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The role of expectations in economic fluctuations and the efficacy of monetary policy

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Abstract

Diverse beliefs is an important mechanism for propagation of fluctuations, money nonneutrality and efficacy of monetary policy. Since expectations affect demand, our theory shows economic fluctuations are mostly driven by varying demand not supply shocks. Using a competitive model with flexible prices in which agents hold Rational Belief (see Kurz, 1994. Economic Theory 4, 877–900) we show that (i) our economy replicates well the empirical record of fluctuations in the U.S. (ii) Under monetary rules without discretion, monetary policy has a strong stabilization effect and an aggressive anti-inflationary policy can reduce inflation volatility to zero. (iii) The statistical Phillips curve changes substantially with policy instruments and activist policy rules render it vertical. (iv) Although prices are flexible, money shocks result in less than proportional change in inflation hence aggregate price level is 'sticky' with respect to money shocks. (v) Discretion in monetary policy adds a random element to policy and increases volatility. The impact of discretion on the efficacy of policy depends upon the structure of market beliefs about future discretionary decisions. We study two rationalizable beliefs. In one, market beliefs weaken the effect of policy and in the second, beliefs bolster policy outcomes and discretion could be a desirable attribute of the policy rule. Since the central bank does not know any more than the private sector, discretion is beneficial only in extraordinary cases. Hence, the weight of the argument suggests that policy *should be*

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transparent and abandon discretion except for rare circumstances. (vi) Our model suggests the current real policy is only mildly activist and aims mostly to target inflation.
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1. Introduction

What explains the observed real effect of money on the economy and is money not neutral? This is perhaps the most debated question of our time. Empirical evidence has demonstrated that monetary policy, unanticipated and anticipated (e.g. Mishkin, 1982), has real effects and virtually all countries established economic stabilization as the main goal of central bank policy. However, if we seek a scientific justification for this policy, we find sharp differences in models, assumptions and methods used to arrive at this conclusion.

On one side is the standard rational expectations (in short, RE) based real business cycle theory which holds that all real fluctuations are caused by exogenous real technological shocks, money is neutral and only relative prices matter for economic allocation. Under this theory, anticipated monetary policy cannot have real effect and hence stabilizing monetary policy cannot provide any long term and consistent social benefits (e.g. see Lucas, 1972; Sargent and Wallace, 1975).

An opposing view holds that money is not neutral, that economic fluctuations impose a policy tradeoff between inflation and unemployment and such a 'Phillips curve' is at the foundation of economic stabilization policy. This perspective has been developed by the *Dynamic New Keynesian* (*in short DNK*) *Theory* which erected the Keynesian view on three pillars: (1) the market consists of price setting monopolistically competitive firms, (2) prices are 'sticky' due to restrictions on firms' ability to adjust prices (e.g. Taylor, 1980, 1993, 1999; Calvo, 1983; Yun, 1996; Goodfriend and King, 1997; Bernanke et al., 1999; Clarida et al., 1999; Levin et al., 1999; Mankiw and Reis, 2002; McCallum and Nelson, 1999; Rotemberg and Woodford, 1999; Woodford, 2001, 2003a), and (3) markets are complete, agents are identical and hold RE within a Rational Expectations Equilibrium (in short, REE). Most work with Calvo's (1983) idealization where at any date only a fraction of firms are 'allowed' to change prices while others cannot. In such an economy output fluctuations are caused by exogenous shocks and amplified by incorrect firms' price setting. This monopolistic competitive equilibrium is not Pareto efficient. Changes in nominal rates have real effects because they impact *expected* future prices by firms. An exogenous shock causes some firms to change prices but others cannot adjust them and must produce output given prices set earlier, based on expectations held at that date and are thus the 'wrong' prices today. Monetary policy aims to restore efficiency by countering the negative effect of price rigidity. Depending upon the

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