



## BOX II.1:

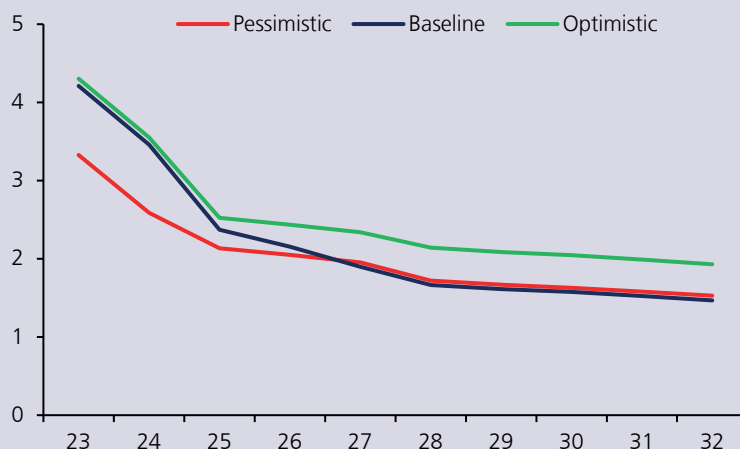
### Trend GDP

This box presents an update of the trend growth estimate, a variable associated with the economy's medium and long-term growth capacity<sup>1/</sup>. In line with the June 2021 projection ([Box V.1 in June 2021 MP Report](#)), a downward trajectory of non-mining trend GDP is estimated for the next years (figure II.11). Thus, in the period 2023-2032, the trend growth of non-mining GDP will average 2.2%.

The same as in June 2021, the downward trajectory of trend growth is based on the following assumptions: first, in the next two years, the boost to trend growth coming from the pending recovery of the participation in the labor force of lagging groups will be lower than in 2021 and 2022<sup>2/</sup>; second, capital stock growth will be decreasing over time; third, hours worked will decline to converge to OECD averages, which implies a diminishing labor factor contribution to trend growth. Finally, the projection continues to consider a slow growth in total factor productivity (TFP), based on the consolidation of a decreasing trend of this factor<sup>3/</sup>.

Along with the central estimate, two alternative scenarios are shown, both of which yield descending trajectories for trend growth. The optimistic path considers a more favorable convergence of variables such as hours worked and participation rates to OECD levels, while the pessimistic path assumes a less favorable convergence<sup>4/</sup>.

**FIGURE II.11** TREND GROWTH TRAJECTORY  
(percent)



Source: Central Bank of Chile.

<sup>1/</sup> The concept of trend GDP differs from potential GDP in that the latter refers to the level of GDP consistent with stable inflation and is therefore the appropriate to measure the activity gap associated with short-term inflationary pressures. Since trend GDP is related to the medium-term growth capacity of the economy, in the long run both measures converge to the same number. However, in the short term, transitory elements that alter productive capacity, such as temporary productivity shocks and factor use limitations, can generate differences between the two measures. Hence the importance of analyzing them separately. For details, see [chapter 1, in Central Bank of Chile \(2017\)](#).

<sup>2/</sup> Much of the recovery in labor participation after the pandemic shock has already taken effect, so its boost to trend growth over the next years will be minor. The present estimate assumes that the labor force participation of the age brackets that are still lagging behind (those under 25 and over 60) will fully recover by the end of 2024. This explains the difference between this estimate and the previous one, when trend non-mining GDP growth of 2.9% was estimated for the period 2021-2030.

<sup>3/</sup> See [Box V.1 in June 2021 Monetary Policy Report](#).

<sup>4/</sup> See [Bauducco et al. \(2022\)](#).



## Trend growth estimation

Following the logic of the 2019 and 2021 exercises, the estimation of trend growth splits GDP into mining and non-mining sectors. For the non-mining sector, the methodology is based on a Cobb-Douglas type production function, in which trend growth can be decomposed thus:

$$\Delta Y = \Delta TFP + \alpha \Delta L + (1 - \alpha) \Delta K$$

where  $\Delta Y$  denotes trend GDP growth,  $\Delta TFP$  is trend growth of total factor productivity,  $\alpha$  is the share of labor in GDP (assumed to equal 0.5, as in previous exercises),  $\Delta L$  is trend growth in the labor factor (i.e., labor force times hours worked times a human capital index), and  $\Delta K$  is capital growth.

In this exercise, the contribution of the labor factor to non-mining GDP growth in the 2023-2032 decade is 0.7 percentage points (pp) (table II.5). This is lower than the 1.4pp estimated in 2021 for the 2021-2030 decade, because a significant part of the recovery in hours worked and labor participation took place in 2021 and 2022, and therefore will no longer contribute to growth from 2023 onwards. Estimated TFP growth remains at 0.35%.

The contribution of the capital stock is 1.2pp, quite close to the 1.1pp of the previous exercise. For 2023 and 2024, capital stock growth is consistent with the investment projected in the central scenario of this Report. Thereafter, it is assumed to converge to growth at the same rate as non-mining GDP, which is consistent with a balanced growth trajectory.

**TABLE II.5 TRENDS GROWTH FORECAST**  
(percent)

	Trend growth (*)			Contribution to non-mining GDP growth		
	Non-mining GDP	Mining GDP	Total GDP	Capital	Labor	TFP
2023-2032	2.2	1.5	2.1	1.2	0.7	0.35

(\*) Mining accounts for 12% of total GDP.

Source: Central Bank of Chile.

To obtain total trend GDP growth, a growth projection for the mining sector is added, which is estimated to be 1.5% annually in 2023-2032. This value is lower than the one used in the latest trend growth updates (2%). This revision takes into account the sector's low growth records of recent years (1% in the 1997-2021 average), as well as Cochilco's expected production of copper and other minerals (e.g., lithium)<sup>5</sup>. Under this assumption, total trend GDP growth will average 2.1% annually in the ten-year period 2023-2032.

Finally, due to the downward trajectory of trend GDP growth over the next decade, for the purposes of calculating the medium-term projections of this MP Report, it was decided to use the average trend GDP growth for the period 2024-2027, which is 2.5%. This time horizon is the appropriate one to inform the medium-term projections, because longer horizons correspond to an economy whose productive factors are projected to be significantly different from those relevant for the medium-term projection horizon. Excluding the year 2023, on the other hand, avoids considering a year of high trend growth due to the ongoing recovery of labor participation.

<sup>5</sup>/ See [Bauducco et al. \(2022\)](#).