European Economic Review 46 (2002) 1825–1850
EUROPEAN ECONOMIC REVIEW
www.elsevier.com/locate/econbase

Public debt indexation and denomination with an independent central bank

Elisabetta Falcetti[a,b], Alessandro Missale[c,*]

[a] *EBRD, One Exchange Square, London EC2A 2JN, UK*
[b] *London School of Economics, Houghton Street, London WC2A 2AE, UK*
[c] *Dipartimento di Studi sullo Stato, Università di Firenze, Via S. Caterina d'Alessandria 3, 50129 Firenze, Italy*

Received 1 June 1999; accepted 1 August 2001

Abstract

This paper examines the interaction between public debt management and the design of monetary institutions. The analysis shows that delegation of monetary policy to an independent central bank is more effective in containing inflationary expectations than the use of foreign currency or inflation-indexed debt. If delegation of monetary policy is viable, the optimal policy is to issue nominal debt. This increases the sensitivity of taxes and output to unexpected inflation, thus minimizing the inflation needed to offset supply shocks. Evidence on central bank independence, debt composition and output variability suggests that the normative argument has some positive content.

JEL classification: E52; E58; H63

Keywords: Central bank independence; Public debt management; Foreign currency debt; Inflation-indexed debt

1. Introduction

In the 1990s the share of fixed-rate long-term debt denominated in domestic currency increased in almost all OECD countries. In the same period the governments of these countries made their central banks more independent in order to strengthen the commitment to price stability. This paper examines the

* Corresponding author. Tel.: +39-055-4622920; fax: +39-055-472102.
E-mail address: missale@unifi.it (A. Missale).

0014-2921/02/$ - see front matter
PII: S0014-2921(01)00191-X

relative role of institutional design and public debt management for monetary policy.

The literature on public debt management suggests that inflation-indexed debt enhances the credibility of anti-inflationary policy. The argument has been made by Back and Musgrave (1941) and later formalized by Lucas and Stokey (1983), Bohn (1988), Calvo (1988), Calvo and Guidotti (1990). The same role for foreign currency debt has been suggested by Bohn (1990a, 1991) and Watanabe (1992). However, this literature implicitly assumes that the government cannot delegate monetary policy to an independent institution.

On the other hand, the literature on central bank independence points to policy delegation as the best way to reduce the inflationary bias. Some attention is given to the implications of public debt, but not to its composition. Cukierman (1994) argues that the larger the debt the more likely it is that politicians will delegate authority to the central bank and the more independent the bank will be. Beetsma and Bovenberg (1997) show that delegation of monetary policy to a properly conservative central banker achieves the second-best inflation tax on money balances without distorting debt accumulation, but they confine attention to indexed debt.

As a matter of fact the interaction between the choice of debt instruments and the design of monetary institutions remains largely unexplored. This paper compares institutional design and debt management as alternative solutions to credibility problems, showing that the best solution is to delegate monetary policy to an independent central bank. The point is made within a standard rules-versus-discretion framework where output is affected by tax distortions and, thus, by the type of debt that the government issues.

The role of currency denomination and indexation of public debt depends on the monetary regime. If monetary policy can be delegated to an independent inflation-averse institution or an inflation contract is viable, then indexed or foreign currency debt are not needed for anti-inflationary policy. The government should instead provide the monetary authority with the largest possible share of nominal debt to support output stabilization. Intuitively, a greater share of nominal debt implies lower taxes and tax distortions for any given unexpected inflation. By increasing the sensitivity of output to inflation, nominal debt makes monetary policy more effective: less unexpected inflation is needed to counter supply shocks. Although nominal debt may give rise to inflationary expectations, credibility problems are dealt more effectively by monetary policy delegation.

This result is important for two reasons. First, it supports the conventional wisdom that institutional design and, in particular, central bank independence is the best way to avoid the inflationary bias, while little is gained by increasing the cost of inflation with indexed or foreign currency debt. Secondly, it provides an explanation for the lengthening of debt maturity in OECD countries since the late 1980s.