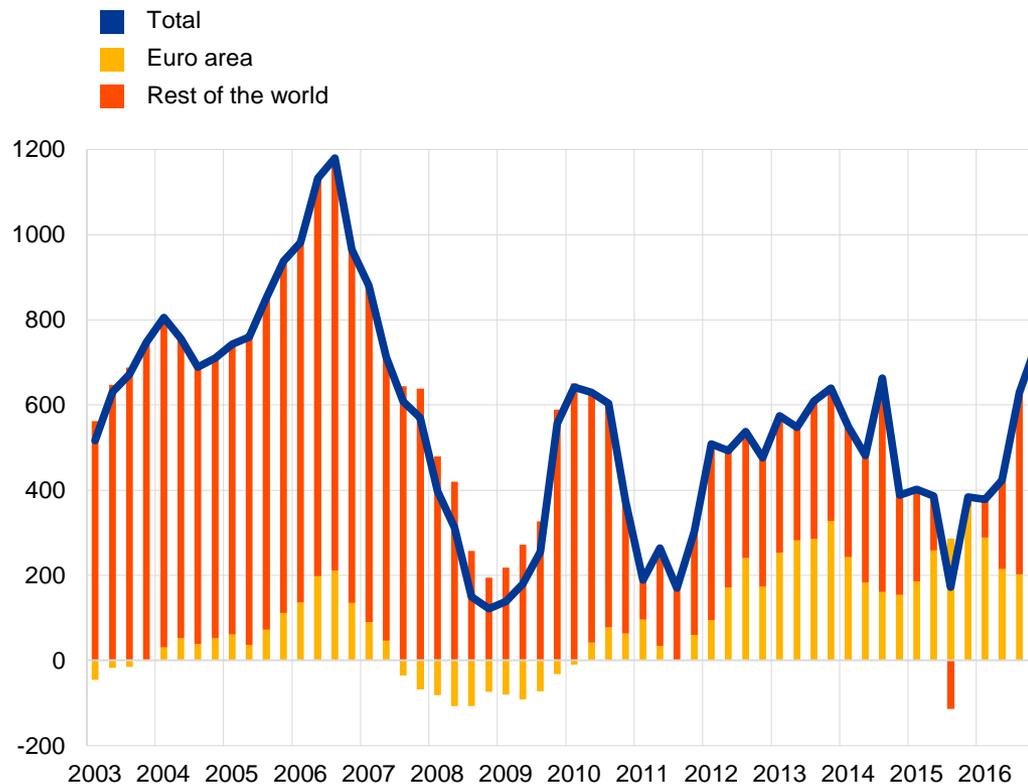


Source: Haver Analytics and ECB staff calculations.

Notes: A positive (negative) number indicates net outflows (inflows) from (into) the euro area. Equity includes investment fund shares. APP stands for Asset Purchase Programme. The latest observation is for November 2017.

## Foreign net purchases of US portfolio debt securities

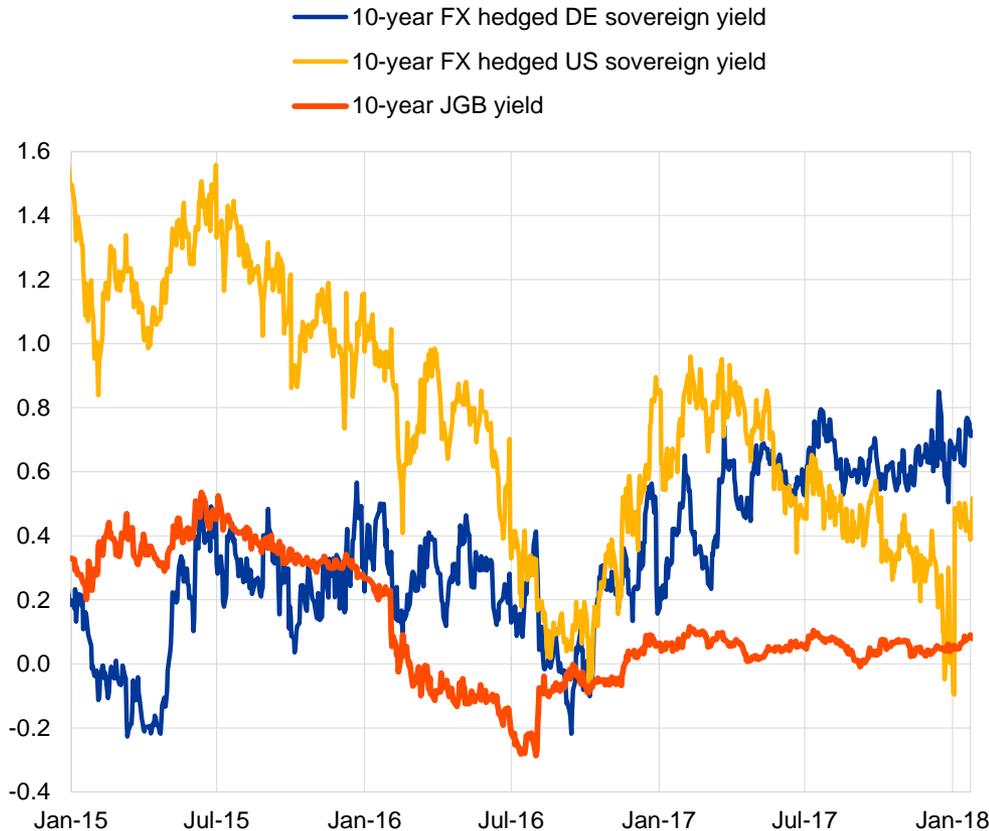
(USD bn; four-quarter moving sums)



Source: Haver Analytics and ECB staff calculations.

Notes: A positive (negative) number indicates net purchases (sales) of US debt securities by foreign investors. The latest observation is for the third quarter of 2017.

## 10-year FX hedged sovereign yield for US and DE and equivalent Japanese government bond yield (percent)

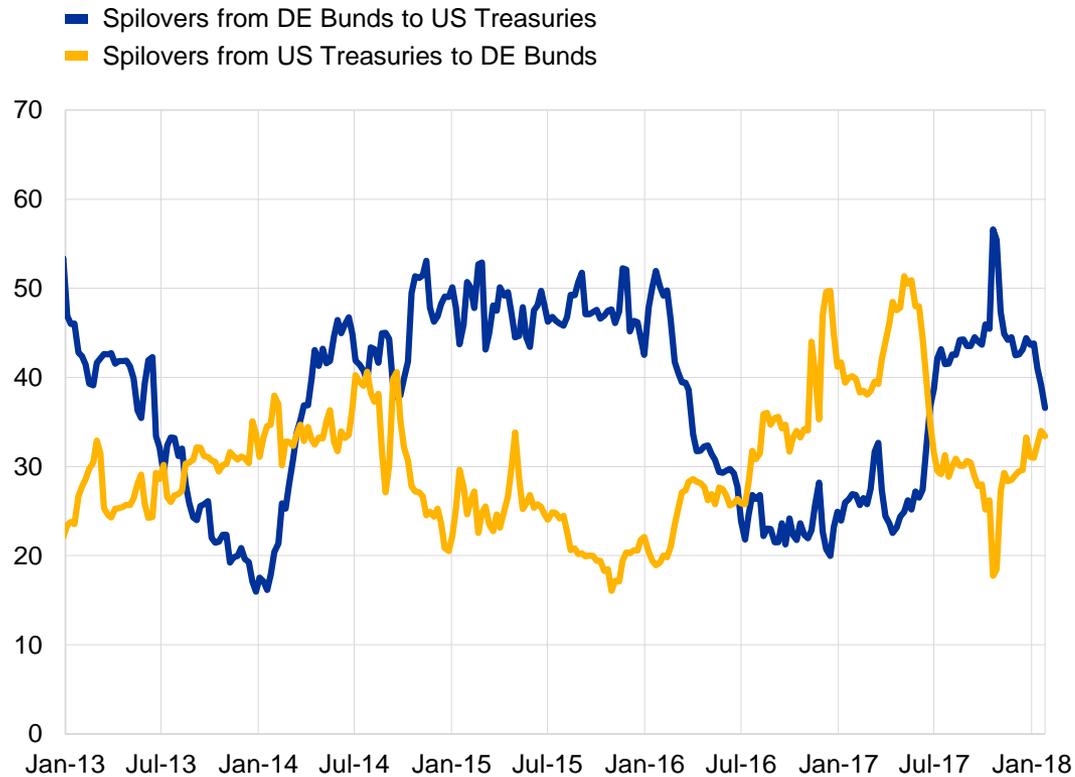


Source: Bloomberg and ECB staff calculations.

Notes: Yields on US Treasuries and Bunds assumed to be hedged against movements in Japanese Yen. Hedging costs are computed as annualized three months costs. Last observation refers to 30 January 2018.

## Spillovers between US Treasury and Bund yields

(in percent of error variance)

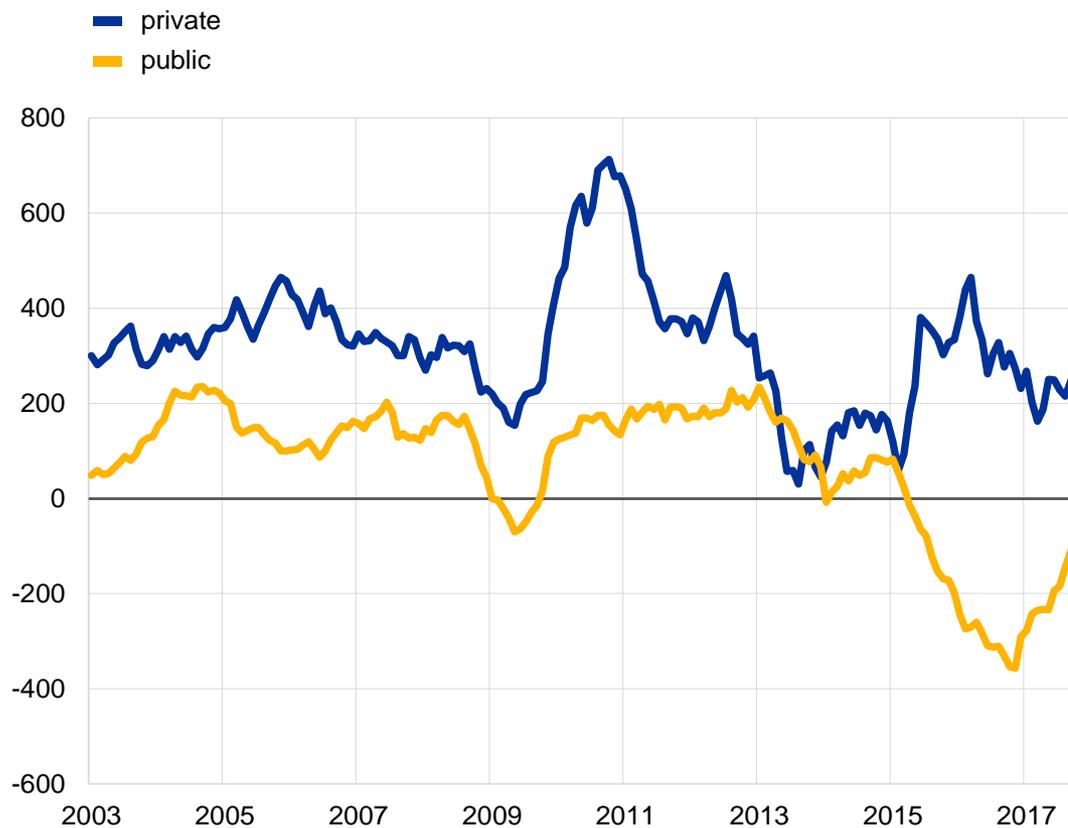


Source: Bloomberg and ECB staff calculations.

Notes: Spillover estimates are derived from the Diebold/Yilmaz (2014) methodology. Contributions are calculated from the forecast error variance matrix inferred from generalised identification of shocks. For example, spillovers from US Treasuries to Bunds are measured as the share of the Bund error variance explained by movements in US Treasuries. Last observation is for 26 January 2018.

## Foreign purchases of US Treasuries and government agency bonds

(USD bn; 12-month moving sum)



Source: US TICS and ECB staff calculations.

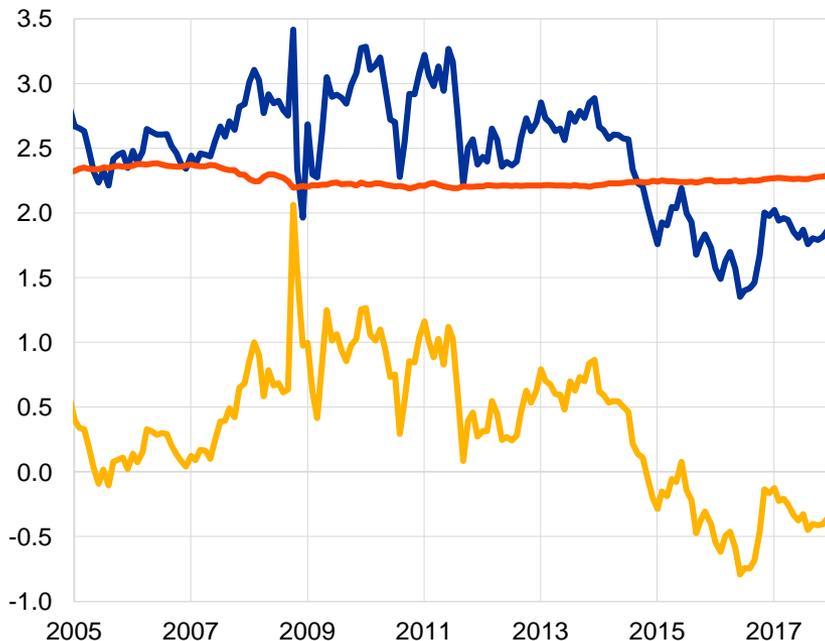
Notes: Last observation is for November 2017.

# Inflation risk premia in the US and the euro area close to record lows

## 5-10 year decomposition of breakeven inflation rates for US

(percent)

- 5-10 year ahead breakeven inflation
- Inflation risk premium
- Expected inflation



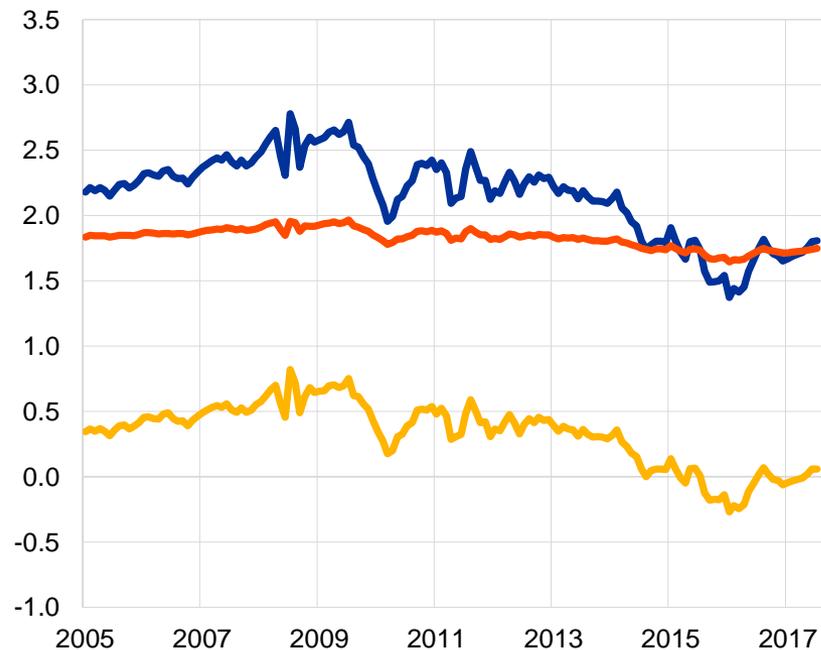
Source: Federal Reserve Bank of New York.

Notes: Abrahams-Adrian-Crump-Mönch decomposition. Last observation refers to December 2017.

## 5-10 year decomposition of breakeven inflation rates for the euro area

(percent)

- 5-10 year ahead breakeven inflation
- Inflation risk premium
- Expected inflation

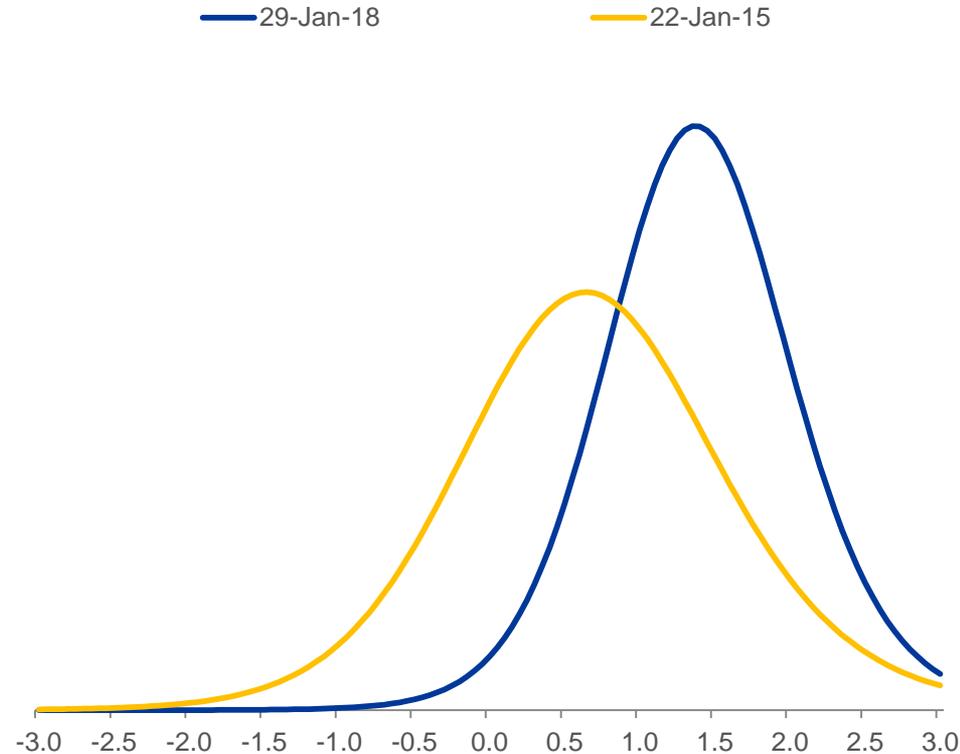


Source: Thomson Reuters and ECB staff calculations.

Notes: The decomposition is based on an affine term structure model and fitted to the euro area zero-coupon inflation linked swap curve. The estimation method follows Joslin, Singleton and Zhu (2011). For details please see Camba-Mendez, G. and T. Werner (2017). Last observation is for December 2017.

## Risk-neutral probability density function of euro area inflation over the next five years

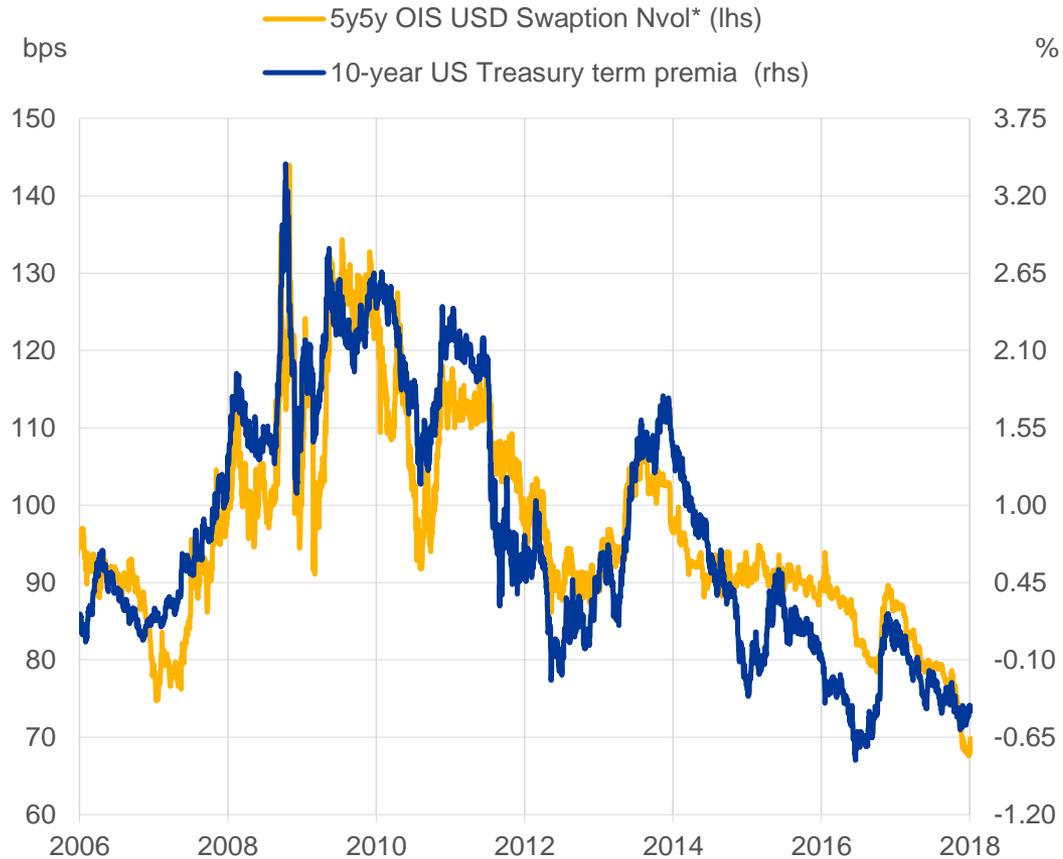
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Sources: Bloomberg, Reuters, and ECB calculations.

Note: Density functions are computed from 5-year maturity zero-coupon inflation option floors under the assumption of risk neutrality. These "risk neutral" density functions may differ significantly from physical (or "true") probability distributions.

## US bond term premium and implied rates volatility



Source: Bloomberg and ECB staff calculations.

Notes: Expected volatility priced in the US swaption market (normal model). Last observation refers to 29 January 2018.