North American Journal of Economics and Finance 23 (2012) 54–69

Contents lists available at SciVerse ScienceDirect

North American Journal of Economics and Finance

Monetary transmission right from the start: On the information content of the Eurosystem's main refinancing operations

Puriya Abbassi[a], Dieter Nautz[b,*]

[a] Deutsche Bundesbank, Wilhelm-Epstein-Straße 14, 60431 Frankfurt am Main, Germany
[b] Freie Universität Berlin, Institute for Statistics and Econometrics, Boltzmannstraße 20, 14195 Berlin, Germany

ARTICLE INFO

Article history:
Received 15 July 2010
Received in revised form 3 November 2011
Accepted 7 November 2011
Available online 22 December 2011

JEL classification:
E43
E52
E58
D44

Keywords:
Monetary policy implementation
Central bank auctions
European Central Bank
Money markets
Financial crisis

ABSTRACT

The Eurosystem's main refinancing operations (MROs) are key for the interbank money market and the monetary transmission process in the euro area. This paper investigates how money market rates respond to the information revealed by various aspects of an MRO auction outcome. Our results confirm that the level of MRO rates governed short-term money market rates before the financial crisis. Since the start of the financial crisis, however, the information content of MRO rates has changed. While the levels of MRO rates have lost much of their pre-crisis significance, the spread between the weighted average and the marginal MRO rate has become an important barometer for the actual situation in the money market during the crisis.

1. Introduction

Weekly main refinancing operations (MROs) are of overwhelming importance for the monetary policy implementation of the European Central Bank (ECB). The liquidity supply in MROs should ensure that short-term money market rates closely follow the MRO rates and that their volatility remains well contained, see e.g., Cassola and Morana (2008) and Ejerskov, Moss, and Stracca (2008). This central

* Corresponding author.
E-mail addresses: puriya.abbassi@bundesbank.de (P. Abbassi), dieter.nautz@fu-berlin.de (D. Nautz).

1062-9408/$ – see front matter © 2011 Elsevier Inc. All rights reserved.
doi:10.1016/j.najef.2011.11.002

aim of monetary policy implementation has never been an easy task. Even before the financial crisis, a puzzling and unintended upward trend in the spread between the European overnight rate (Eonia) and the MRO rates indicated that the monetary transmission mechanism is not sufficiently understood, see Linzert and Schmidt (2011).[1] Since the start of the financial crisis, spreads between the Eurosystem's main refinancing rates and the money market rates have been huge and persistent. In order to shed more light on the very beginning of the monetary transmission process in the euro area, this paper investigates how the European money market responds to MRO auction outcomes.

On the allotment day, the Eurosystem publishes the number of bidders, total allotment and total bids together with the marginal and the weighted average allotment rate of the MRO. All these variables may contain new information about the expected course of monetary policy and the situation in the money market. This paper assesses the role of MROs for the monetary transmission mechanism by estimating the response of money market rates to the various aspects of an MRO auction outcome.

Our study can be related to two groups of papers. First, there is a growing empirical literature on the dynamics and the volatility of overnight rates. Recent examples include Bartolini and Prati (2006), Colarossi and Zaghini (2009), Pérez Quirós and Rodríguez Mendizábal (2006), and Nautz and Scheithauer (2011). All these contributions investigate how distinguishing features of the central bank's operational framework influence the behavior of overnight rates. They do not focus on the response of the overnight rate to auction outcomes. The second group of papers explores banks' bidding behavior in central bank auctions, see e.g., Bindseil, Nyborg, and Strebulaev (2009), Linzert, Nautz, and Bindseil (2007), and Cassola, Hortacsu, and Kastl (2009). Using individual bidding data, it can be shown that money market conditions significantly affect banks' bidding behavior. These papers try to explain the auction outcome but do not consider its repercussions on the money market.

The current paper fills this gap and explores the impact of the Eurosystem's MRO auctions on short-term money market rates in the euro area using both daily and intra-day data of overnight rates. Longer-term Eonia swap rates are employed to examine how the auctions affect market's expectations about future Eonia movements. Our results show that the recent crisis significantly impeded the first step of the monetary transmission mechanism. Before the financial crisis, MRO auction outcomes helped to stabilize the money market. If e.g., the spread between the Eonia and the new marginal MRO rate was above average, the Eonia would adjust accordingly. Since the outbreak of the crisis, however, the stabilizing effect of MRO auctions on the Eonia level has disappeared. The most relevant information is now contained in the MRO spread, i.e., the spread between the weighted average and the marginal MRO rate. While MRO spreads were virtually negligible before the crisis, they widened substantially in the period after August 2007, when banks increasingly submitted safety bids at high interest rates. Our empirical results show that the resulting MRO spread revealed new information about the actual situation in the money market.

The remainder of the paper is structured as follows. In Section 2, we briefly review the role of MRO auctions in the operational framework of the Eurosystem and consider the timing of the auctions. Section 3 introduces the auction variables, discusses their expected influence on the money market on the auction day, and presents the econometric model. Section 4 presents the empirical results on the impact of MRO auction outcomes on money market rates before and during the crisis. Section 5 summarizes our main results and offers some concluding remarks.

2. The role of MRO auctions in the Eurosystem's operational framework

2.1. Monetary policy implementation

The Eurosystem implements its monetary policy through a framework in which the banking sector operates in a liquidity deficit vis-á-vis the Eurosystem. The weekly main refinancing operations (MROs)

[1] In contrast to earlier estimates of the liquidity effect, the Eurosystem's pre-crisis provision of excess liquidity in MROs could not bring the Eonia back to its intended level, see European Central Bank (2006). In the U.S. the empirical relevance of the liquidity effect has been analyzed by e.g., Carpenter and Demiralp (2008) and Thornton (2008).