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# Monetary information and monetary policy decisions: Evidence from the euroarea and the UK <sup>★</sup>

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#### ABSTRACT

This paper uses a modified New Keynesian framework to consider the use of monetary information in making monetary policy decisions. We add monetary indicators derived from theoretical models to conventional economic variables in an instrument rule and estimate the equations using euroarea and UK data recognizing that interest rates are set discretely. There is an improvement in the ability to predict changes in interest rates when we introduce monetary indicators which is robust to alternative model specifications. This result adds to a growing literature on the role of monetary indicators showing that this information helps predict interest rate decisions as well as inflation.

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#### 1. Introduction

In this paper it is our objective to assess whether monetary information improves prediction of interest rate decisions in the euroarea and the United Kingdom taking into account the discrete nature of interest rate decisions and other information used by central banks. Our contribution is to discuss the capability of models to predict discrete rate decisions in cases where monetary information is taken into account in the interest rate setting process versus cases where it is not. The paper builds on three areas of research where monetary information has been shown to be useful: in the relationship between money growth and inflation (c.f. Benati, 2005; Pill and Rautananen, 2006; Reynard, 2007; Assenmacher-Wesche and Gerlach, 2007), through monetary cross-checking (c.f. Beck and Wieland, 2007a,b, 2008; Coenen et al., 2005) and as a proxy for yields on a wider range of marketable assets influencing aggregate demand (Nelson, 2002, 2003, 2007; Goodfriend and McCallum, 2007; Favera and Giordani, 2009). Our focus is on the contribution of monetary information in setting interest rates.

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The theoretical foundation for many of these articles is the monetarist framework of Friedman (1963a,b) and Brunner and Meltzer (1963, 1968). Nelson (2003) points out that there was a consensus in the early 1990s that inflation was a monetary phenomenon, which acknowledges the direct relationship between money and inflation posited by Friedman, Brunner and Meltzer. Empirically, there is little doubt that correlations between monetary growth and inflation point to a long-run relationship between these variables, and monetary information may therefore assist a central bank focused on price stability in correctly setting interest rates. In his article 'No Money, No Inflation' Mervyn King uses a series of charts to point out that the correlation between money growth and CPI inflation is positive for any time horizon and any conventional definition of money using UK data (King (2001, pp. 64–67)). McCandless and Weber (1995) makes a similar point for US data, and the finding is supported for many other countries. This relationship is central to theories of inflation embodied in the quantity theory, and Robert Lucas argues this should underpin 'any monetary or macroeconomic theory that claims empirical seriousness' (Lucas, 2007, p. 666).

In recent years New Keynesian models (c.f. Rotemberg and Woodford, 1997; Clarida et al., 1999; Woodford, 2006), have greatly downplayed the role of monetary aggregates in policymaking on the basis that it contains no additional information, and money has taken on a passive role in their models of monetary transmission. Through the influence of these models money has been downgraded in central bank policy assessments from the mid-1990s. Mervyn King noted in 2001 that references to money in speeches by central banks have declined. It can be also observed that the number of pages devoted to monetary information in central bank reports has fallen and in some instances growth rates in monetary aggregates are no longer reported.<sup>1</sup>

New Keynesians have developed a five point critique that suggests monetary information is unnecessary to policymakers (see Woodford, 2006). They argue that we do not need a money variable to learn the lessons about inflation from the 1960s and 1970s. What we know about inflation and inflation control through independent central banks with inflation targets can be derived from a model in which there is no role for money (although the model is consistent with a passive money demand function). Any information from monetary trends they argue is the same as information from inflation trends (money growth and inflation are cointegrated) and there is nothing to suggest that monetary growth is necessary or the best means to predict inflation. Where monetary information is used to cross-check inflation trends to allow a central bank to determine the inflation path and set appropriate policy, they claim the cross-checks may not be robust.

We might ask 'Will the impact of the New Keynesian critique undermine the role of monetary information?' We think not. The financial crisis has already posed serious questions of this model, which makes no direct reference to money, credit or banking activities in its standard form, and quantitative easing has reinvigorated interest in monetary quantities and their relationship with asset yields, inflation, and policy. Even before the development of unconventional monetary policy, monetary information, which had been neglected, had begun to show itself to be useful in retrospect. Thus the five point critique was under strain faced with new results that overturned earlier empirical work, countering the arguments proposed and underlining the importance of money growth for inflation and monetary policymaking even in a New Keynesian context.

For a central bank with a mandate to achieve price stability, if these views are correct, monetary information would influence interest rate setting decisions. It should also be possible to predict decisions with more success if monetary indicators are informative to central banks in predicting directional change in interest rates. But there has been far less empirical work on this issue compared to the preliminary questions of whether money growth influences inflation. Whether money is a useful cross-check on policy or a proxy for a large number of yields omitted from the standard New Keynesian model is a further issue to be investigated. In this paper we provide this analysis.

In our work on interest rates we recognize an important feature of the data – the decision to set rates is made periodically and often in discrete steps (see Figs. 1a and 1b) – therefore predictions are based on discrete models of interest rate decisions. We compare the predictive performance using information sets derived from theoretical models that include or exclude different types of monetary indicators. We also adopt a strategy used by Galí (2006) to evaluate the importance of monetary information for central banks' policy decisions where communication strategies differ concerning the role of monetary information for rate setting. Galí considered two central banks, the European Central Bank that explicitly cites monetary indicators in setting interest rates and the Bank of England that makes less explicit reference to monetary indicators, to evaluate the relevance of monetary aggregates. We do the same thing using a wide range of economic variables with and without monetary indicators to predict decisions by the interest rate setting committees.

Our findings show, first, that monetary indicators improve predictions of interest rate decisions, even after allowing for the influence of other indicators. The marginal contribution to prediction is similar to that of other variables, which leads us to conclude that monetary information helps predict interest rate changes. It is possible that monetary information feeds directly into inflation or acts as a proxy for other relevant variables that could inform policymakers such as a wider range of yields, or less easily measured indicators relating to output. Either way we argue there are few variables that are measured in such a timely way, with as few revisions, at the monthly frequency of rate-setting meetings as monetary aggregates – as argued by Coenen et al. (2005). Our results also show, second, that the results are valid for the euroarea *and the UK*, which indicates that the result does not depend on the emphasis that a central bank places on monetary information in communicating its decision-making process. Our findings support the relevance of monetary information for the prediction of

<sup>&</sup>lt;sup>1</sup> This trend has been substantially reversed following the financial crisis, where a great deal of attention is now devoted to measures of money, as many of the worlds' central banks rely on quantitative easing measures to conduct monetary policy.

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