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# UK inflation in the 1970s and 1980s: the role of output gap mismeasurement

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Edward Nelson and Kalin Nikolov

The amount of spare capacity in the economy is a vital input for policy-makers' decisions on monetary policy. When expressed as a fraction of GDP, a frequently used summary statistic for the degree of spare capacity is the output gap—the percentage difference between actual output and the level of output consistent with sustainable full employment of resources. But the output gap available to policy-makers in real time is subject to two sources of error: both initial GDP estimates and the estimates of (unobserved) potential output may be revised subsequently.

Recent work on the United States has argued that the breakout of inflation in the 1970s was largely due to real-time output gap mismeasurement. Policy-makers, it is argued, were slow to realise that long-term US productivity growth had fallen, and therefore misinterpreted slow economic growth as indicating deficient aggregate demand. Consequently, monetary policy stimulus to the economy was excessive.

This paper concentrates on the following questions:

(1) how important is the real-time output gap measurement problem in the United Kingdom?; and  
(2) did output gap mismeasurement play a significant part in bringing about the high inflation in the United Kingdom in the 1970s and 1980s?

In order to address our questions, the paper constructs the first real-time output gap series for the United Kingdom. It consists of a real-time GDP series (obtained from past issues of *Economic Trends*) and a real-time potential GDP series, derived using policy-makers' statements about their views on the output gap or the

productive potential of the UK economy. The 'final' output gap series is a measure based on the deviations of actual GDP (2000 Q3 vintage) from a linear trend with breaks in 1973 Q4 and 1981 Q4. The measurement error in real-time output gap estimates is calculated by subtracting the real-time output gap series from the 'final series'.

The paper investigates the effect of output gap mismeasurement on UK inflation by simulating a small, forward-looking macroeconomic model, augmented with a monetary policy rule and output gap measurement error. It also presents graphical evidence in the form of interest rate prescriptions from 'Taylor rules' using both real-time and final output gap data.

The results indicate that output gap estimates have, at times, been subject to substantial measurement error. The most serious measurement errors occurred in the 1970s, when policy-makers believed that output was more than 7 percentage points further below potential than now seems to have been the case. Errors were also large in the 1980s, with the average real-time output gap measure more than 5 percentage points below the average final measure. This was due both to initial GDP revisions and to inaccurate estimates of potential output. Stochastic simulations suggest that, as a result of output gap measurement errors, average inflation was 2 to 7 percentage points higher in the 1970s, and 1 to 5<sup>1/2</sup> percentage points higher in the 1980s. Although output gap measurement errors made a significant contribution to average UK inflation in the 1970s and 1980s, other sources of monetary policy errors were also important.