INFLATION EXPECTATIONS AND THE PHILLIPS CURVE: AN ENCOMPASSING FRAMEWORK

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The empirical evidence shows that inflation tends to be pro-cyclical: periods of above average inflation tend to be associated with above average economic activity. This statistical relationship is known as the Phillips curve. The Phillips curve was perceived in the 1960's as a menu for monetary policymakers: they could choose between high inflation and low unemployment or low inflation and high unemployment. But this interpretation of the Phillips curve assumed that the relationship between unemployment and inflation was stable and would not break down when a policymaker attempts to exploit the tradeoff. After Friedman's (1968) paper and the high inflation episodes experienced by many economies in the 1970s, this interpretation of the Phillips curve was discredited. After a period of low inflation in the 1980s and early 1990s, economists again worked on a theoretical framework for the Phillips curve. The New Keynesian Phillips curve (NKPC) provides an interpretation of the short-run inflation-unemployment trade-off by deriving it from an optimizing framework featuring rational expectations and nominal rigidities. This is a structural model, designed to be capable of explaining the behavior of inflation without being subject to the Lucas critique. The NKPC is part of the New Keynesian model which is the workhorse model for monetary analysis. However, to use the NKPC for policy analysis requires it to have a good econometric track record in describing inflation dynamics.

This paper contrasts empirically four leading models of inflation dynamics--the Accelerationist Phillips curve (APC), NKPC, Hybrid Phillips curve (HPC), and Sticky Information Phillips curve (SIPC).

Our method of testing Phillips curves is different from the approaches taken by previous studies because it is based on an alternative specification of this curve that encompasses the APC, NKPC, HPC and SIPC. This encompassing specification has the advantage of reducing part of the vast specification uncertainty surrounding the Phillips curve by making it possible to test each of these alternative specifications within a single framework. Using the Generalized Method of Moments (GMM) estimator, the evidence suggests that the NKPC, HPC and SIPC are not consistent with data for the U.S. during the Great Moderation. Only the APC is consistent with these data. However, when we construct confidence regions that are robust to weak instruments in the sense that identification of the coefficients is not assumed (in contrast to the conventional GMM method, where the validity of tests of estimated coefficients requires the assumption that they are identified), our previous conclusions turn on their head and making it impossible to reject any of the Phillips curve specifications. This happens because the GMM confidence regions understate the sampling uncertainty, compared to regions that are robust to weak instruments. The results do not depend on the choice of the forcing variable (output gap or marginal cost) in the Phillips curve equation.

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