



ELSEVIER

Contents lists available at SciVerse ScienceDirect

Journal of International Money and Finance

journal homepage: www.elsevier.com/locate/jimf



The intraday effects of central bank intervention on exchange rate spreads



Rasmus Fatum^{a,*}, Jesper Pedersen^b,
Peter Norman Sørensen^c

^a School of Business, University of Alberta, 4-30H Business Building, Edmonton, Alberta, Canada T6G 2R6

^b Danmarks Nationalbank, Havnegade 5, DK-1093 Copenhagen K, Denmark

^c Department of Economics, University of Copenhagen, Øster Farimagsgade 5, Building 26, DK-1353 Copenhagen K, Denmark

A B S T R A C T

We investigate the intraday effects of intra-marginal intervention in a horizontal band on the exchange rate spread. Official intraday data on Danish intervention transactions in the ERM II, the Exchange Rate Mechanism of the European Union, facilitates our analysis. We show that intervention purchases and sales both exert a significant influence on the exchange rate spread, but in opposite directions. Intervention purchases of the small currency, on average, narrow the spread while intervention sales of the small currency, on average, widen the spread. This is a novel finding that differs from those of existing studies that find intervention always widens the exchange rate spread and increases market uncertainty.

© 2012 Elsevier Ltd. All rights reserved.

JEL classifications:

E58
F31
G15

Keywords:

Foreign exchange intervention
ERM II
Exchange rate spreads
Intraday data

1. Introduction

Many studies have investigated the intraday effects of foreign exchange intervention.¹ Few studies have examined the intraday effects of intervention using accurate, official intraday intervention data.²

* Corresponding author. Tel.: +1 780 492 3951; fax: +1 780 492 3325.

E-mail addresses: rasmus.fatum@ualberta.ca (R. Fatum), jep@nationalbanken.dk (J. Pedersen), peter.norman.sorensen@econ.ku.dk (P.N. Sørensen).

¹ See Humpage (2003), Menkhoff (2010), Neely (2005) and Sarno and Taylor (2001) for surveys of the intervention literature.

² The Bank of Canada, Danmarks Nationalbank, and the Swiss National Bank are the only central banks to provide access to lengthy records of time-stamped intervention data. Records of time-stamped interventions (spanning 1986–1995) by the Swiss National Bank are the only publicly available intraday intervention data. See Fischer and Zurlinden (1999) for an early contribution that uses official Swiss intraday intervention data to analyze the effects of announced intervention on the level of the exchange rate. See Fatum and King (2005) for a study of the intraday effects of Canadian interventions.

Even fewer studies have analyzed the intraday effects of intervention on exchange rate spreads. These studies examine the spread effects of intervention in a crawling peg (Melvin et al., 2009) and the spread effects of intervention in floating exchange rates (Chari, 2007; Pasquariello, 2007).³ All of these studies find that foreign exchange intervention is associated with an intraday increase in the bid-ask exchange rate spread.

In this paper we investigate how unannounced intra-marginal intervention in a horizontal band such as the ERM II, the Exchange Rate Mechanism of the European Union, influences the bid-ask exchange rate spread. Official intraday data on intervention transactions in the Danish Krone-Euro (DKK/EUR) market provided by Danmarks Nationalbank (DN), the Danish central bank, facilitates our analysis.⁴

It is interesting to investigate how the exchange rate spread is influenced by intervention since doing so can reveal if intervention increases or reduces foreign exchange market uncertainty regarding whether a currency is seen as properly priced.⁵ It is particularly interesting to analyze the effects of intervention on exchange rate spreads using the Danish intervention data for three reasons. First, the Danish intervention data presents a very rare opportunity for learning about the influence of intervention on exchange rate spreads using official, time-stamped data provided by a currently intervening central bank.⁶ Second, no previous study has analyzed the effects of intervention in a horizontal band, such as the ERM II band, on exchange rate spreads. Third, analyzing the Danish experience of intra-marginal interventions in the horizontal ERM II band can bring insights of relevance to Denmark and to other EU member states currently participating in the ERM II as well as to the EU member states that are not in the Euro-zone and are not participating in the ERM II, but are expected to participate in ERM II at a later date in order to fulfill the exchange rate criterion necessary for adopting the EUR.⁷

In our context of unannounced intervention by a small central bank aimed at maintaining a small currency in a horizontal band around a major currency, such as maintaining the DKK against the EUR in the ERM II, we cannot assume that the effects of intervention purchases and sales are necessarily symmetric and that foreign exchange intervention is always associated with an intraday increase in the bid-ask exchange rate spread.⁸ First, it is reasonable to assume that as the intervention occurs, foreign exchange market customers observe only a large order flow but cannot discern the origin of the trade.⁹

³ Melvin et al. (2009) present a case study of 5 days of intervention by the Russian Central Bank. Chari (2007) uses newswire reports in lieu of actual Bank of Japan intraday intervention data and analyzes a period of roughly one year. Pasquariello (2007) analyzes 9 years of official Swiss intraday intervention data.

⁴ In ERM II, a bilateral central rate and a horizontal deviation band is set for the currency of the participating country vis-à-vis the EUR, but not against the currency of other member states. Only if the currency reaches either the upper or the lower limit of the deviation band is the European Central Bank (ECB) obligated to intervene. The official ERM II deviation band for the DKK is +/- 2.25 percent around the official Danish ERM II central rate of 7.46038 DKK/EUR. During the period under study the DKK traded within a narrower range and was consistently appreciated relative to the official central rate. All interventions in the DKK/EUR rate have been carried out unilaterally by the DN. See DN (2003), ECB (2004), and Fatum and Pedersen (2009) for details on ERM II and the Danish exchange rate policy.

⁵ Empirical evidence shows that bid-ask spreads widen when uncertainty increases. See, for example, Bollerslev and Melvin (1994). See Chari (2007) for a useful discussion of intervention and exchange rate spreads in a microstructure context.

⁶ Hitherto Danish intraday intervention data has only been analyzed by Fatum and Pedersen (2009) who study the intraday effects of intervention on the exchange rate level; they do not consider the influence of intervention on the exchange rate spread.

⁷ Denmark, Latvia and Lithuania are currently in ERM II. Bulgaria, The Czech Republic, Hungary, Poland, Romania, Sweden, and the United Kingdom have not adopted the EUR and do not participate in ERM II. Denmark and the United Kingdom are the only EU member states with a formal exemption clause ("opt-out") according to which adoption of the EUR is not obliged.

⁸ The empirical intervention literature in general pays limited attention to the possibility that the effects of intervention might be asymmetric across intervention purchases and intervention sales. Oftentimes estimated models implicitly and a priori impose symmetry across purchases and sales by simply not distinguishing between the two, or by analyzing data sets encompassing only interventions in one direction. For example, of the aforementioned three existing studies of the intraday effects of intervention on the exchange rate spread, only Pasquariello (2007) analyzes intervention data encompassing both intervention purchases and intervention sales.

⁹ The dealers, i.e. the commercial bank counterparts to the DN, are explicitly requested not to disseminate information regarding the origin of the DN initiated intervention trades to their customers. See Bhattacharya and Weller (1997), Ghosh (2002), and others for the advantages of unannounced interventions.

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