

# The advantage of showing your hand selectively in foreign exchange interventions

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## Abstract

This paper studies the effectiveness of foreign exchange rate targeting by a central bank in a market microstructure framework. Unlike the existing literature, where the intervening central bank either makes its target exchange rate public or hides it completely, we present a model that emphasizes the value of selectively disclosing intervention relevant information to some but not all market participants. We show that if the market's uncertainty over the central bank's target is sufficiently high and if the central bank is targeting the exchange rate away from its fundamental value (attempting to move the exchange rate in the opposite direction of where the fundamental based trade takes it) selectively disclosing the exchange rate target improves the effectiveness of the intervention. © 2006 Elsevier B.V. All rights reserved.

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## 1. Introduction

Recent work on the so-called 'secrecy puzzle' surrounding official interventions in foreign exchange markets has rekindled the debate over the appropriate degree of transparency for foreign exchange intervention policy. The puzzle itself stems from the fact that operationally, most sterilized interventions are conducted in secret. Central bank interventions are reported, if at all, with a considerable time lag, and they may involve several exchange brokers or commercial banks in order to conceal the true size and intention of the intervention (Lyons, 2001; Neely,

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2001). As Sarno and Taylor (2001) argue, this secrecy is difficult to explain, given that the most common channel through which sterilized interventions are thought to work—the signaling channel—is ultimately more effective if the policy is announced publicly beforehand and the intervention is widely observed. Dominguez and Frankel (1993), in particular, make a strong case for transparency in central bank policy in foreign exchange markets, concluding, “intervention can be effective, especially if it is publicly announced and concerted.”<sup>1</sup>

The literature has provided some answers to the secrecy puzzle. Eijffinger and Verhagen (1997) address the issue of why a central bank may want to retain some degree of ambiguity as to the size of its intervention and conclude that some secrecy is desirable for short-term targeting. In the specific context of keeping the exchange rate target secret, Bhattacharya and Weller (1997) and Vitale (1999) develop market microstructure models of sterilized interventions that exploit signaling channels.<sup>2</sup> Both of these papers follow the widely held view that sterilized interventions have no impact on the exchange rate’s underlying fundamental value. Intervention can affect the interim exchange rate by changing market expectations regarding the fundamental. Vitale assumes the central bank knows the fundamental perfectly, and this information, along with its target exchange rate, determines the size of the bank’s trade. In a market microstructure model à la Kyle (1985), the trades are obscured, since they are ‘batched’ along with orders originating from other traders. Conditioning on the total order flow, the market maker tries to extract information on the exchange rate fundamental.<sup>3</sup> By concealing its target, the central bank can more effectively ‘fool’ the market. The main conclusion of Vitale (1999) is stark and leaves no room for full transparency: Whenever the central bank publicly discloses its target, a sterilized intervention is completely ineffective and the central bank cannot target the exchange rate.<sup>4</sup>

By and large, the literature on secrecy of interventions has focused on models where the intervening central bank either makes its exchange rate target public or hides it completely. Central banks, however, while hiding their hand from most of the market participants, routinely communicate their intentions to other central banks prior to interventions. Additionally, Chiu (2003), in her survey of 10 central banks, notes that central banks may convey privy information to some players in the market in order to increase the impact of the intervention and propagate its effect. This paper presents a model of exchange rate intervention which emphasizes the advantage of selectively disclosing intervention information to some but not all market participants. Specifically, we explore the related issues of transparency and information sharing as they apply to sterilized central bank interventions in foreign exchange markets and ask the following question: can a central bank achieve a more effective intervention outcome in a regime where it

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<sup>1</sup> See Lyons (2001), Sarno and Taylor (2001), and Humpage (2003) for detailed surveys of the theoretical and empirical literature on exchange rate interventions in traditional macroeconomic models. Neely (2001), Chiu (2003), and Lecourt and Raymond (2003) report findings of surveys of central banks on their intervention policies. Bernal (2004) and Beine and Bernal (2005) provide extensive analyses of recent interventions by the Bank of Japan.

<sup>2</sup> Beine and Bernal (2005) provide empirical evidence in support of these microstructure arguments for secret intervention.

<sup>3</sup> Similar information and trading constraints are observed in actual forex markets. Usually, the central banks transact through dealers or commercial banks. Kyle’s batch order framework captures this lack of transparency in the order flows, since the market maker cannot distinguish the source of individual flows.

<sup>4</sup> Vitale’s main result stems from the fact that if the dealer knows the target, she can completely filter out all target-based trades from the order flow. In contrast to Vitale (1999), in Bhattacharya and Weller (1997), some foreign exchange investors (speculators), but not the central bank, have better information on the exchange rate fundamental. They conclude there are circumstances in which it is in the interest of the central bank to reveal its target, though it is never advantageous to reveal the size of its intervention. To do so leaves the bank unable to target the exchange rate, along lines similar to why revealing the target in Vitale make targeting ineffective.

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