EUROPEAN CENTRAL BANK
EUROSYSTEM

Asset purchases:
from crisis to recovery

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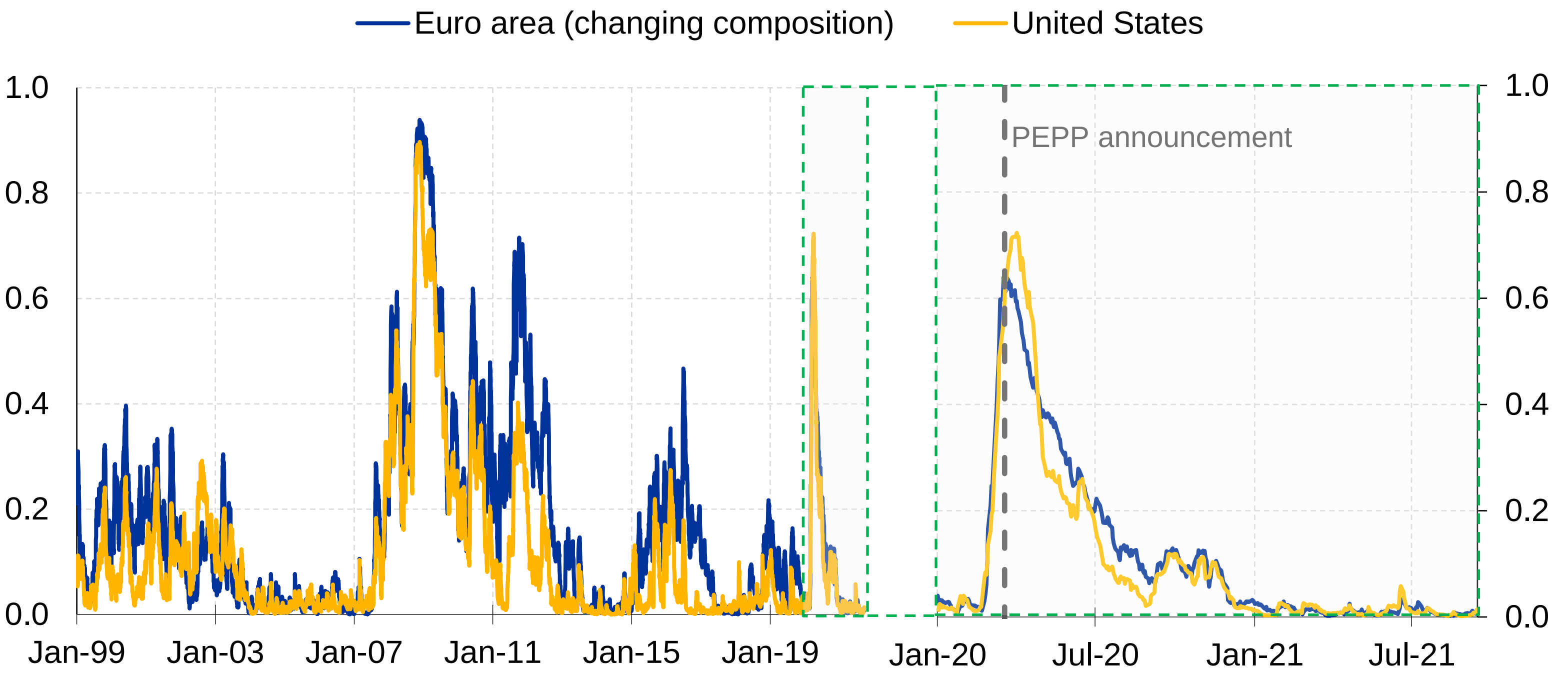
PEPP has likely prevented a severe financial crisis

Composite Indicator of Systemic Stress
(index)

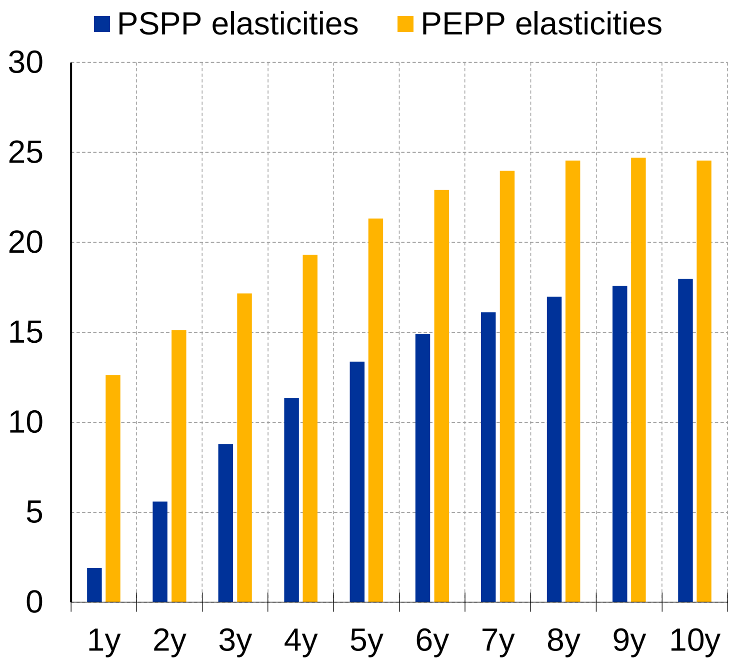


Source: SDW.
Latest observation: 14 September 2021.

Asset purchases were particularly effective in periods of market stress

PSPP and PEPP yield elasticities to sovereign bond purchases

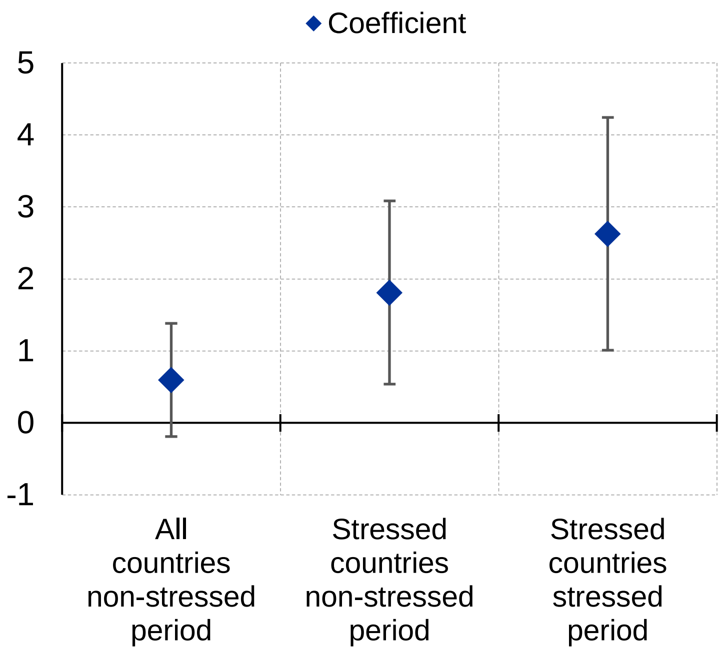
(bps per 500 bn of sovereign bond purchases in the euro area)



Source: ECB calculations.
Notes: PSPP elasticities are based on Eser et al. (2019) informed by the March PEPP envelope. PEPP elasticities are derived from a recalibrated version of Eser et al. (2019) so that the model-implied yield reactions to the March PEPP announcement match two-day yield changes observed after 18 March. Elasticities refer to GDP-weighted zero-coupon yields of the four largest euro area jurisdictions (i.e. Germany, Spain, France and Italy) in response to €500 billion of sovereign bond purchases in the euro area. No reinvestment assumed.

“Flow effects” on daily bond returns

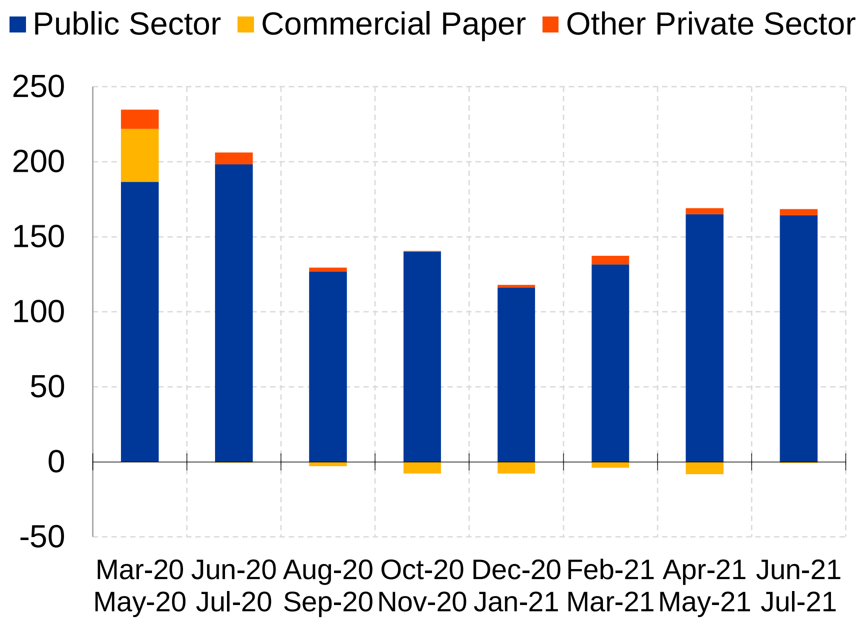
(impact of 1 pp increase in purchases of security relative to its outstanding amount, in %)



Source: ECB calculations.
Notes: The impact estimates derive from regressions of daily bond returns of individual central government securities on ECB purchases of these securities, scaled by their outstanding amounts, and a full set of security and day-fixed effects. Purchase volumes are instrumented via the blackout periods embedded in the PSPP and PEPP design, as detailed in De Santis and Holm-Hadulla (2020. The blue diamonds are point estimates and the whiskers are 95% confidence intervals.

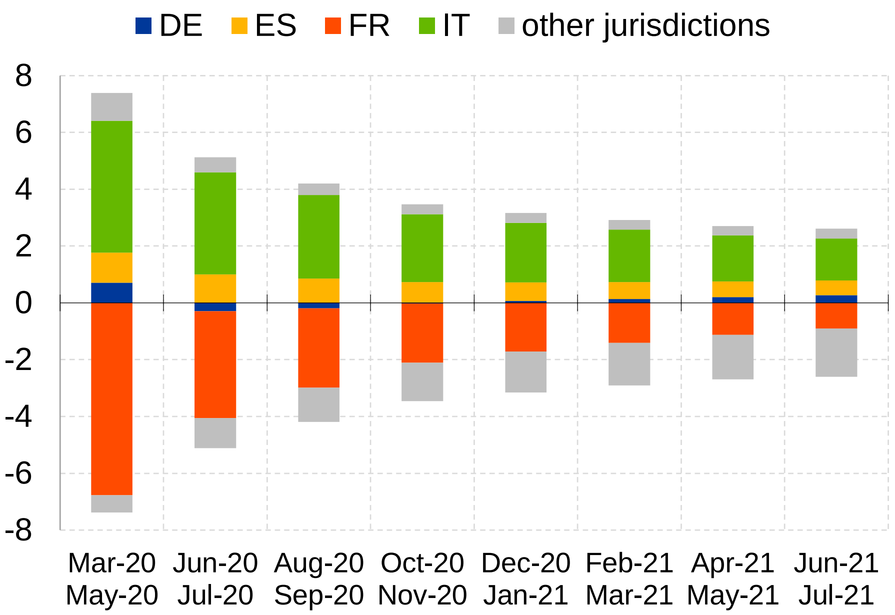
Flexibility is important for market stabilisation function of PEPP

Net PEPP asset purchases
(EUR bn)



Source: ECB website.
Latest observation: July 2021

Cumulated deviations from ECB capital key for public sector assets under the PEPP
(percentage point)

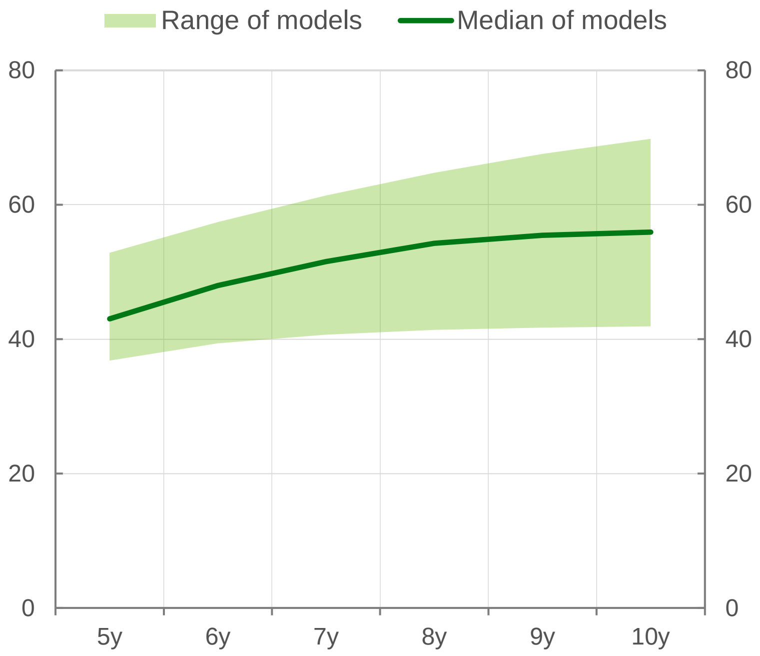


Source: ECB website, ECB calculations.
Notes: Capital key deviations for public sector purchases calculated in bi-monthly stock terms.
Latest observation: July 2021.

Asset purchases succeeded in ensuring favourable financing conditions

Impact of COVID-19-induced debt-to-GDP revisions on euro area spot sovereign yields

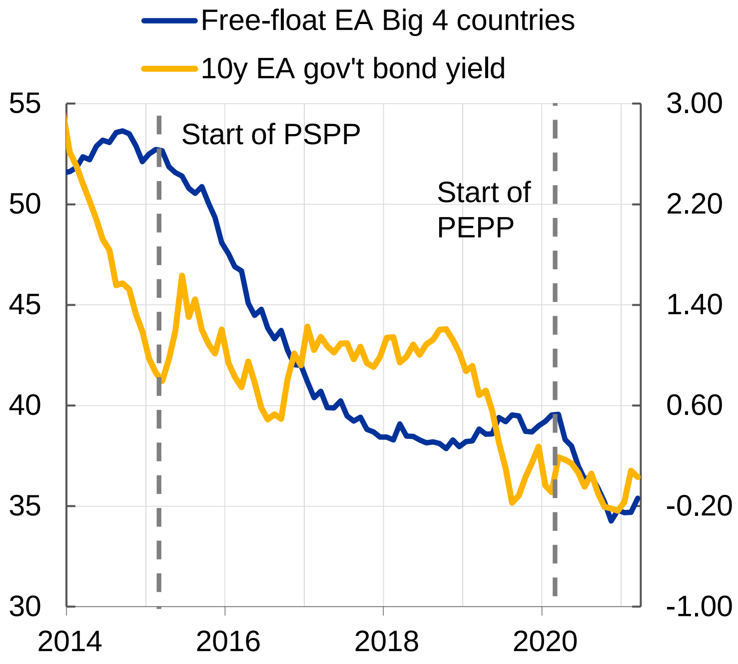
(basis points)



Source: ECB.
Notes: The COVID-19-induced revisions in debt-to-GDP projections of the GDP-weighted Big4 euro area, as measured by the increase from March 2020 to June 2021 BMPE projections, are mapped into Big4 yield impacts via an estimated debt-yield relationship based on the median of three models and their variants. The models include reduced-form regressions as in Laubach (2009), a VAR and a term-structure model based on Dewachter et al. (2015). In the former two model approaches, spot curve impacts are derived from forward curve impacts via polynomial fitting.

Free-floating EA-4 bond supply and 10-year EA GDP-weighted sovereign yield

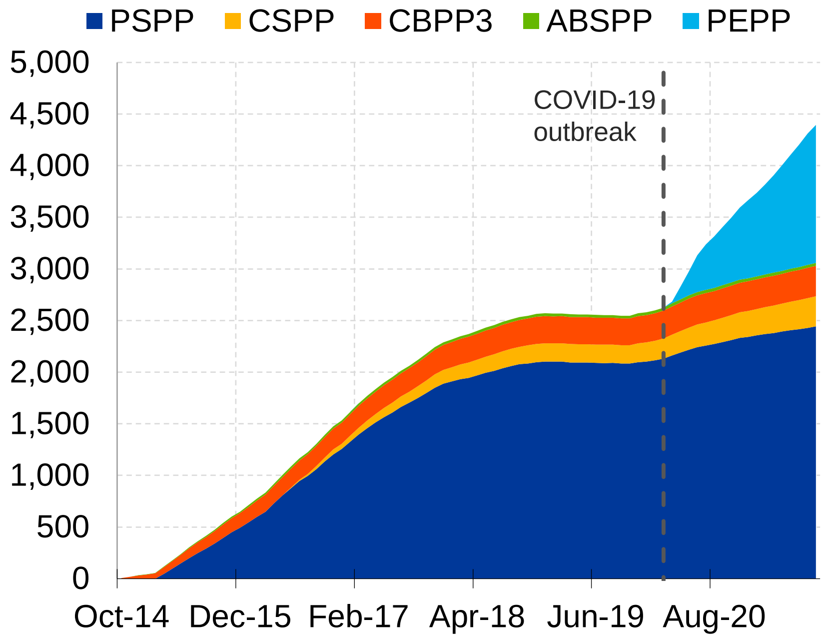
(percent)



Sources: ECB.
Notes: The free-float measure for the four largest euro area economies (Germany, France, Italy and Spain) is defined as holdings of general government bonds by price-sensitive private-sector investors as a share of total outstanding bond supply, both expressed in ten-year maturity equivalents. Price sensitive investors are defined as all sectors other than the foreign official sector, insurance companies and pension funds, and the Eurosystem. The euro area government bond yield is a GDP-weighted average of 10-year benchmark bond yields. Latest observation: March 2021 (quarterly data).

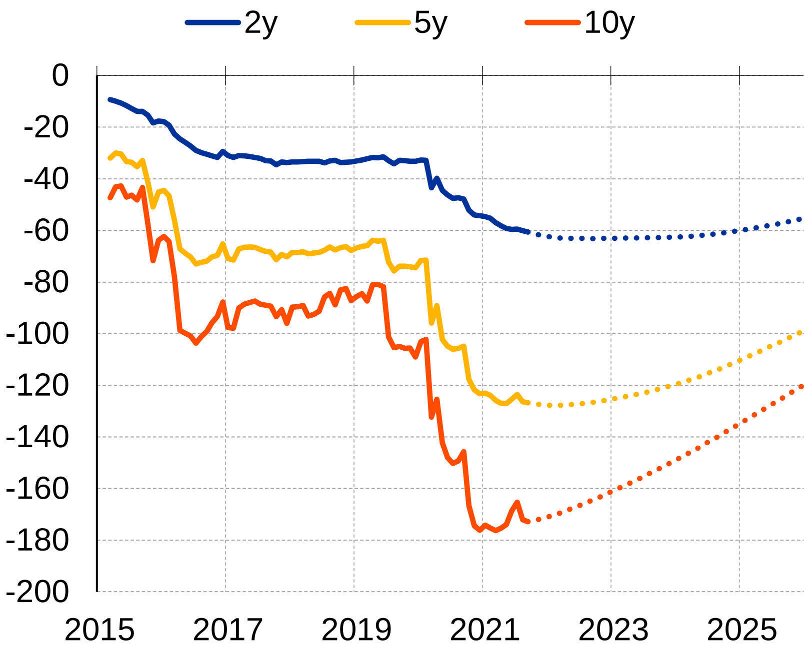
Stock of acquired assets will continue to have persistent effects on yields

APP and PEPP holdings
(EUR bn)



Source: ECB website, ECB calculations.
Latest observation: 31 August 2021.

Estimates of impact of APP and PEPP holdings on EA-4 sovereign term premia
(basis points)

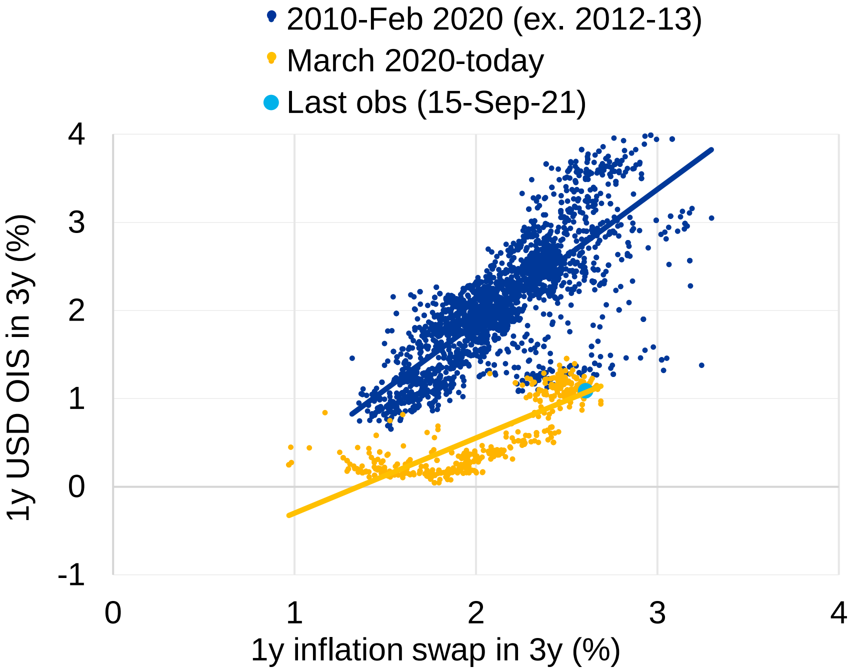


Sources: ECB calculations.
Notes: Impacts derived from the model of Eser et al. (2019) and a recalibrated version of the model so that the model-implied yield reactions to the March PEPP announcement match the two-day yield changes observed after 18 March (average estimates). Results refer to GDP-weighted averages of the zero-coupon yields of the big-four sovereign issuers (DE, FR, IT, ES). Future assumptions are based on results from the ECB's survey of monetary analysts, i.e. APP (PEPP) end of net purchases: June 2024 (March 2022); APP (PEPP) end of reinvestments: June 2026 (December 2024).
Latest observation: March 2021 for past estimates.

Market participants are expecting monetary policy to be more patient

US 1y forward OIS and inflation swap rates in 3 years time

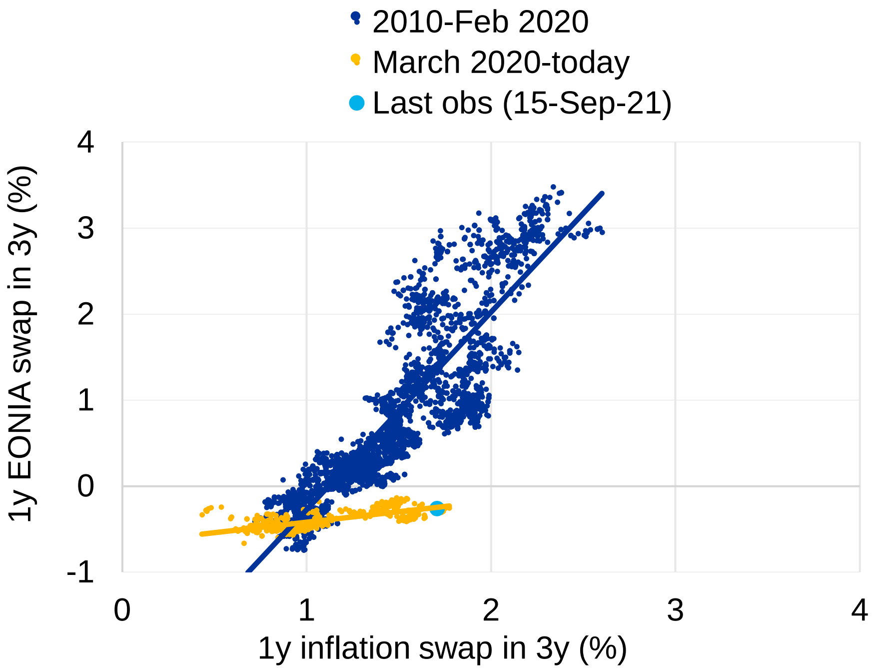
(percentage)



Source: Bloomberg, ECB calculations
Latest observation: 15 September 2021.

Euro area 1y forward OIS and inflation swap rates in 3 years time

(percentage)

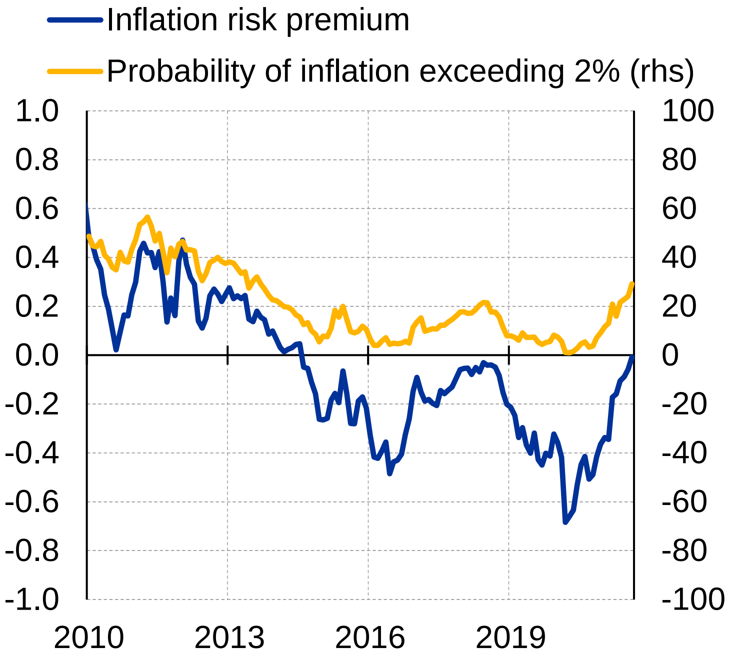


Source: Bloomberg, ECB calculations
Latest observation: 15 September 2021.

Markets price risks of higher inflation but inflation outlook remains subdued

Inflation risk premium and probability of inflation exceeding 2% over the next five years

(percent per annum, percentage)



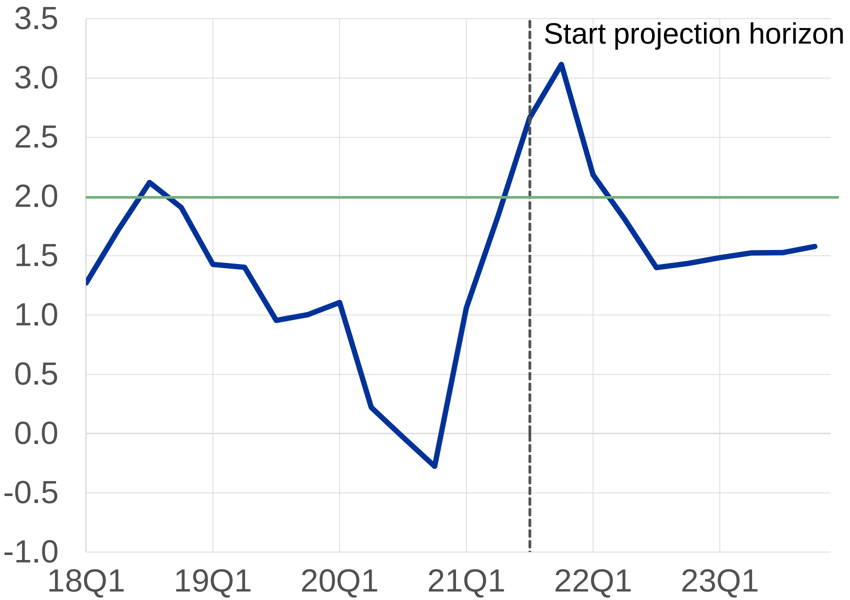
Sources: Refinitiv, Bloomberg and ECB calculations.

Notes: Inflation risk premium estimates are based on affine term structure models following Joslin, Singleton and Zhu (2011) applied to ILS rates adjusted for the indexation lag as in Camba-Mendez and Werner (2017). Probabilities implied by five-year zero-coupon inflation options, smoothed over five business days. Risk-neutral probabilities may differ significantly from physical, or true, probabilities.

Latest observation: August 2021 (monthly data).

Eurosystem September 2021 HICP projections

(annual percentage change)



Source: ECB.

Thank you for your attention!