

THE DETERMINANTS OF INTEREST RATES IN THE UNITED STATES AND EUROPE

Long-term (10-year) risk-free interest rates have seen significant fluctuations over the course of the pandemic, in both the euro area and the United States. Between the onset of the pandemic and the roll-out of vaccines, the economic uncertainty brought about by the crisis led to a reduction in risk-free nominal rates, which was also reflected in inflation expectations. The largest fall in nominal rates seen in the United States was due to the substantial cut to the monetary policy interest rate in March 2020¹. Afterwards, nominal rates remained broadly stable during this stage of the crisis. In the second phase of the pandemic, as vaccines were rolled out, promising news on vaccine effectiveness and the recovery of certain sectors led to a more encouraging economic outlook and a slight rebound in real and nominal rates. This trend was reversed in mid-2021 and until August 2021, amid a worsening market outlook that led to a sizeable fall in nominal rates. Finally, since the last days of August, a further rise in nominal rates has

been taking place in the euro area, together with an increase in inflation expectations. In the US, there has also been a rise since September.

With these developments in mind, this box seeks to examine the importance of the factors underlying the changes in long-term (10-year) nominal interest rates² over the course of the pandemic, in the euro area and the United States. To this end, statistical methods have been deployed to identify the economic and financial factors that explain the changes in nominal rates³. In particular, the box examines the role played by the expected inflation as implied by derivatives, short-term rate expectations, financial market uncertainty, the economic expectations reflected by the equity market and a residual variable that addresses all other factors.

In this respect, Charts 1 and 2 show the deviation of long-term nominal rates from their historical averages, as well

Chart 1
DETERMINANTS OF THE 10-YEAR NOMINAL INTEREST RATE IN THE EURO AREA (a)

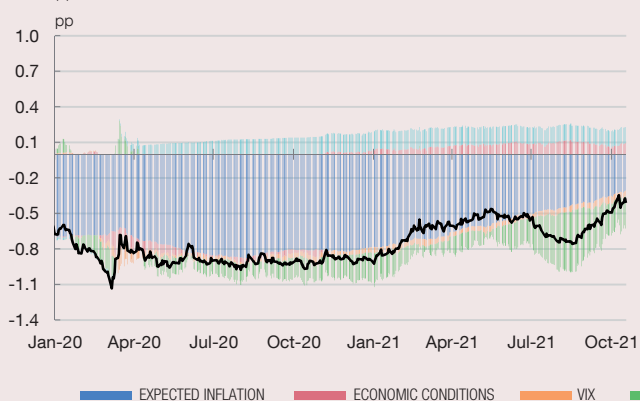
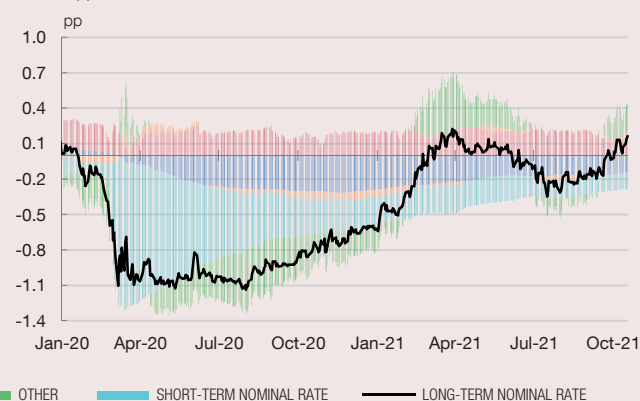


Chart 2
DETERMINANTS OF THE 10-YEAR NOMINAL INTEREST RATE IN THE UNITED STATES (a)



SOURCES: Bloomberg, Datastream, Thomson Reuters and Banco de España.

a Deviations (in pp) are shown with respect to the historical average for the period running from August 2008 to September 2021. Expected inflation refers to 10-year inflation linked swaps (ILS), the VIX shows the implied volatility of the S&P 500, and economic conditions are proxied by the level of the S&P 500. The short-term nominal rate refers to the 3-month OIS rate.

- 1 In the United States, the Federal Funds Rate was reduced by 50 bp on 3 March, and by a further 100 bp on 16 March, to stand in the range 0-0.25%. Meanwhile, the deposit facility rate in the euro area has remained unchanged since it was set at -0.5% in September 2019.
- 2 Specifically, using the 10-year overnight index swap (OIS). 10-year inflation expectations are obtained by using Inflation-linked swaps (ILSs), i.e. derivatives whose prices are linked to future inflation.
- 3 The breakdown of the factors (see Charts 1 and 2) contributing to changes in the nominal rate in the two regions is based on deviations from the historical average, using a SVAR model (study based on independent shocks for each factor) with the following variables: the EURO STOXX 600 and S&P 500 indices, the implied volatility of the S&P 500 (VIX), expected inflation based on ILSs and short-term nominal rate expectations (measured using the 3-month OIS) over the period between August 2008 and October 2021. The contribution of each factor shows how the changes in each variable have affected the changes in the 10-year nominal rate.

THE DETERMINANTS OF INTEREST RATES IN THE UNITED STATES AND EUROPE (cont'd)

as the contribution made by each of the above factors. Certain aspects of such contributions vary across time and between the two geographic regions. Thus, in the case of Europe, the changes in long-term nominal rates following the restrictions on movement set in place in March 2020 can be explained by greater market uncertainty and, to a lesser degree, a worse economic outlook. In the United States, the initial fall in long-term nominal rates was essentially due to the easing of monetary policy and the rate cut immediately after the outbreak of the pandemic. One aspect common to both regions is that the contribution of expected inflation to nominal rates has been below its historical average, especially in Europe in the stage of the crisis prior to the announcement of the development of vaccines. In the case of Europe, this moderating effect of inflation expectations on rates was already apparent before the outbreak of the crisis.

Nonetheless, this situation began to change towards the end of 2020, amid a more encouraging economic environment and promising news on vaccine development. Thus, rising inflation brought upward pressure to bear on nominal rates in the euro area, especially from summer 2021 onwards. Also worth noting is the minor role played by the VIX component during this period, suggesting that

nominal rates have not been affected by greater uncertainty, even though US public debt is seen as a safe asset that serves as a haven from uncertainty.

The overall contribution made by other factors is also notable. Specifically, purchase programmes and accommodative monetary policy may have helped ensure that rates in the euro area have remained lower than might be expected solely from the economic variables expressly included in the model, particularly between June and October 2021. In the United States, these other factors have contributed to steeper rate increases in the first half of 2021. This could be explained by more optimistic expectations of growth in specific sectors, above all those dependent on the reopening of the economy (hotels, transport, leisure, etc.), which far outperformed the general index (S&P 500) used in the estimates assessing economic conditions.

In short, the changes in long-term nominal interest rates over 2021 appear to have been closely related to expectations of rising inflation following the post-pandemic resumption of activity and a brighter economic outlook. The rebound observed in the last month, which has been of greater intensity in the euro area, is mainly due to the higher levels of inflation expected.