



BOX II.2:

The neutral interest rate

This Box presents the new estimates of the neutral monetary policy interest rate (NMPR), understood as the rate consistent with GDP on its long-term equilibrium path —trend— and inflation at target, i.e., in a situation where the effects of economic shocks have dissipated ^{1/}. The NMPR is an important parameter for the calibration of projection models, since it marks the level towards which the monetary policy rate converges in the long term, but typically does not substantially affect short-term projections of this or other variables. The NMPR is revised upwards by 25bp to 3.75%, within a range between 3.5% and 4% (3.5%, within a 3.25% to 3.75% range in the previous estimate).

The NMPR estimates are revised periodically because they may vary depending on changes in the structural conditions of the Chilean and world economies. The latest revision to the NMPR (see [Box V.2 in June 2021 Report](#)) used data up to the first quarter of 2020. This update extends the sample to the third quarter of 2022 and adds new methodologies ^{2/}. This allows for a more robust estimation of the NMPR, in a context where the economy has experienced multiple shocks, some of them unusual, such as the Covid-19 pandemic.

In June 2021, a real NMPR of 0.5% was estimated, with an uncertainty-adjusted range between 0.25% and 0.75%. The re-estimation of the real NMPR suggests a rise in both the previous and new methodologies. The median of the estimates places it around 0.75%, which is chosen by the Board as the new real neutral rate level. Considering the 3% inflation target, the nominal NMPR is placed at 3.75%. All in all, there is some dispersion in the estimates. Trimming out the extremes, a range is obtained for the real NMPR between approximately 0.5% and 1%, or between 3.5% and 4% for the nominal NMPR (table II.6).

This revision is consistent with the recent increase of neutral rates in other economies, which partially reversed the downward trend of global rates. This has led to increases in short, risk-neutral, long-term expected rates, which are directly associated with longer-term MPR expectations (figure II.12).

^{1/} As with the concept of potential GDP, in the case of the NMPR there is another concept that refers to cyclical fluctuations. See, for example, [Woodford \(2003\)](#) or [Galí \(2015\)](#).

^{2/} The methodologies include: (i) models that estimate stochastic cycles and trends using inflation series and long and short interest rates; (ii) models based on financial asset prices that correct for term premia; (iii) a semi-structural model based on the Euler equation and the Phillips curve; (iv) recursive estimates of the long-term rate with Taylor rules; and (v) other methodologies: interest rate parity, common stochastic trend and consumption models. For references and details, see [Arias et al. \(2022\)](#).

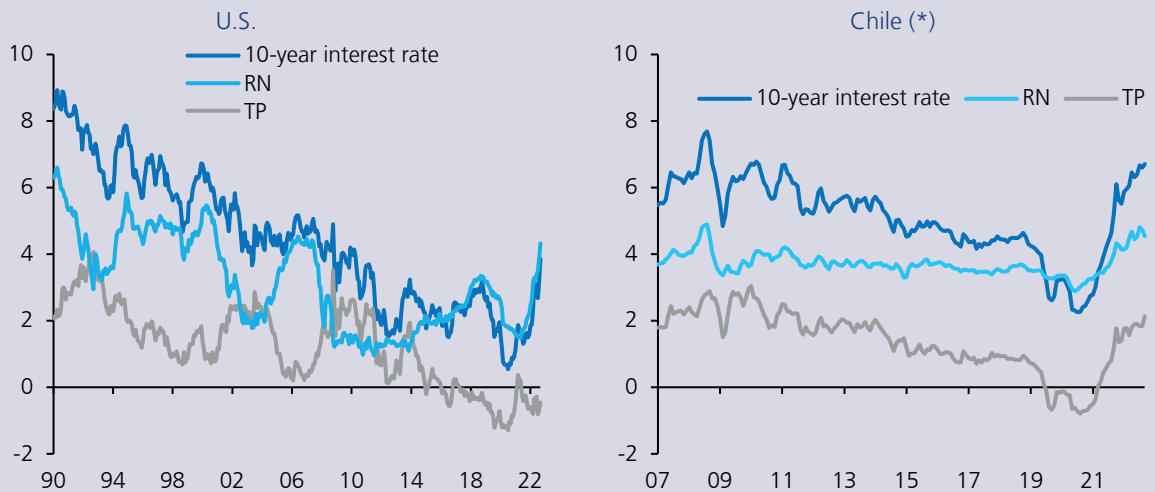


TABLE II.6 REAL NEUTRAL RATE ESTIMATES
(percent)

| Method | Real NMPR |
|-----------------------------------------|------------------|
| 1. Stochastic trend – BCP10 | 1.4 |
| 2. Stochastic trend – Convenience yield | 1.1 |
| 3. Term premium correction | 0.6 |
| 4. Euler equation and Phillips curve | 1.4 |
| 5. Taylor rule | 1.0 |
| 6. Taylor rule – expectations | 0.5 |
| 7. Interest rate parity | 0.8 |
| 8. Model of consumption with habits | 0.1 |
| 9. Common stochastic trend model | 0.8 |
| Median | 0.8 |
| Range (*) | 0.5 – 1.1 |

(*) Excludes lowest estimates (0.1) and the highest (1.4).
Source: [Arias et al. \(2022\)](#).

FIGURE II.12 DECOMPOSITION OF 10-YEAR INTEREST RATE INTO TERM PREMIUM (TP) AND RISK NEUTRAL (RN) RATE
(percent)



(*) Estimates based on [Beyzaga & Ceballos \(2016\)](#) and [Abrahams et al. \(2016\)](#) with House Average Swap nominal rates.
Sources: Central Bank of Chile and New York Federal Reserve.