The Evolution of Inflation Persistence: Did Oil Shocks Affect Inflation Dynamics?

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Abstract

We hypothesize and empirically confirm that oil shocks shape inflation dynamics, possibly by inducing forward-looking behaviour in price-setting. Using quarterly U.S. aggregate data of nearly 60 years that end in 2008, we estimate two versions of the New Keynesian Phillips Curve for four subsamples formed with oil shock dates by generalized method of moments and a two-step procedure combining Bayesian vector autoregression with minimum distance estimation. In the present paper, we contribute to the inflation dynamics literature from a kind of evolutionary point of view. It is conceivable that major economic events may shape economic behaviour not only by affecting preferences, beliefs, or constraints of existing market participants, but also by cleansing irrational ones from the market. They may, by experiencing major events and watching what happens to other firms, learn something useful for formulating decisions, or update their prior beliefs about an economic process, and act accordingly, including forming expectations in more rational ways.

The two sets of empirical results point to the same changes in firm pricing and inflation dynamics with the advent of oil shocks. Depending on if the trend inflation is assumed to be constant or time-varying, our estimates indicate that about nine percent or one third of firms were forward-looking in setting prices before the 1973 Oil Crisis, and there is strong or mild evidence for inflation persistence in that subsample. However, since late 1973, the share of forward-looking firms has more than doubled or has reached 40-50%, and inflation persistence seems to have substantially weakened or disappeared. The prices are not necessarily overall more flexible despite the increase in the share of forward-looking firms, because the share of firms that do not reset prices has increased or because the prices of backward-looking firms have become stickier.

Key Words: New Keynesian Phillips Curve, oil shock, inflation persistence, forward-looking behaviour, price-setting.