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The impact of European Central Bank Governing Council announcements on the foreign exchange market: a microstructural analysis

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Abstract

We examine the evidence regarding systematic patterns in the euro-dollar foreign exchange market on days when the Governing Council (GC) of the European Central Bank announces its interest rate decisions versus other days. We examine 5-minute data in a non-linear framework allowing for switching between a high-volatility, informed-trading state and a low-volatility, liquidity-trading state. We find strong evidence that the GC policy announcements contain significant news content. Although there is some evidence of positioning in the hour prior to the announcement, this probably reflects dealers minimizing their exposure rather than evidence of information leakage.

JEL classification: E58; F31

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1. Introduction

The European Central Bank (ECB) was officially created on 1 June 1998 in the run-up to European Monetary Union (EMU) which took effect on January 1 1999. The primary objective of the ECB is to promote price stability throughout the

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Euro Area and to design and implement monetary policy that is consistent with this objective.[1] The ECB operates with the assistance of the national central banks in each of the Euro Area countries. While the implementation of monetary policy by the ECB is under the control of the Executive Board, the actual design of monetary policy is the responsibility of the Governing Council (GC), which comprises the whole of the Executive Board plus the governors of the national central banks in the Eurosystem—at present a total of eighteen members. The GC, which meets every two weeks, is in this sense the most important decision-making body of the ECB and decides, in particular, on the level of the ECB's key interest rate, the refinancing rate.[2]

Since the end of 2001, the GC has adopted the policy of announcing interest rate decisions only on the first of its two monthly meetings. Since the market knows that the interest rate decision is given in a press announcement from the President of the ECB at 13:45 Central European Time (CET) on the day of the first monthly meeting, there may be positioning prior to the announcement and news effects after the announcement that result in systematic patterns in exchange rate behavior on GC meeting days that differ from other days. We examine the evidence in the foreign exchange market to analyze the pattern of exchange rate changes and volatility surrounding the announcement. We use 5-minute data and apply a Markov-switching model where the data generating process of exchange rate returns switches between a high-volatility, informed-trading state, and a low-volatility, uninformed or liquidity trading state, with the probability of switching between regimes depending endogenously on time-of-day indicator variables.

The remainder of the paper is set out as follows. In Section 2 we provide a discussion of our econometric techniques, while in Section 3 we describe the data. In Section 4 report our empirical findings and in a final section we provide a summary and conclusion.

2. Endogenous Markov switching

Since we work with five-minute data, we postulate a first-order autoregressive model, as first-order models are known to work well for asset-price data at very high frequencies, generally with negative serial correlation. In order to accommodate the possibility of regime switching between liquidity trading and informed trading, we additionally allow for Markov-switching between two possible regimes.

[1] There were originally eleven countries making up the Euro Area—or, more informally, "Euroland": Belgium, Germany, Spain, France, Ireland, Italy, Luxembourg, the Netherlands, Austria, Portugal and Finland. On 1 January 2001, Greece joined the list of countries signing up for EMU.

[2] The Governing Council also decides how to interpret its duty to achieve price stability. In October 1998 it agreed that price stability should be defined as a year-on-year increase in prices of less than 2% as measured by the annual change in a harmonized index of consumer prices throughout the Euro Area. In May 2003, therefore, the Governing Council confirmed its official definition of price stability as less than 2% per annum, but clarified that it would seek to maintain inflation rates *close* to 2% over the medium term.