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## The future of monetary aggregates in monetary policy analysis $\stackrel{\scriptstyle \swarrow}{\sim}$

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## Abstract

This paper considers the role of monetary aggregates in modern macroeconomic models of the New Keynesian type. The focus is on future model developments that are suggested by the monetarist literature, and that in addition seem justified empirically. Both the relation between money and inflation, and between money and aggregate demand, are considered. Regarding the first relation, it is argued that both the mean and the dynamics of inflation in present-day models are governed by money growth. This arises from a conventional aggregate-demand channel; claims that an emphasis on the link between monetary aggregates and inflation requires a direct channel connecting money to inflation, are wide of the mark. The relevance of money for aggregate demand, in turn, comes not via real balance effects (or other justifications for money in the IS equation), but on money serving as a proxy for the various substitution effects of monetary policy that exist when many asset prices matter for aggregate demand. This role for monetary aggregates is supported by empirical evidence and enhances the value of money to monetary policy.

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## 1. Introduction

The paper by Taylor (1993) was pivotal in shaping the conduct of monetary policy analysis. Monetary economists had long recognized that central banks in practice treated the nominal interest rate rather than the monetary base or a reserves aggregate as their policy instrument. They had also acknowledged that interest-rate rules that responded to nominal variables in an appropriate manner could deliver low and stable inflation, even if these rules did not respond directly to movements in the money stock.<sup>1</sup> But Taylor put these elements together with an empirical insight, namely, that actual monetary policy decisions could be usefully approximated by a simple interest-rate rule that responded to observed movements in a small set of key variables—inflation and detrended output. Taylor's insight has facilitated the use of small-scale models that analyze monetary policy, the business cycle, and inflation with interest-rate rules (see e.g. the papers in Taylor, 1999).

In itself, the use of a Taylor rule for monetary policy analysis is neutral on the issue of the importance of monetary aggregates. The fact that actual policy is well characterized by a rule with no explicit money term does not preclude a role for monetary aggregates in the transmission of monetary policy or the analysis of inflation. Nevertheless, the literature that has found the Taylor rule a useful way of characterizing monetary policy has also endorsed the use of New Keynesian models that feature no explicit reference to monetary aggregates (e.g. Clarida et al., 1999, pp. 1686–1687; Rotemberg and Woodford, 1997, p. 309).<sup>2</sup> It is not difficult to see why this development has taken place: if policy actions can be characterized in terms of movements in interest rates, it is convenient to trace the transmission of policy effects through the reaction of aggregate demand to interest rates. Moreover, some analysts who reject Taylor rules as a useful description of actual monetary policy behavior have nevertheless supported the movement away from the use of monetary aggregates in monetary policy analysis (e.g. Svensson, 2003).

This paper aims to answer four questions about the future of monetary aggregates in monetary policy analysis, two on the relationship between money and inflation, and two on the transmission mechanism of monetary policy. The questions are:

- (a) Do the new Keynesian models referred to above imply that *inflation in the long run* is governed by money growth, as stressed by the quantity theory of money?
- (b) Can *inflation dynamics* in these models be given a conventional quantity-theory interpretation?
- (c) Is the *basic transmission mechanism* of monetary policy in these models the same as that in pre-1990s models, which apparently gave a more explicit role to money?

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<sup>&</sup>lt;sup>1</sup>See e.g. Artis (1993), Goodhart (1987), McCallum (1981), and Walters (1988).

<sup>&</sup>lt;sup>2</sup> It remains standard for money to be included in VAR studies (e.g. Christiano et al., 1999; Leeper et al., 1996). This, however, can be motivated by the fact that policymakers responded to money during the estimation period, and need not imply an explicit role for money in the behavioral equations of the private sector.

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