Hybrid inflation and price level targeting

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The success and spread of inflation targeting (documented by, for example, Julius *et al* (2000)) has stimulated interest in the merits of price level targeting. Under inflation targeting, the expected variance of the price level increases without bound as we look further into the future; under price level targeting, policy acts to reverse shocks to the price level, and the expected variance is constant.

A literature has grown examining the benefits of price level versus inflation targeting, including Lebow *et al* (1992), Fillion and Tetlow (1993), Haldane and Salmon (1995), Black *et al* (1997), Kiley (1998), Svensson (1999a), Smets (2000), Williams (1999), Vestin (1998), and Dittmar *et al* (1999). In the early days of this research effort it was thought that while price level targeting meant lower price level variance, it brought with it the cost of higher variance in inflation (as, for example, below-target misses are inflated back next period) and, in worlds of sticky prices, a greater volatility of output about the natural rate. But more recently, exceptions to this early result have been uncovered.

This paper contributes by first describing and then analysing the consequence of regimes that can be thought to lie 'in between' the extremes of price level and inflation targeting. We describe two ways of characterising the spectrum of regimes. The first is a spectrum of regimes that come from computing optimal rules subject to loss functions that have different relative weights on price and inflation deviations from target. The second spectrum is defined by a set of simple rules where, at one extreme, the real interest rate responds to forecast deviations of prices from target, and at the other from forecast deviations of inflation from target (and a term in the output gap). In between, policy responds to forecast deviations of prices from a moving price level target.

We compute inflation, price and output variability when these rules are followed using a calibrated, rational expectations model of the United Kingdom used in Batini and Haldane (1999).

The paper shows that these 'intermediate' regimes are interesting in that inflation, output and price level variance do not change monotonically as we move from one extreme to another. We also show that the cost benefit analysis of regimes along our spectra depend, not surprisingly, on the degree of forward-lookingness embodied in price-setting, and contrast results obtained using a form of nominal stickiness akin to that in Taylor (1980) on the one hand and Fuhrer and Moore (1995) on the other. We also use our results on how the variance of nominal interest rates changes along the regime spectrum to comment on the probability of hitting a zero band associated with different policies.