



EUROPEAN CENTRAL BANK

EUROSYSTEM

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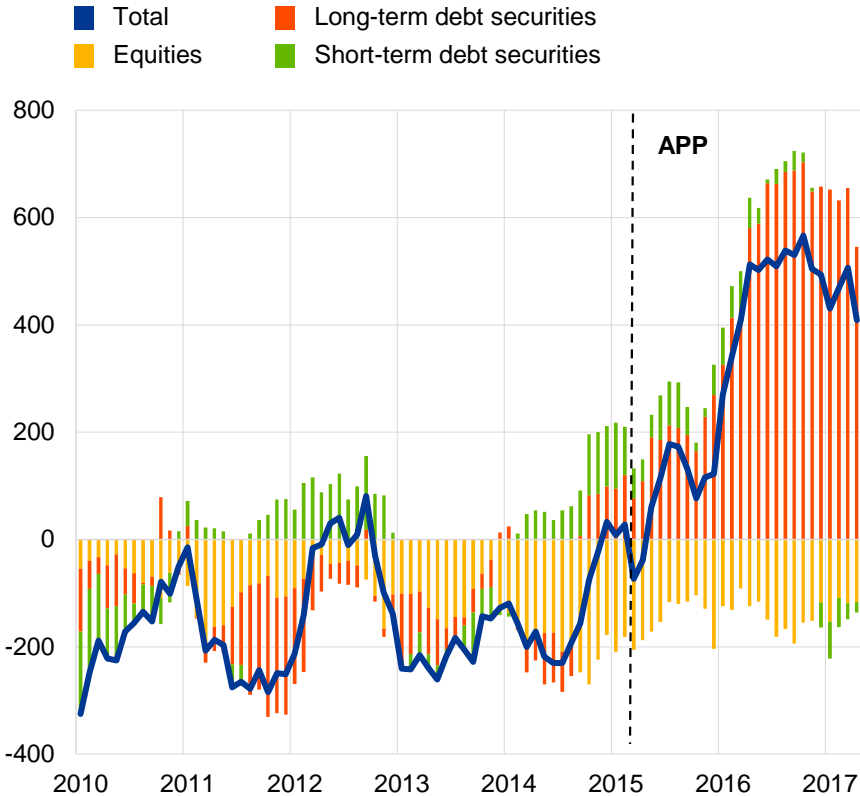
Member of the Executive Board
European Central Bank

Monetary policy, exchange rates and capital flows

Washington D.C.,
3 November 2017

Breakdown of euro area net portfolio investment flows

(EUR bn; twelve-month moving sums)



Source: ECB.

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 April 2017.

Exchange rate more closely connected to short-term interest rate differential

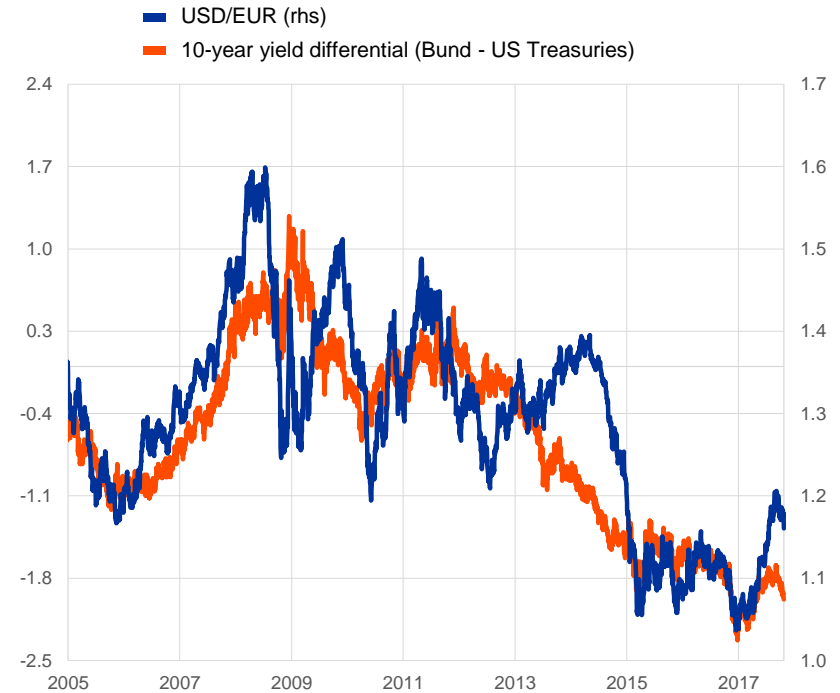
USD/EUR and 2-year interest rate differential

(lhs: %; rhs: USD/EUR)



USD/EUR and 10-year interest rate differential

(lhs: %; rhs: USD/EUR)

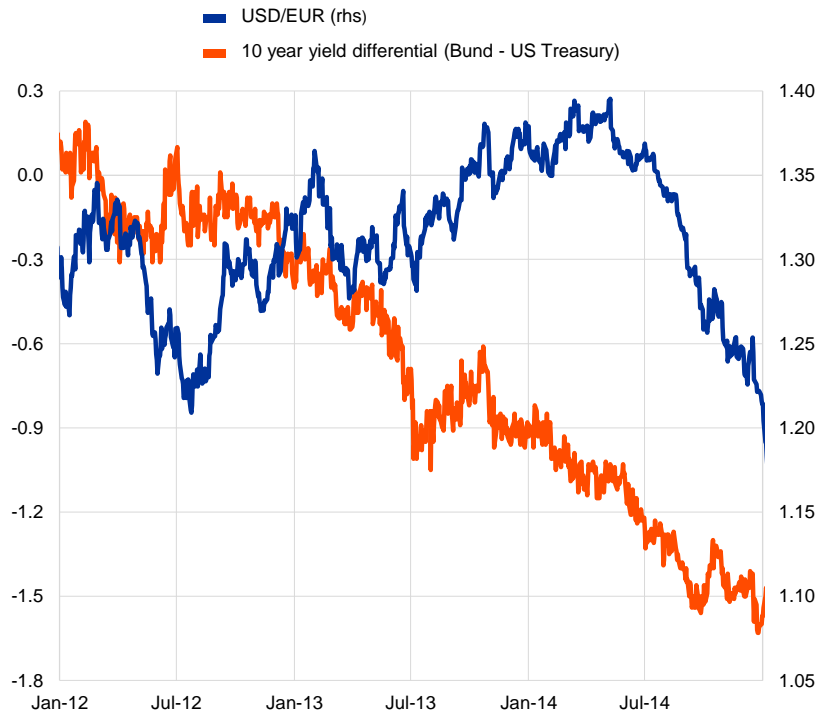


Sources: Haver Analytics and ECB staff calculations.
Last observation: 27/10/2017.

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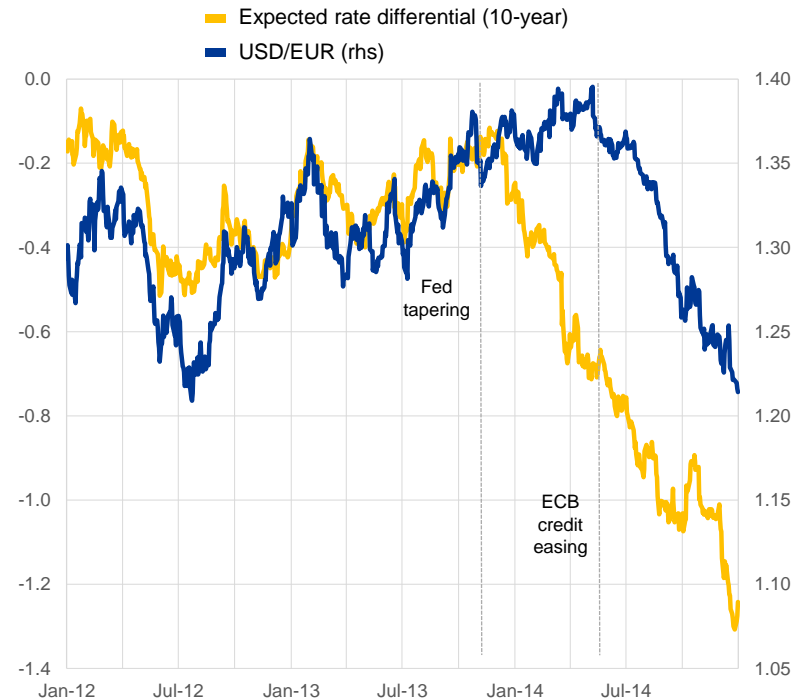
Decomposition of long-term yields helps uncover exchange rate relationship

USD/EUR and 10-year interest rate differential (lhs: %; rhs: USD/EUR)



Sources: Haver Analytics and ECB staff calculations.
Last observation: 31/12/2014.

USD/EUR and expectations component of 10-year yields (lhs: %; rhs: USD/EUR)

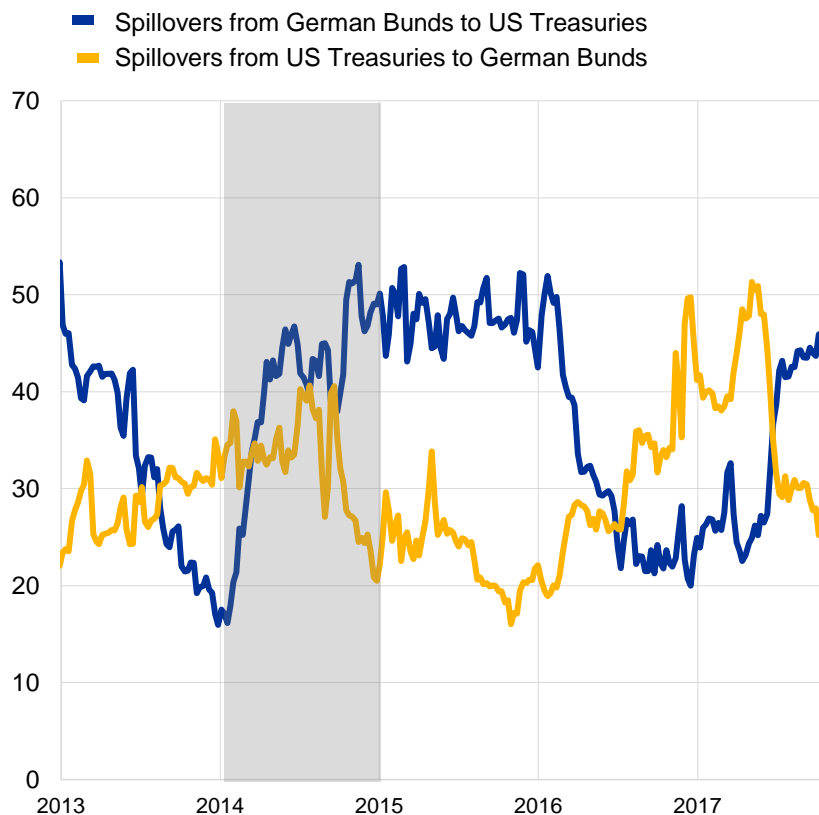


Sources: Haver Analytics and ECB staff calculations.
Last observation: 31/12/2014.

Evidence of increased euro area bond market spill-over into US Treasury market

Estimated long-term bond yield spillovers

(% contribution to variance of other economy's bond yield)



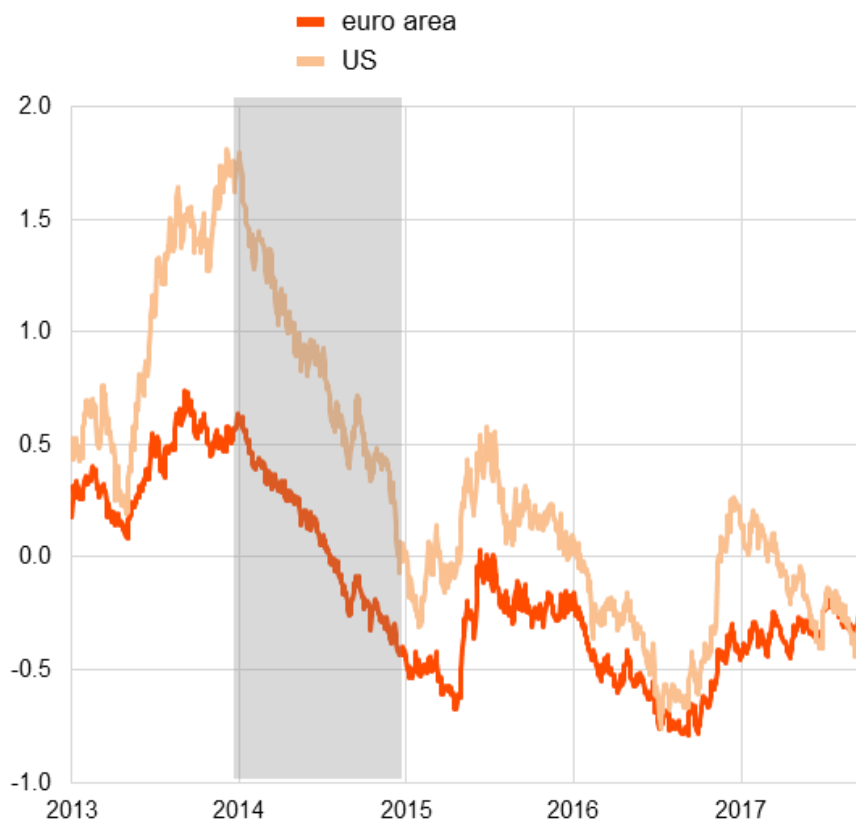
Sources: Federal Reserve Bank of New York, ECB and ECB calculations.

Notes: Spillover estimates are based on the methodology proposed by Diebold, F. and K. Yilmaz (2012), "Better to give than to receive: Predictive directional measurement of volatility spillovers," *International Journal of Forecasting*, Vol. 28(1), pp. 57-66. They are derived from the forecast error variance matrix inferred from generalized identification of shocks. The last estimates are for 13/10/2017.

10-year term premia estimates:

US vs. euro area

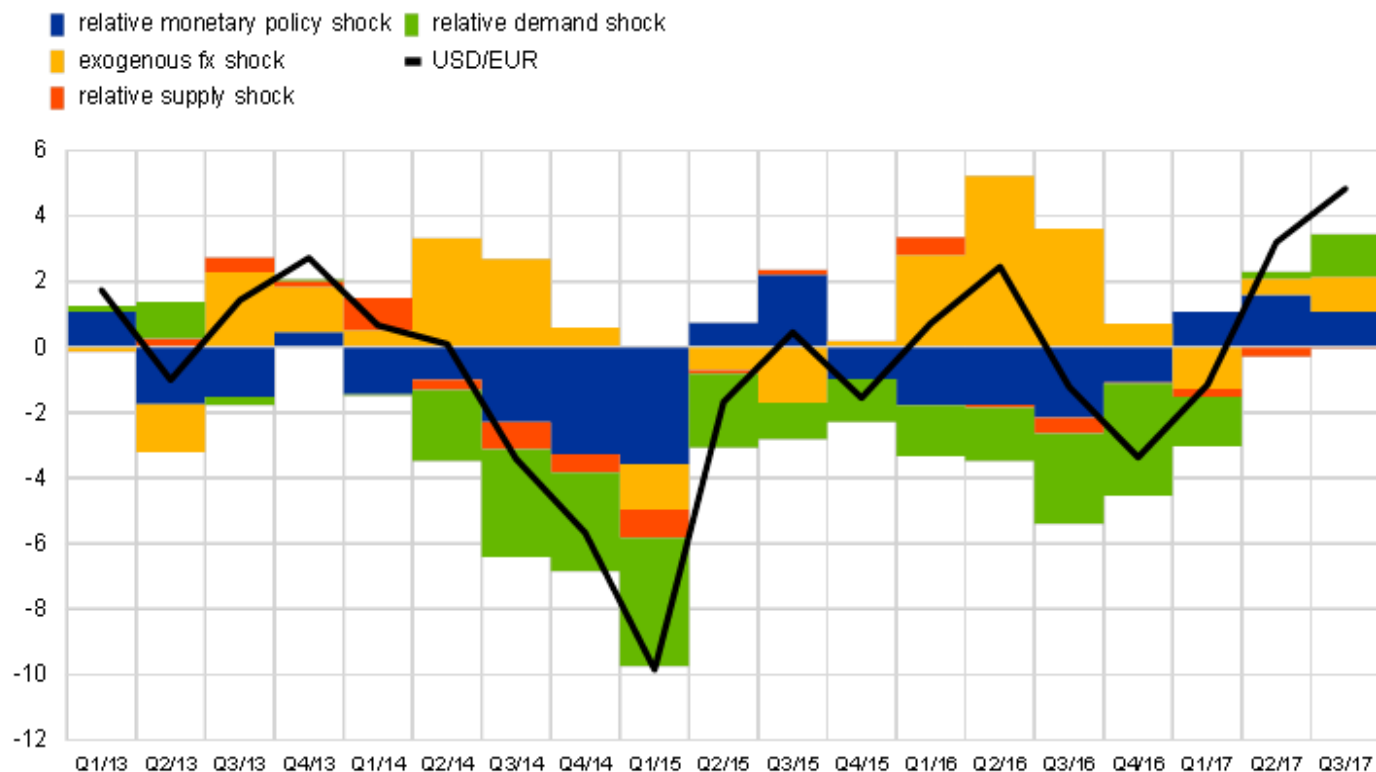
(%)



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

Notes: The US Treasury term premium is based on the term structure model by Adrian, T., R. Crump and E. Moench (2013), "Pricing the Term Structure with Linear Regressions", *Journal of Financial Economics*, 110, pp. 110-138; the euro area OIS term premium is based on the term structure model by Joslin, S., K. Singleton and H. Zhu (2011), "A New Perspective on Gaussian Dynamic Term Structure Models," *Review of Financial Studies*, 24, pp. 926-970. The last estimates are for 29/09/2017.

Historical decomposition of euro exchange rate against the US dollar (percentage quarterly contributions, not cumulated)



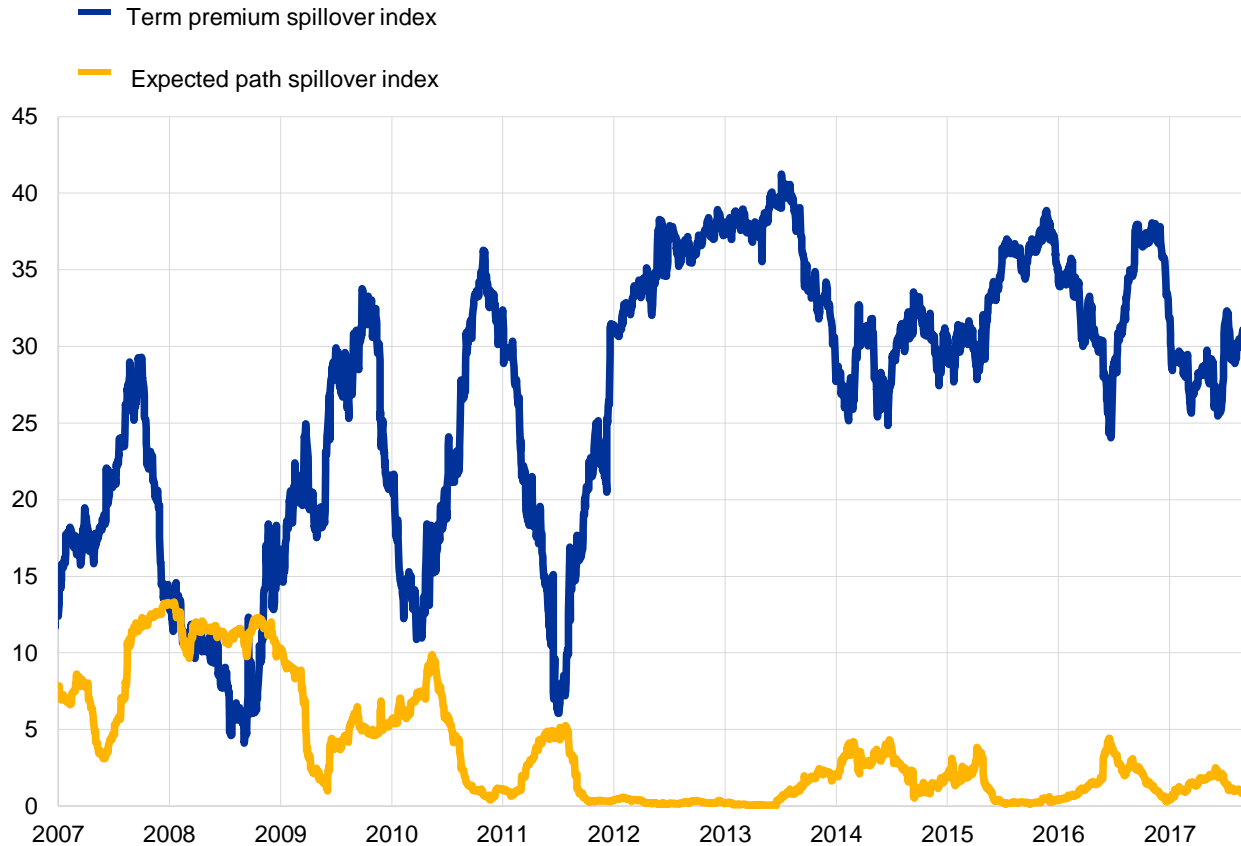
Source: ECB staff calculations.

Notes: Estimates are based on a quarterly BVAR model of the USD/EUR exchange rate, relative euro area - US GDP, relative euro area - US CPI and relative shadow interest rates, identified via sign restrictions and estimated over the period 1999Q1-2017Q3.

Latest observation: Q3 2017 (proxied by July data and nowcast estimates of GDP).

Estimated spillovers through different yield curve components between the euro area and the US

(average % contribution to variance in other economy's long-term bond yield)

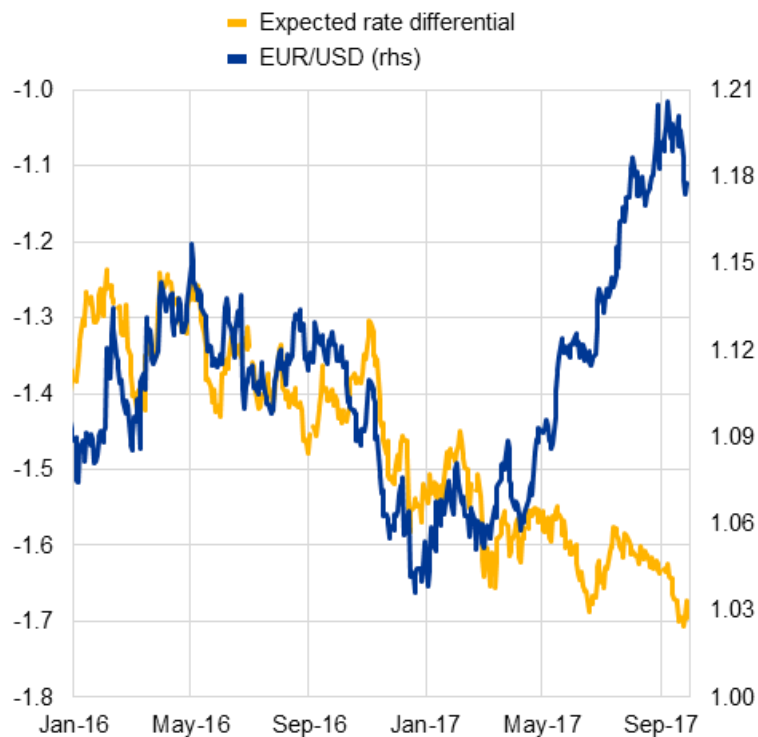


Sources: Haver and ECB calculations.

Notes: Spillover estimates are based on the methodology proposed by Diebold, F. and K. Yilmaz (2012), "Better to give than to receive: Predictive directional measurement of volatility spillovers," *International Journal of Forecasting*, Vol. 28(1), pp. 57-66. They are derived from the forecast error variance matrix inferred from generalized identification of shocks. The last estimates are for 13/10/2017.

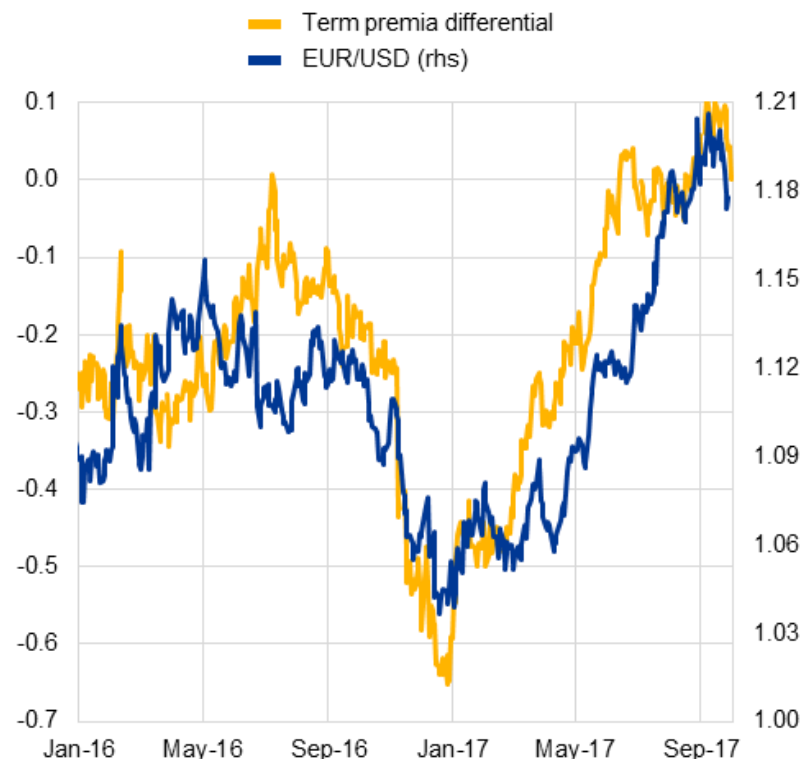
USD/EUR and expectations component of 10-year yields

(lhs: %; rhs: USD/EUR)



USD/EUR and term premia differential

(lhs: %; rhs: USD/EUR; monthly data)



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

Notes: The US Treasury term premium is based on the term structure model by Adrian, T., R. Crump and E. Moench (2013), "Pricing the Term Structure with Linear Regressions", *Journal of Financial Economics*, 110, pp. 110-138; the euro area OIS term premium is based on the term structure model by Joslin, S., K. Singleton and H. Zhu (2011), "A New Perspective on Gaussian Dynamic Term Structure Models," *Review of Financial Studies*, 24, pp. 926-970.

Last observation/estimate: 29/09/2017.