

European Central Bank operations: experimental investigation of the fixed rate tender

Karl-Martin Ehrhart*

*Institute of Statistics and Mathematical Economics, University of Karlsruhe, Rechenzentrum, Zirkel 2,
76128 Karlsruhe, Germany*

Abstract

In an experimental study the auction procedure of the fixed rate tender is investigated with which the main refinancing operation of the Eurosystem was carried out in the past. In June 2000 the fixed rate tender was replaced by the “American” variable rate tender. This change was occasioned by the suspicion that banks grossly exaggerate their liquidity needs in their bids. The experimental results clearly support this hypothesis and demonstrate that the fixed rate tender method can be a regular invitation to the banks to continually raise their bids from auction to auction. © 2001 Published by Elsevier Science Ltd.

JEL Classification: D44

Keywords: Monetary policy; Auctions; Eurosystem; Experimental economics

1. Introduction

At the center of Eurosystem monetary policy stand the main refinancing operations, which are offered on a weekly basis with two weeks maturity. This procedure represents the primary way in which the Eurosystem makes refinancing available to the financial sector. As a rule, main refinancing operations take the form of repo operations.¹ These operations also play a key role in clarifying the Eurosystem mon-

* Tel.: +49-721-608-3380; fax: +49-721-608-3491.

E-mail address: ehrhart@wiwi.uni-karlsruhe.de (K.-M. Ehrhart).

¹ In repo (securities repurchase agreement) operations the possession of an asset is transferred to the creditor, whereby the parties simultaneously agree that the asset will be returned when the term of the operation ends.

etary policy line by the setting of interest rates. For this reason, until recently the fixed rate tender method was employed almost exclusively. In the fixed rate tender, the European Central Bank (ECB) sets the interest rate in advance at which it is prepared to make transactions. The banks submit bids indicating how much refinancing they would like to receive at that rate. If the sum of bids exceeds the planned allotment, banks are rationed proportionally to their bids.

The main refinancing operations are also supposed to aid in gaining information about the money market, which is important for the evaluation and planning of monetary policy. For this, however, it is necessary that the banks indicate their true demand for refinancing in their bids. Consequently, the procedure should be designed in such a manner that the banks are induced to reveal their true demand.

During the time in which the fixed rate procedure was applied, a continual rise of the bids could be observed. Since the sum of bids had increased onto a multiple of the monetary base of the whole Eurosystem, there is not any doubt that the banks exaggerated their true demand with their bids immoderately. The game theoretical analysis of Nautz and Oechssler (1999) shows, for the case of the planned allotment being strictly smaller than the aggregate true demand, that banks have an incentive to exaggerate their true demand for refinancing and that the rules of the fixed rate tender specify a game without equilibrium even in mixed strategies. Ehrhart (2000a) shows that this can even occur if the probability for the planned allotment being higher than the aggregate true demand is positive.

The lack of clear theoretical reference points makes the fixed rate tender an exceptionally good candidate for an experimental investigation. This paper reports on a series of computerized experiments in which fixed rate tender games are carried out on a repeated basis. At the center of this study stands the question of whether and under what conditions the fixed rate tender method is responsible for the observed increase in bids. It is found that the bids can continually increase in the course of the repetition — sometimes explosively. Here, the ratio of allotment to true demand is of central importance. The smaller this ratio is, the greater is the danger that the bids will skyrocket. The experimental investigation also shows that even in a game with a unique equilibrium the danger of continually increasing bids far above the equilibrium level exists. Learning direction theory helps to identify the source of the phenomenon of increasing bids as a myopic best reply character of bidding behavior, as proposed by Nautz and Oechssler (1999) in their stimulating paper. Thus, the bids are determined by strategy and do not reflect true demand. Under these conditions, the bids fail to yield useful information for monetary policy.

The experimental study implies that the positive trend in bids, which was observed in reality, can be attributed to the fixed rate tender method and not to changes in conditions on the money market. The weaknesses of the fixed rate tender have apparently also been recognized by the ECB. Since June 28, 2000, the main refinancing operations are conducted as variable rate tenders, using the discriminatory “American” auction (ECB, 2000b).

This paper is organized as follows. In Section 2 the development of bids of the fixed rate tenders performed by the ECB is shown. In Section 3 the fixed rate tender

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