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The Bank Lending Channel and Monetary Policy Rules: Further Extensions

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Abstract

Many channels exist through which monetary policy decisions affect the economy. This paper examines the bank lending channel, which reflects the central bank's actions that affect loan supply and real spending. The main variable that affects loan supply is the monetary policy indicator as it is proxied by the real short-term interest rate. This paper examines how the bank lending channel operates when this short-term indicator is endogenously determined by the target rate the central bank sets through a monetary policy rule. Furthermore, it examines whether different bank-specific characteristics affect the way banks react to a monetary shock. We investigate the effect of such a rule on the bank lending channel in European banking institutions spanning 2000 through 2009. The expectations, concerning both inflation and output, affect the decision of the central bank for the target rate, which, in turn, affect the private sector's expectations - banks- by altering their loan supply.

Keywords: Monetary policy rules, bank lending channel, European banks, GMM methodology

1. Introduction

The monetary transmission mechanism provides a powerful tool for the monetary authorities to affect the real economy. This mechanism includes various channels through which the conduct of monetary policy affects the economy. Two of the main channels include the interest rate channel (money view) and the credit channel (credit view). In the former channel, monetary policy changes affect aggregate demand through interest rates, whereas in the latter channel, monetary policy changes accommodate the transmission of policy decisions by altering the availability and supply of loans (Hernando and Pages, 2001). One sub-channel within the credit view is the bank lending channel, which relates to the supply of credit and "stems from financial market incompleteness and relies on imperfect substitutability" (Gambacorta, 2005, p. 1737), while an alternative sub-channel within the credit view is the balance sheet channel, which relates to the balance sheet and income statements and the informational frictions that alter the external finance premium.

Changes in reserves cause the alteration in banks' loan supply, resulting initially from the decisions of central banks about their target interest rate. This paper examines the effect on the operation of the bank lending

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channel when we employ different measures of the central banks' primary monetary policy instrument (i.e., a target interest rate), which depends on a set of macroeconomic variables. In other words, this paper investigates the effect on the bank lending channel in a number of euro area economies, since most European developed economies rely much more heavily on indirect bank finance rather than direct stock and bond market finance, where we use different interest rate rules as alternative monetary policy indicators. The formulation of these rules depends on timing issues – lagged, current, or forecast values to inform the policy rule. We then compare the results across the different policy rules. The empirical findings show that the bank lending channel operates most robustly to forward-looking monetary policy rules. A limited literature exists on direct econometric estimates of the European Central Bank (ECB) monetary policy rules. Although Hayo and Hoffman (2005) estimate such rules, their empirical analysis does not examine flexible forms of monetary policy rules. We organize the rest of the paper as follows: Section 2 reviews the literature concerning the bank lending channel and interest rate rules. Section 3 presents and analyses the data. Section 4 refers to the methodology used both for the estimation of the different types of rules and the lending channel. Finally, Section 5 reports the findings and Section 6 concludes.

2. Literature

2.1. The bank lending channel

This study investigates the transmission of monetary policy decisions through the economy and how these decisions affect economic activity. The bank lending channel's operation depends mostly on the supply of loans and the factors that determine this supply. In particular, a restrictive monetary policy reduces bank reserves and deposits and, consequently, decreases loan supply. Therefore, businesses and consumers, who depend on bank lending, reduce their purchases of durable goods and capital for investment. Hence, reductions in bank reserves affect output negatively (Golodniuk, 2006). The opposite occurs for an expansionary monetary policy that increases bank reserves and, therefore, output. Three necessary conditions must exist for this channel to exert significant economic power. First, firms should respond differently to different types of finance. That is, they should depend on bank loans and cannot easily replace losses of bank loans with other types of finance (Oliner and Rudenbusch, 1995). Second, the supply of loans should respond to the changes in reserves that the central bank imposes on the system. For instance, when confronted with a restrictive monetary policy, banks cannot easily offset the decrease in funds from deposits by raising funds from other sources. That is, banks face restrictions in issuing uninsured liabilities to replace the shortfall in deposits (Oliner and Rudenbusch, 1995; Disyatat, 2010). Third, some imperfections should exist in the adjustment of the aggregate price level. That is, monetary policy will exert no effect, if prices can adjust proportionally with money supply changes (Golodniuk, 2006). The bank lending channel literature searches for this channel in different economies or in a group of countries. More specifically, it examines whether the effect on lending responds differently, depending on the strength of a bank, which, in turn, responds to variables such as capitalization, asset size, and liquidity. Most studies on euro area economies provide empirical support for the presence of the channel, while the empirical analysis for the US case provides mixed results (Ehrmann *et al.*, 2003; Gambacorta, 2005). Juurikkala *et al.* (2011) also find evidence that supports the presence of the channel in Russia. The empirical evidence also supports the idea that well capitalized and liquid banks experience more insulation from monetary policy changes than banks that exhibit low capital and liquidity ratios. In addition, the majority of studies show that small banks do not exhibit more sensitivity to monetary policy shocks than large banks (Peek and Rosengren, 1995; Gambacorta, 2005; Golodniuk, 2006). Other empirical studies, however, find that large banks, in combination with high capitalization ratios, respond less to monetary policy shocks (Kishan and Opiela, 2000).