# BOX 1: LATEST ESTIMATES OF THE NAIRU[1]

The unemployment rate in Malta has declined considerably over the past decade. On the basis of the Labour Force Survey, it declined from a peak of 7.1% in the fourth quarter of 2010 to a historical low of just 2.9% in the third quarter of 2022 (2022Q3).

A fundamental question arises as to whether the decline in the unemployment rate reflects cyclical or structural factors, as these have very different economic implications. For example: a strong positive contribution from cyclical factors can lead to a tight labour market, which could consequently put upward pressures on wages. Conversely, structural factors – such as labour market reforms – should affect the unemployment rate more permanently and could result in downward pressure on wages to the extent that they remove rigidities and improve the functioning of the labour market.
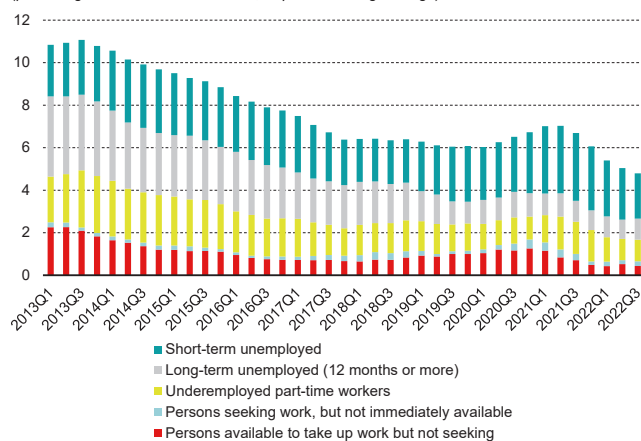
This box briefly reviews some labour market indicators which could qualitatively allow us to assess the drivers of the unemployment rate. In addition, we estimate the structural unemployment rate, including that for the projection horizon.

## Labour market indicators

Growth in economic activity has been very robust during the past decade, averaging around 6% annually, which in turn led to very strong labour demand. Indeed, employment growth (national accounts) averaged around 5% over the past decade. Meanwhile, the labour force also increased sharply – by around 4.5% on average – at the back of strong net migrant flows. Despite the rise in labour supply, shortages of labour have become a prevalent issue that limits firms' production, which suggests that the labour market is tight.

Indeed, and as outlined in Ellul (2019),[2] the degree of labour market slack has declined considerably over the past decade. Underemployed part-time workers stood at 1.0% of the extended labour force in 2022Q3, down from 2.7% in 2013Q3. Over this period, 'persons available to work but not seeking' has decreased from 2.3% to just 0.4% of the extended labour force. Moreover, both those who are classified as short-term unemployed as well as the long-term unemployed

**Chart 1**
**LABOUR MARKET SLACK**
*(percentage of extended labour force; 4-quarter moving average)*



- ■ Short-term unemployed
- ■ Long-term unemployed (12 months or more)
- ■ Underemployed part-time workers
- ■ Persons seeking work, but not immediately available
- ■ Persons available to take up work but not seeking

Sources: ECB-SDW; Eurostat; Central Bank of Malta's estimates.

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[1]   Prepared by Ian Borg, Manager Economic Projections and Conjunctural Analysis Office.
[2]   Ellul, R. (2019). "Labour Market Slack," Article published in the *Quarterly Review* 2019:1, pp. 37-41.

have declined sharply over the last decade. By end 2022Q3, the degree of underutilization of labour was at the lowest historical levels (see Chart 1).

Several structural reforms in the labour market have brought about a decline in the structural unemployment rate. Chart 2 shows that the long-term unemployment rate – which is defined as persons who have been in unemploy-

**Chart 2**
**LONG-TERM UNEMPLOYMENT RATE**
*(moving average; per cent)*



Source: Eurostat.

ment for a duration of more than 12 months – has declined consistently over the past decade. It decreased from slightly below 4.0% in 2013 to just 1% by 2020. Fearne and Borg (2021) have partly attributed this decline to the successful implementation of active labour market policies.[3] Policies such as the tapering of benefits scheme, as well as the work programme initiative, have been fundamental in re-integrating the long-term unemployed into the labour market.[4] Moreover, the decline in the long-term unemployed may have been supported by strong economic growth as well as other structural economic reforms.

## Estimating the NAIRU and the unemployment gap

In macroeconomic terms, labour market tightness is measured in terms of the unemployment gap, that is, the difference between the unemployment rate and the non-accelerating inflation rate of unemployment (NAIRU). The latter measures the structural rate of unemployment, which is defined as the lowest unemployment rate that can be achieved without causing a sustained increase in wage growth and inflation.

The measurement of the NAIRU is however very challenging due to its inherent unobservable nature. For our purposes, we utilize an Unobserved Components Model (UCM), which combines a multivariate filter with a Cobb-Douglas production function.[5] This model estimates trends of the inputs of production (capital, labour, and total factor productivity) in a system of equations. This system of equations in turn determines the trend-cycle decomposition based on reduced-form economic relationships.

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[3]    Fearne, R., & Borg, I, (2021), "The characteristics associated with the short and long-term unemployed in the Maltese labour market," CBM *Policy Paper* PP/06/2021, Central Bank of Malta.

[4]    Kurt Sant finds that the tapering scheme allowed most persons that previously claimed social benefits to retain employment beyond the duration of the scheme. See Press Release by the Ministry for Social Policy and Children's Rights.

[5]    For more details see Andersson, M., Szörfi, B., Tóth, M. and Zorell, N. (2018), "Potential output in the post crisis-period," ECB Economic Bulletin, Issue 7/2018, and Ellul, R. (2019), "Box 1: An Unobserved Components Model for potential output in Malta" *Quarterly Review* 2019:2, pp. 17-21.

Chart 3 illustrates the estimated NAIRU, which is also extended into the forecast horizon. The NAIRU is estimated to extend its downward trend over the projection horizon and reach 3.5% by 2025, from 3.8% in 2022. The projected decline in the NAIRU reflects the assumed increase in labour supply due to positive net migration flows.

**Chart 3**
**PROJECTIONS FOR THE NAIRU**
*(per cent)*



Source: Central Bank of Malta.