Is the Sahm rule useful for Ireland?

By Enda Keenan [1]

The Sahm rule is an economic indicator proposed to identify turning points in the (US) business cycle (Sahm, 2019). It uses changes in the monthly unemployment rate as it is considered to be a timely measure of economic activity and is less prone to revision than National Accounts indicators. Although the labour market is often considered to be a lagging indicator of economic conditions, alternatives such as quarterly GDP or output data are also published with a considerable lag and are subject to revision, particularly in the case of Ireland. Data available from the US Federal Reserve show the Sahm rule as a successful indicator in correctly signalling recessions from the 1970s onwards. The rule has been the subject of increased attention as global economies currently face a period slower growth. This *Box* calculates the Sahm Rule indicator for Ireland and discusses whether it is a useful recession indicator in an Irish context.

The methodology simply compares the three-month moving average unemployment rate to the lowest three-month average from the previous 12 months. A signal is triggered if the difference between these two data points is greater than the threshold amount of 0.5 percentage points. In an economic downturn, a snowball (or reinforcing) effect can occur where rising unemployment leads to depressed domestic demand and further unemployment. This provides the motivation for a threshold indicator, which in this case corresponds to the 0.5 percentage points proposed by Sahm (2019).

Calculating the Sahm rule indicator for Ireland requires using the monthly seasonally-adjusted unemployment rate from the CSO up to the most recently published benchmark LFS data. Estimates

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of the unemployment rate published by the CSO for months beyond those covered in the most recent quarterly LFS are uncertain and typically subject to revision.[2] This analysis limits the use of unemployment data to months in which the monthly rate incorporates quarterly LFS benchmarks in order to reduce potential false signals. [3]

As the Sahm rule is a relatively mechanical indicator, it is important to consider a number of potential drawbacks to this approach, such as the possibility of producing false signals. For example, as the Irish unemployment rate has been close to historic lows since mid-2022, an increase in it could be a reflective of a return to long-run equilibrium following a period of overheating. That such an increase may trigger the signal without an associated recession occurring may suggest the need for a higher threshold value at this time.[4] Furthermore, unemployment is often considered a lagging indicator, peaking after a recession has ended. Finally, while the indicator may signal a change in unemployment, it does not provide any indication of the likely scale of recession or ultimate increase in unemployment.

With these caveats in mind, Figure 1 shows the Sahm rule applied to Irish data from March 1984 to December 2023. The grey bars indicate months in which the threshold value of 0.5pp was exceeded. The indicator captures well-known downturns in the Irish economy over this period with breaches of the 0.5pp threshold corresponding to the currency devaluation (early 1990s), dotcom crisis (2001), global financial crisis (2008) and the pandemic period (2020). The global financial crisis saw unemployment rise from 6 per cent in June 2007 to 12.6 per cent in June 2008. The rule signalled a downturn in December 2007, prior to the declaration of a recession in September 2008 or national accounts data exhibiting two consecutive quarter declines in modified domestic demand (MDD) in Q3 2008.

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[2] The CSO monthly unemployment rate incorporates quarterly LFS data as benchmarks ensuring that the average of three months in a particular calendar quarter is equal to the corresponding LFS estimate. For months where LFS data are not yet available, the ratio of the LFS monthly estimate to the Live Register monthly estimate is forecast forward in order to extrapolate a monthly LFS estimate. See CSO background notes for further details.

[3] For example, the December 2023 monthly unemployment rate was revised from 4.9 per cent to 4.5 per cent when incorporating LFS Q4 2023 benchmark values.

[4] The 0.5pp threshold is chosen as changes of this extent in the US unemployment rate occurred only during or closely following recessions. While Ireland is a smaller economy in which migration and other demographic trends can have relatively greater effects on the unemployment rate, a different threshold value may be more relevant.

Figure 1: Sahm rule for Ireland and annual modified domestic demand growth
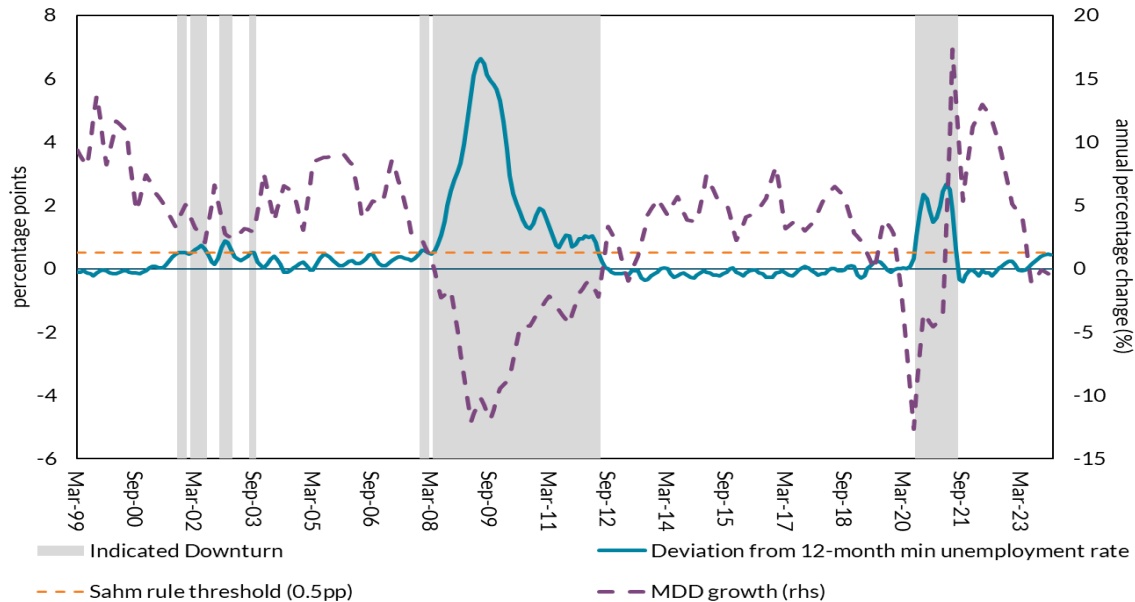
Source: CSO, Eurostat and author's calculations
Note: Grey bars indicate months in which the threshold value of 0.5pp was triggered

The pandemic was different to typical business cycle downturns given its abrupt nature in forcing the overnight closures of businesses across many sectors. While a recession indicator is not necessary to signal the potential economic dangers of such an event it is useful to assess its performance during this period as both worker flow out of the labour force and income support schemes distorted the unemployment rate.[5] The rule first signalled a downturn in July 2020, though many people had been out of work from March onwards. While the labour force contracted notably and ILO unemployment rose to 7.3 per cent, the signal still functions, albeit on a lagged basis.[6]

The use of a 0.5pp threshold for the Sahm rule was designed for a US labour market context. A number of studies have investigated using different threshold values or measures of labour market slack with varying degrees of success across OECD countries (Feng and Sun, 2021; Blanchflower and Bryson, 2022). Using a threshold value of 1 for Ireland would remove signal events such as the dotcom crisis in which unemployment rose to a peak of 5.4 per cent and various measures of economic output remained positive, despite the international slowdown (Figure 1).

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[5] See Byrne and Keenan (2020) "Measuring and Forecasting the Unemployment Rate during COVID-19" Central Bank of Ireland Quarterly Bulletin, Q4 2020 Box D
[6] Using the COVID-adjusted monthly unemployment rate instead of the ILO rate would have seen a signal triggered in March 2020.

The Sahm rule may prove a useful indicator to monitor alongside other existing tools. For instance, comparison with the Business Cycle Indicator (BCI) shows that both have a close and inverse relationship (Figure 2). Periods in which the BCI exhibits below average growth broadly coincides with periods in which Sahm rule has signalled an economic downturn. The latest BCI shows that the pace of growth in the domestic economy slowed as values remain positive but close to zero in December. Similarly, the Sahm rule value for December was 0.43pp suggesting that the figure is close to but below the threshold that would signal an economic downturn. Typically, monthly unemployment data incorporates LFS benchmarks on a t+30 day basis. This is prior to availability of all BCI components (t+38 days) and provisional MDD data (t+60 days).

While a number of methodological issues must be considered including its limitation to labour side of the economy, the rule may be a useful first-stage signal alongside wider economic indicators. Three quarters of consecutive declines in MDD up to Q4 2023 suggests the Irish economy has recently entered a technical recession. Quarterly Bulletin analysis attributes this decline to lower physical investment by MNEs in the State following extraordinarily high growth in 2022. Other indicators such as employment and tax receipts point to positive output growth in 2023, albeit at a slower pace than in 2022. In this respect the Sahm rule indicator not breaching the 0.5 threshold in 2023 corresponds with the general perspective on positive economic activity in 2023.

Figure 2: Sahm Rule and Business Cycle Indicator
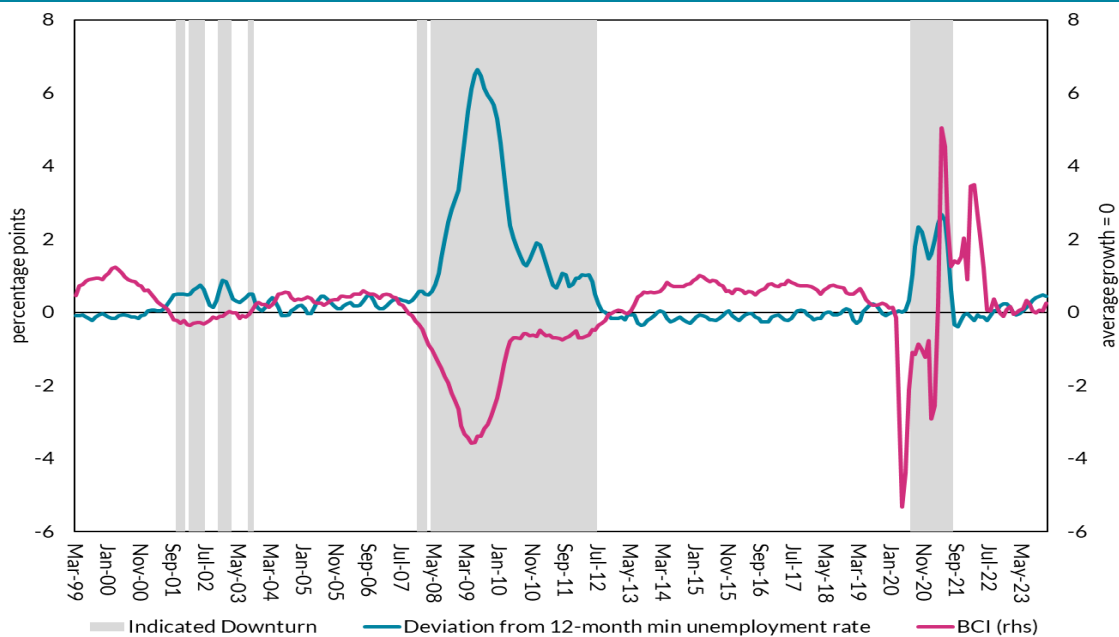
Source: CSO, Central Bank of Ireland and author's calculations
Note: Grey bars indicate months in which the threshold value of 0.5pp was triggered