DEVELOPMENTS IN MALTA'S STRUCTURAL UNEMPLOYMENT

BOX 3: DEVELOPMENTS IN MALTA'S STRUCTURAL UNEMPLOYMENT[1]

The unemployment rate in a number of EU countries increased substantially after the economic and financial crisis of 2009 and, more recently, after the sovereign debt crisis. In the euro area, the unemployment rate averaged 12% in 2013, the highest level since the creation of the single currency in 1999. This increase, however, masks considerable differences among the constituent countries, ranging from 4.9% in Austria to 27.3% in Greece. In stressed countries the rise in the unemployment rate was accompanied by an increase in the long-term unemployed, which was especially pronounced for young people. This could lead to the erosion of human capital as jobless workers lose skills or drop out of the labour market, eventually resulting in higher structural unemployment and lower output growth.

The structural unemployment rate is defined as the rate of unemployment consistent with stable inflation.[2] This is also referred to as the non-accelerating inflation rate of unemployment or NAIRU. The level of the NAIRU and its evolution over time are important for policy makers for a number of reasons. First, it is essential to measure the unemployment gap (defined as the gap between the unemployment rate and NAIRU), which is a cyclical indicator of the state of the labour market and a useful measure for assessing the outlook for inflation. Over the course of the cycle, an actual jobless rate that exceeds the NAIRU (that is, a positive gap) provides an indication of downward price pressures. Inversely, an unemployment rate which falls short of the NAIRU (that is, a negative gap) is a signal of higher inflation.

Second, the NAIRU is a key component in measuring potential output and thus the output gap, as well as indirectly gauging cyclically adjusted fiscal indicators. Finally, developments in the NAIRU provide an indication of the success or otherwise of structural labour market policies.

Estimates of structural unemployment

Like potential output, the NAIRU is an unobservable variable and has to be estimated using statistical or econometric models. There are two main methods used in the literature. The first is a statistical approach, like the Hodrick-Prescott (HP) filter, which extracts the trend component from a time series of unemployment. While this approach is relatively easy to implement, it suffers from the usual drawbacks associated with these filters, including the end-of-sample bias and difficulties in adequately capturing structural breaks. The second approach links statistical approaches to economic information, based on long-standing economic relationships like the Phillips Curve and Okun's Law. The former links price pressures to slack in the economy or in the labour market, while the latter focuses on the relationship between economic activity and the unemployment rate. Studies that rely on a reduced form of the Phillips curve framework sometimes use both price and wage inflation to estimate time-varying structural unemployment rates.

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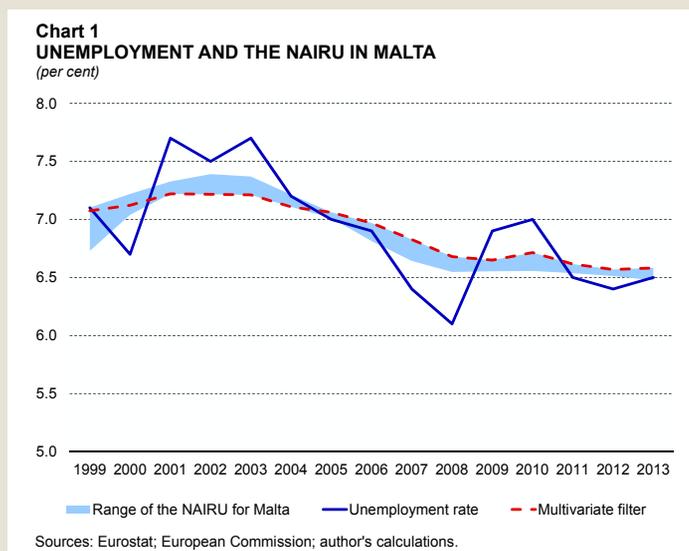
[2] For a discussion on the NAIRU and its evolution over time, see Gordon, R., "The time-varying NAIRU and its implications for economic policy", *Journal of European Perspectives*, Volume 11, 1997.

Given the uncertainty surrounding estimates of the NAIRU, central banks typically rely on more than one approach. These approaches are usually compared with estimates derived from policy institutions, like the European Commission, the International Monetary Fund and the Organisation of Economic Co-operation and Development. When available, estimates of the NAIRU and the unemployment gap are also benchmarked against soft indicators, for instance, from business surveys or information on vacancies, to facilitate economic interpretation of results.

Chart 1 plots the range of different estimates of Malta's structural unemployment against the actual unemployment rate. The range is based on three different estimates of the NAIRU: a multivariate filter, an HP filter and the estimate used by the European Commission in its Spring 2014 economic forecasts. The multivariate filter is estimated using data on real GDP, the unemployment rate, core inflation and foreign demand, the latter reflecting the small and open nature of the Maltese economy.[3] The multivariate filter approach is used by the Central Bank of Malta as the measure of the NAIRU in its macro-econometric model and is also a key input in the Bank's estimates of potential output.[4] To estimate the NAIRU, the European Commission applies a multivariate filtering approach that decomposes the trend from the cycle.[5]

Despite uncertainty surrounding point estimates, the different approaches point to broadly similar dynamics in Malta's NAIRU over the last decade.

In the early 2000s, the NAIRU was relatively high, standing at between 7.2% and 7.4%. This period was characterised by sluggish economic growth, owing both to shocks that hit the economy and the introduction of foreign competition in certain industries in the run-up to EU membership. As a result, the unemployment gap, the

Chart 1
UNEMPLOYMENT AND THE NAIRU IN MALTA
(per cent)

Range of the NAIRU for Malta — Unemployment rate – – Multivariate filter

Sources: Eurostat; European Commission; author's calculations.

[3] The multivariate filter used here is similar to the one proposed in Benes, J. et al, "Estimating Potential Output with a Multivariate Filter", *Working Paper,* WP/10/285, IMF, December 2010.

[4] For further details, see Grech, O. et al, "A structural macro-econometric model of the Maltese economy", *Working Paper,* WP/02/2013, Central Bank of Malta, 2013 and Grech, A. and Micallef, B., "Assessing the supply side of the Maltese economy using a production function approach", *Quarterly Review,* Vol. 46, No. 4, Central Bank of Malta, 2013.

[5] Further details are available in Francesca D'Auria et al, "The production function methodology for calculating potential growth rates and output gaps", *Economic Papers,* No. 420, European Commission, July 2010.
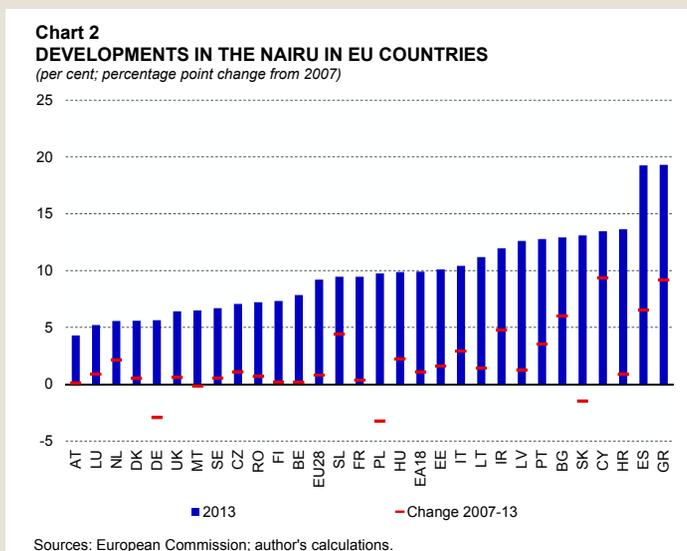
difference between the actual unemployment rate and the NAIRU was broadly positive during this period.

The period between 2004 until the onset of the recession in 2009 was characterised by a downward trend in the NAIRU. This period saw the diversification of the economic base from traditional industries to higher value added ones, mostly in the services sector but also in manufacturing. Consequently, the unemployment gap turned negative in 2007 and 2008.

The economic and financial crisis in 2009 led to a sharp increase in the unemployment rate, though it still remained below the levels seen between 2001 and 2003. In addition, unlike the situation in stressed European countries, the rise in the domestic unemployment rate proved to be temporary, with the rate gradually declining to pre-crisis levels, and the positive unemployment gap closed by 2011.

This performance was due to a number of factors, including the timely and targeted intervention of the authorities to assist the manufacturing and tourism sectors, the diversification of the economy to sectors which proved resilient to the recession and the absence of major shocks in the financial sector.[6] As a result, there were no major changes in Malta's NAIRU, which remained broadly stable around 6.5% – 6.7% between 2009 and 2013. The unemployment gap was negligible in 2013.

Chart 2 plots the level of the NAIRU for all EU countries in 2013 and the change in structural unemployment compared with the level prevailing before the crisis. As expected, this cross-country comparison shows a high degree of heterogeneity among EU countries. Compared with other EU countries, Malta has a low structural unemployment rate, with no major difference in the NAIRU between 2007 and 2013. On the contrary, stressed economies have not only high levels of the NAIRU but also experienced an increase in structural unemployment from pre-crisis levels. For instance, estimates of the NAIRU in Greece and Spain stand slightly lower than 20% in 2013, an increase of more than 6 percentage points since 2007.

Chart 2
DEVELOPMENTS IN THE NAIRU IN EU COUNTRIES
(per cent; percentage point change from 2007)

■ 2013   — Change 2007-13

Sources: European Commission; author's calculations.

Concluding remarks and policy recommendations

This Box has presented a range of estimates of structural unemployment in Malta over the last decade. In general, the NAIRU exhibited a downward trend over the period reviewed. A number of factors could have contributed to more labour market flexibility and to an improvement in the match between labour demand and supply, such as the rise in vocational training through the establishment of the Malta College of Arts, Science and Technology (MCAST), stronger links between the educational system and industry, and the increase in the number of university graduates. A number of initiatives were also taken to motivate more people to join and stay longer in the labour market. The above analysis also shows that Malta has a low level of structural unemployment compared with other EU countries and that the economic and financial crisis of 2009 had no permanent impact on the domestic NAIRU.

However, remaining bottlenecks in the domestic labour market should still be addressed. For instance, while the share of long-term unemployed has not risen to the same extent as in some other EU countries, it still remains relatively high, standing at around 44.5% of those searching for a job in 2013. Malta also ranks at the bottom end of EU rankings in terms of education attainment. The recently published National Employment Policy identifies low education attainment levels, partly driven by a high proportion of early school leavers and a mismatch between demand and supply of skills as the two main challenges facing the domestic labour market. Policies targeted at these two areas, together with others strengthening links between academia and industry, will increase the flexibility of the domestic labour market and enhance the efficiency of the matching process between job seekers and vacancies, thereby contributing to a further reduction in structural unemployment.