



Contents lists available at ScienceDirect

European Economic Review

journal homepage: www.elsevier.com/locate/euroecorev

An empirical assessment of Optimal Monetary Policy in the Euro area[☆]

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ARTICLE INFO

Article history:

Received 14 September 2015

Accepted 13 July 2017

Available online 14 August 2017

JEL classification:

E58

E32

C11

C51

C52

C54

Keywords:

Bayesian estimation

Interest rate rules

Optimal Monetary Policy

Great Moderation

Commitment

Discretion

ABSTRACT

We estimate a New Keynesian DSGE model for the Euro area under alternative descriptions of monetary policy (discretion, commitment or a simple rule) after allowing for Markov switching in policy-maker preferences and shock volatilities. This reveals that there have been several changes in Euro-area policy making, with a strengthening of the anti-inflation stance in the early years of the ERM, which was then lost around the time of German reunification and only recovered following the turmoil in the ERM in 1992. The ECB does not appear to have been any more conservative as aggregate Euro-area policy was under Bundesbank leadership. The estimates also suggest that the most appropriate description of policy is that of discretion, with no evidence of commitment in the Euro-area. As a result, although both ‘good luck’ and ‘good policy’ played a role in the moderation of inflation and output volatility in the Euro-area, the welfare gains would have been substantially higher had policy makers been able to commit. Adopting a flexible price level target would lead to outcomes close to commitment.

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1. Introduction

The ‘Great Moderation’ in output and inflation volatility has been the subject of much analysis, particularly for the US. Following Sims and Zha (2006) a large literature has emerged which assesses the extent to which this was simply ‘good luck’ – a favourable shift in shock volatilities – or ‘good policy’ – a desirable change in monetary policy rule parameters and/or the implicit inflation target. The improvement in policy making is typically associated with the disinflation which followed the appointment of Fed Chairman Paul Volcker in 1979.

Relatively few studies consider the Euro-area economy, despite the fact that policy making within the Euro-area economies has undergone several shifts which could easily be more significant than those observed for the US Fed (see Cabanillas and Ruscher, 2008). Most obviously these policy shifts can be seen in the elimination of national money-

[☆] We would like to thank Guido Ascari, Laurence Christiano, Richard Dennis, Eric Leeper, Jasper Linde, Thomas Lubik, Charles Nolan, Leopold von Thadden and participants at seminars at the Bank of Spain, the Bundesbank, the Riksbank and the conference Computing in Economics and Finance for helpful comments. All errors are ours.

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tary policy making in favour of a single Euro-area monetary authority in the shape of the European Central Bank (ECB) and the associated single currency. However, even prior to the creation of the Euro, Euro-area monetary policy has undergone a number of significant shifts which could impact on the efficacy of that policy. For example, the Bundesbank became the *de facto* leader in monetary policy following the creation of the Exchange Rate Mechanism (ERM) in 1979. Although there were several exchange rate realignments within the ERM in the early years,¹ following 1987 the system was relatively stable until the events surrounding 'Black Wednesday' in September 1992. This latter episode has been associated with tensions between the design of policy appropriate for domestic conditions in Germany following reunification in 1990 and the needs of other ERM members (see [Buiter et al., 2008](#)). In addition to changes in Germany's status as leader within the ERM, German monetary policy has also evolved, particularly during the early to mid 1980s as the Bundesbank developed its version of 'pragmatic monetarism' ([Beyer et al., 2008](#)). More recently the monetary policy leadership role has passed from the Bundesbank to the ECB following the creation of the Euro in 1999. It is therefore interesting to discern whether these events are associated with statistically and economically significant changes in monetary policy making in the Euro-area economies.

In addition, we would also like to assess whether or not switches in European monetary policy appear related to those in the US. [Favero and Giavazzi \(2008\)](#) find that European monetary policy systematically responds to US shocks, while [Taylor \(2013\)](#) argues that, in the years immediately prior to the financial crisis, central banks often moved in lockstep and that this is potentially damaging for global monetary policy. It is therefore interesting to assess the degree of synchronisation of policy across the two economies, and, in particular, if a relaxation in the anti-inflation stance of the US Fed following the bursting of the dot-com bubble is correlated with similar moves in Europe.

In order to explore the evolution of Euro-area monetary policy following the formation of the ERM, we estimate a simple DSGE model under alternative descriptions of flexible inflation targeting ([Svensson, 2003](#)) and instrument rules, after allowing for switches in both the policy maker's degree of inflation aversion and shock volatilities. This approach follows that in [Chen et al. \(2013\)](#) for the US which finds that the Fed is best described as following a time-consistent discretionary policy with an increase in anti-inflation conservatism associated with the Volcker disinflation. This enhanced conservatism is then temporarily reduced following the stock-market crash of 1987, before being lost again following the bursting of the dot-com bubble without ever being fully regained prior to the financial crisis. In applying this approach to Europe, it is important to note that prior to the introduction of the Euro, European monetary policy was actually being conducted by different central banks so that we are measuring the stance of "average" European monetary policy which will be influenced by both the policies of the Bundesbank and the extent to which other economies were following Germany's lead.

We find that Euro-area policy making is also best described by discretionary policy with several switches in the conservatism of that policy. There is no evidence of the policy maker being able to act with any degree of commitment. The policy switches cast light on the evolution of monetary policy making in the Euro-area, how that differs from the US and the extent to which the ECB can be seen as being a true heir of the Bundesbank. It appears that the Euro-area achieved its equivalent of the Volcker disinflation around two years after the creation of the ERM in 1979 with a marked increase in policy conservatism. However, that conservatism has subsequently been lost on several occasions. Euro-area policy lacked conservatism in the late 1980s, around the time of German reunification and the subsequent turmoil in the ERM on 'Black Wednesday' in September 1992. There has also been a significant relaxation of policy conservatism in the years immediately before the launch of the Euro and for much of the first decade following the Euro's creation. Therefore, policy switches in the US and Europe seem to be associated with different events, and movements in European monetary policy are not merely a reflection of changes in US policy makers' attitudes towards inflation. Moreover, while both policy makers appear to have lost conservatism in the period prior to the financial crisis as argued by [Taylor \(2013\)](#), these reflect quite different policy stances. In the US there is an overshooting of the inflation target, and in Europe an undershooting which would not have been supported by a conservative policy maker in either case.

We then utilise our best-fitting model to undertake various counterfactual analyses of Euro-area policy making. We find that although both 'good luck' and 'good policy' played a role in the moderation of inflation and output volatility in the Euro-area, the welfare gains would have been substantially higher had policy makers been able to commit. In light of the significant potential gains to commitment, we consider a range of delegation schemes and alternative simple target criteria in order to assess how these might bring outcomes closer to those under commitment. A flexible price level target would be most effective in reaping the benefits of commitment.

The plan of the paper is as follows. [Section 2](#) outlines the model. Various descriptions of policy are discussed in [Section 3](#). We then turn to the estimation of the models in [Section 4](#), and in [Section 5](#) we discuss our results before contrasting them with those obtained for the US. [Section 6](#) then undertakes various counterfactual simulation exercises which enable us to explore both the sources and welfare consequences of the 'Great Moderation'. [Section 7](#) considers the ability of various delegation schemes and simple target criteria to achieve some of the sizeable benefits of commitment. We then reach our conclusions in [Section 8](#).

¹ See [Ozkan \(2003\)](#) for a detailed list of these realignments and estimates of their fundamental causes.

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