Lecture by Vítor Constâncio, Vice-President of the ECB, Macroeconomics Symposium at Utrecht School of Economics, 15 June 2016

# Chart 1:

# Long-term interest rates



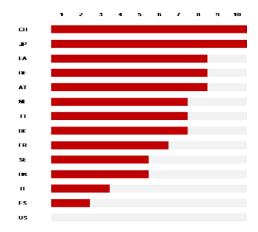
Source: ECB, Deutsche Bundesbank, Bank of England and Federal Reserve Board. Latest observation: May 2016.

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# Chart 2:

# Sovereign debt yields

# Government bonds with negative yields (yields by maturity)



Source: Deutsche Bank , Bloomberg and ECB calculations. Latest observation: May 2016.

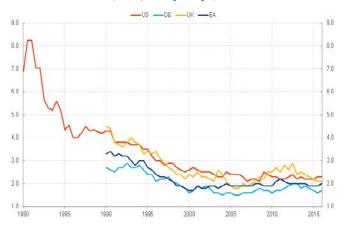
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# Chart 3:

# Long-term inflation expectations

### Inflation expectations

(annual percentage changes)



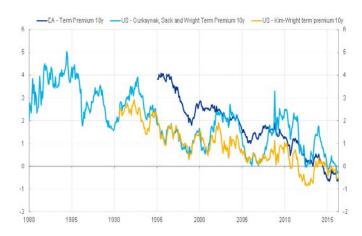
Source: Consensus Economics. Notes: Consensus 6-10y. Latest observation: April 2016.

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#### Chart 4:

# Nominal term premium

#### **Evolution of the nominal term premium**



Source: Bloomberg and ECB staff calculations and Federal Reserve Board.

Notes: The euro area nominal term premium estimates are based on an affine term structure model using the Joslin, Singleton and Zhu (2011) approach. For the US estimates, the data is available on the Federal Reserve Board of Governors website.

Latest observation: April 2016.

#### Chart 5:

# Decomposing the euro area nominal term premium

# Decomposition of the euro area nominal term premium into the real term premium and inflation risk premium



Source: Bloomberg and ECB calculations.

Notes: Both the nominal term premium and the inflation risk premium are based on affine term structure models. The real term premium premium is computed as the difference of the nominal term premium and the inflation risk premium.

Latest observation: May 2016.

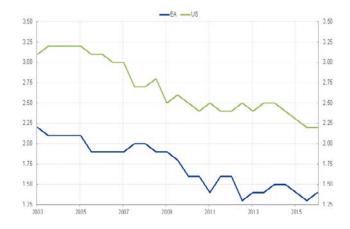
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### Chart 6:

# **Growth expectations**

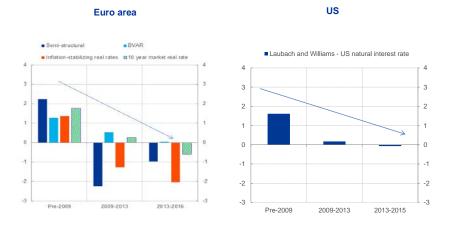
### Long-term growth expectation for the euro area and US



Source: Consensus. Notes: These are the 6-10 year ahead growth expectations. Latest observation: April 2016.

#### Chart 7:

# Estimates of the equilibrium real rate compared to the market real rate



Source: ECB calculations, and San Francisco FED.

Notes: The semi-structural model is very much aligned with the approach of Messonnier and Renne (2007). The BVAR is a bayesian vector auto regression with minimal restriction that forecasts a five-year ahead forecast of the short-term real interest rate. The inflation-stabilizing real rate is the real interest rate that would be required to stabilise inflation in the euro area at below but close to 2% over the medium-term. It is based on the model by Christiano, Motto and Rostagno (2014). For the US, the natural real rate is based on the publically available data series from the model by Laubach and Williams (2003).

Latest observation: 2016 Q1 for the euro are estimates and 2015Q4 for the US.

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### Chart 8:

# Declining cost of borrowing

# Composite indicator of the nominal cost of bank borrowing for NFCs

(% pa)



Source: ELB.

Notes: The indicator for the total cost of lending is calculated by aggregating short and long-term rates using a 24-month moving average of new business volumes. The cross-country standard deviation is calculated over a fixed sample of 12 euro area countries. Latest observation: April 2016.

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