

Can alternative Taylor-rule specifications describe Federal Reserve policy decisions?

Adriana Z. Fernandez^{a,*}, Evan F. Koenig^{b,1},
Alex Nikolsko-Rzhevskyy^{c,2}

^a Federal Reserve Bank of Dallas, 1801 Allen Parkway, Houston, TX 77019, United States

^b Federal Reserve Bank of Dallas, 2200 N. Pearl Street, Dallas, TX 75201, United States

^c Department of Economics, University of Memphis, 3675 Central Ave, Memphis, TN 38152-0001, United States

Received 12 November 2009; received in revised form 16 April 2010; accepted 12 June 2010

Available online 6 July 2010

Abstract

We look at how well several alternative Taylor-rule specifications describe Federal Reserve policy decisions in real time, using the newly developed [Giacomini and Rossi \(2007\)](#) test for non-nested model selection in the presence of (possible) parameter instability. Further, we isolate those Taylor-rule features that are most important for achieving relatively strong real-time performance. Key features of our preferred rule, which is robust to changing economic conditions, are the partial adjustment of the federal funds rate toward an equilibrium rate that depends on the unemployment rate and forward-looking inflation measures. We conclude by presenting an empirical application to show the policy relevance of our preferred rule in the context of the 2008–2009 recession.

Published by Elsevier Inc. on behalf of Society for Policy Modeling.

JEL classification: E52; E47; C52

Keywords: Taylor rule; Non-nested model selection; Real-time data; Model evaluation; Monetary policy

* Corresponding author. Tel.: +1 713 483 3102; fax: +1 713 483 3600.

E-mail addresses: Adriana.Fernandez@dal.frb.org (A.Z. Fernandez), evan.f.koenig@dal.frb.org (E.F. Koenig).

¹ Tel.: +1 214 922 5156; fax: +1 214 922 5194.

² Tel.: +1 901 678 2785.

1. Introduction

Monetary-policy prescriptions can be either targeting rules or instrument rules. Targeting rules specify a desired relationship between variables over which the monetary authority has only indirect and imperfect control.³ Instrument rules, the focus of this article, specify the value of the central bank's policy instrument as a function of observable economic conditions.⁴ Instrument rules are more straightforward to implement than targeting rules, but they can also be more fragile, because the economic outcomes delivered by a given instrument rule are often sensitive to small changes in the links between the instrument and the real economy. This sensitivity raises the possibility of parameter instability. That is, a rule which describes policy choices well over one sample period will perform poorly in other periods.

In this article we examine the comparative performance of several monetary-policy instrument rules for the US, using a test designed precisely for situations in which there may be parameter instability (Giacomini & Rossi, 2007). The rules we compare are all broadly considered Taylor rules (Henderson & McKibbin, 1993; Taylor, 1993), where a Taylor rule is generally defined as an equation prescribing the federal funds rate as a function of economic slack, inflation, and possibly other variables. A rule of this general form describing Federal Reserve policy is intuitively plausible: The Fed has a dual mandate to seek full employment and price stability, and the Federal Open Market Committee (FOMC) formulated policy in terms of the federal funds rate for almost twenty-five years until it recently reached the zero percent lower bound, forcing the Fed to seek alternative means for providing stimulus.⁵

We start by presenting the several commonly used versions of the Taylor rule that are examined empirically in this paper. We then review the Giacomini and Rossi methodology and apply their test to compare the different rules' ability to explain the behavior of the federal funds rate for over two decades and try to identify the specific features that are most important for successful performance. We conclude by presenting an empirical application to show the policy relevance of our preferred rule in the context of the 2008–2009 recession. For our performance comparison to be meaningful we use real-time data throughout our analysis, as it is essential that the data used for estimation of each policy rule be limited to what would have been available to a policymaker or economic analyst at the time policy decisions were made (Orphanides, 2001, 2003).

Results suggest that gradualism – a tendency to avoid large, sudden moves in the funds rate – should be included in the Taylor rule for optimal descriptive performance, while preemption, – responding to forecasts of inflation and slack rather than to past and current measures – is important for inflation measures but not for slack. Also, we find that the unemployment rate seems to be a better real-time measure of current economic slack than the output gap or the capacity utilization rate, and that the Blue Chip inflation forecast has more explanatory power than the median inflation forecast from the Survey of Professional Forecasters.⁶

³ Simple examples of targeting rules include: (1) Milton Friedman's prescription for constant growth of a broad monetary aggregate (Friedman, 1960); (2) rules that call for constant growth in nominal gross domestic product (nominal GDP) or some other measure of nominal spending (Bean, 1983; Hall & Mankiw, 1994); (3) rules that call for a constant rate of inflation, or for a pre-specified inflation path (Berg & Jonung, 1999).

⁴ For the United States, instruments are either the federal funds rate or non-borrowed bank reserves.

⁵ These "alternative means" are described in Bernanke (2010), and include interventions that Bernanke describes collectively as "credit easing". Some of these measures were implemented well before short-term interest rates fell to zero (Taylor, 2008, 2009a, 2009b, 2009c).

⁶ The Blue Chip inflation forecast definition we favor uses the Blue Chip consensus CPI inflation forecast before 2000, and the Blue Chip GDP price inflation forecast after 1999.

متن کامل مقاله

دریافت فوری ←

ISIArticles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات