



Nominal rigidities and monetary policy in Canada

Ali Dib *

Bank of Canada, 234 Wellington St., Ottawa, Ont., Canada K1A 0G9

Received 24 June 2003; accepted 19 July 2004

Available online 13 March 2006

Abstract

This paper develops and estimates a dynamic, stochastic, general-equilibrium model with price and wage rigidities to analyze monetary policy in Canada. A monetary policy rule allows the Bank of Canada to systematically change the short-term nominal interest rate in response to deviations of inflation, output, and money growth. The structural parameters of the model are estimated econometrically using a maximum-likelihood procedure with a Kalman filter. The estimates reveal that either price or wage rigidities are key nominal frictions that generate real monetary effects. Furthermore, the simulation results show that the Bank has, since 1981, increased the short-term nominal interest rate in response to exogenous positive demand-side disturbances, and used modest but persistent reductions in the nominal interest rate to accommodate positive technology shocks.

© 2006 Elsevier Inc. All rights reserved.

JEL classification: E31; E32; E52

Keywords: Sticky prices; Sticky wages; Canadian monetary policy

1. Introduction

In recent years, an extensive literature has emerged on the role of nominal rigidities in shaping key features of the business cycles and in evaluating short-run dynamic monetary policy effects on aggregate variables. Researchers have generally used dynamic, stochastic, general-equilibrium (DSGE) models in which prices and/or nominal wages are sticky. These models act on the assumptions that private agents have rational expectations and

* Tel.: +1 613 782 7851.

E-mail address: adib@bankofcanada.ca

that their optimizing behavior determines the time paths of nominal and real variables, such as output and inflation. Furthermore, in contrast to the previous generation of models, these new models predict that the real effects of monetary policy shocks would differ sharply under sticky prices and sticky wages.¹

Chari et al. (2000) show that staggered price-setting alone does not generate endogenous persistence in an economy of imperfectly competitive price-setters. Christiano, Eichenbaum and Evans (CEE) (2005) find that a version of a DSGE model that has only nominal-wage rigidity does almost as well as a model with price and wage rigidities, while the version of their model that has only price rigidity gives very poor results. Erceg et al. (2000), Huang et al. (2000), Kim (2000), and Huang and Liu (2002) find that combining staggered wages and imperfectly competitive households generates more output persistence in response to monetary policy shocks. Dib (2003) uses a closed economy, estimated DSGE model with both nominal and real rigidities for the Canadian economy to show that the degree of nominal rigidity is substantially increasing in the presence of some form of real rigidity.

The Bank of Canada manages short-term nominal interest rates to control inflation. Thus, the inflation rate has fallen significantly from its peak in 1981 and has remained low and stable since then. Moreover, the long-run inflation decline has been accompanied by long-run declines in the short-term nominal interest rate and money growth. The dynamic relationships between the nominal interest rate, money growth, and inflation may reflect the ways in which the monetary authority and private agents respond to economic disturbances.

Following Ireland (2001, 2003), Kim (2000) and Dib (2003), we develop and estimate an optimization-based model for the Canadian economy to examine how price and nominal wage rigidities allow the Bank's policy actions to affect economic activities.² Though Canada is a small open economy, using a closed economy framework is still a useful exercise to estimate and simulate DSGE models if we do not address issues that require an open economy framework. Clarida, Galí and Gertler (CGG) (2001) argue that the optimal policy problem of a small open economy is isomorphic to that of a closed economy. Similarly, Khan and Zhu (2002) estimate a sticky-information model using both closed and open economy frameworks for Canada and the United Kingdom. They find that open and closed economies lead to similar parameter estimates for both countries.³ Our model features monopolistic competition between firms and between households, nominal rigidities in the form of price- and wage-adjustment costs, and convex costs of adjusting capital. The model includes four sources of disturbance: monetary policy, money-demand, technology, and preference shocks. Temporary rigidities in prices and nominal wages allow the Bank of Canada to affect the behavior of real variables in the short term. Furthermore, under these nominal rigidities, exogenous money-demand shocks become a significant source of aggregate fluctuations. Empirical work shows that such shocks are large and highly persistent.⁴

¹ An example of this previous generation of models is given in Taylor (1980).

² This paper differs from Dib (2003) in two ways: first, by modeling the Bank's of Canada monetary policy as a modified Taylor (1993) rule that adjusts the short-term nominal interest rate rather than a money supply rule and second, by considering nominal wage rigidity as well as price rigidity in the model.

³ Hendry and Zhang (2001) use a closed economy framework for the Canadian economy to examine how price and wage rigidities and portfolio adjustment costs affect the size and the length of liquidity effect following a policy action of the Bank of Canada.

⁴ Examples of such work are Dib (2003) for Canada, and Ireland (1997a, 2003) and Dib and Phaneuf (2001) for the US.

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