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The EONIA spread before and during the crisis of 2007–2009: The role of liquidity and credit risk[☆]

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This paper provides an empirical assessment of the factors affecting the spread between the Euro Overnight Index Average (EONIA) and the main policy rate of the European Central Bank (ECB). Up until the period when Lehman Brothers collapsed in mid-September 2008, the spread was small and positive. After this point, the liquidity surplus that developed from the fixed rate full allotment tendering arrangement in refinancing operations drove the widening of EONIA spread (trading below the ECB policy rate), although other factors also played a significant role. This paper explains the drivers of spread across alternative non-crisis/crisis regimes. In addition, the paper examines how the EONIA spread reacts to shocks imposed on a range of liquidity and credit risk factors in alternative crisis/non-crisis regimes. The results have implications for factors that should be monitored closely across both regimes, and also the implications that this may have for steering an unsecured overnight rate in crisis times.

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1. Introduction

The interbank money market is the primary channel for the implementation of monetary policy for a number of central banks, including for example the European Central Bank (ECB) and the Federal Reserve. Steering overnight interest rates is crucial for these central banks as this provides an anchor for the term structure of interest rates. In the case of the euro area, the Euro Overnight Index Average

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(EONIA) is a weighted average of all overnight lending transactions between most active credit institutions in the euro area's money market. Effective steering of the overnight rate by the ECB would therefore imply a low spread between the ECB policy rate and the EONIA rate, whereby the overnight rate anchors the term structure of interest rates.

Since the intensification of the October 2008, a very large negative spread became evident, however. This was due to the large surplus of liquidity that became evident following the breakdown of inter-bank market activity and the non-standard monetary policy measures implemented by the ECB in response to the crisis. In non-crisis times, excess volatility is not prevalent in the EONIA as it tracks closely the main ECB policy rate, so that the EONIA spread is relatively low (i.e. less than five basis points).¹ In crisis times, however, this is not necessarily the case, and in the recent crisis, there has been a clear rise in both the level and volatility of the EONIA spread. Clearly, under such circumstances where volatility is higher, so too is uncertainty associated with the spread. During the recent crisis of 2007–2009, as liquidity dried up, a large policy spread was observed, particularly after the collapse of Lehman Brothers in mid-September 2008.

Liquidity-easing measures implemented by the ECB to restore interbank market activity have come at the expense of a very wide policy spread of around 65 basis points, with EONIA trading substantially below the minimum bid rate in open market operations. Initially, there were concerns that this may create some problems as regards providing the market with a clear signal on the monetary policy stance. In extreme circumstances, it can mean that the central bank becomes unable to steer the overnight interest rate, causing a loss of credibility as the central bank effectively loses control of the first stage in the monetary policy transmission mechanism.² With this in mind, the ECB narrowed the standing facilities corridor. The aim here was to maintain signalling power in the policy rate in the face of a declining overnight rate. Lower trading volumes, however, led to a re-widening of the corridor. In any case, since the MRO rate no longer reflected the demand and supply for liquidity when fixed rate full allotment (FRFA) was introduced in October 2008, it could be argued that it is no longer an appropriate rate with which to judge the monetary policy stance.

The purpose of this paper is to assess the factors that have driven the EONIA spread (i.e. the difference in the overnight interest rate and the main policy rate of the ECB across three sub-periods: the non-crisis phase, the less intense phase of the crisis, the crisis after the collapse of Lehman Brothers). To this end, two empirical approaches are employed. The first approach is based on an OLS framework that regresses the EONIA spread on liquidity risk, credit risk, interest rate expectations, and the liquidity balance of the Eurosystem, as well as a number of dummy variables to capture specific events. The second empirical approach uses impulse responses derived from a five-variate vector autoregressive model to assess how the EONIA spread reacts to a shock imposed on a range of liquidity and credit risk measures.

The layout of the paper is the following. Section 2 provides a review of previous studies, Section 3 provides an overview of the context to the widening of the EONIA spread, Section 4 outlines the data used and econometric methodology employed. Section 5 presents the empirical results. Section 6 summarises the main findings and draws some policy conclusions.

2. Other previous studies

[Linzert and Schmidt \(2008\)](#) sought to explain the widening of the EONIA spread over the period March 2004 to August 2006, specifically in relation to the change in the operational framework in March 2004. These authors firstly set out a practical rationale for why it is feasible that a small positive spread may exist between the EONIA and the policy rate. This is aided by decomposing the EONIA

¹ A small positive spread can be justified on the grounds that the marginal rate of the main refinancing operations is usually greater than the minimum bid rate. In addition, the EONIA rate can be greater than the MRO rate as collateral costs differ between the central bank and the market (see [Linzert and Schmidt, 2008](#)). Moreover, in non-crisis times, there is evidence to suggest that liquidity variables may only be relevant during the last week of the maintenance period. For example, see [Moschitz \(2004\)](#), [Ejerskov et al. \(2003\)](#) and [Würtz \(2003\)](#).

² Of course, it can also mean that the signalling role of the EONIA rate may be impeded in an environment with an excessive surplus of liquidity.

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