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Oral intervention in China: Efficacy of Chinese exchange rate communications

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ABSTRACT

This paper analyses China's oral intervention and the efficacy of exchange rate communications by the Chinese monetary authorities. Applying the event study approach, we find that exchange rate communication could help the authorities to impact the Chinese exchange rate level moving in the desired direction. Also, China is responsive to international calls, particularly those from the US calling for the appreciation of the RMB exchange rate. But the response is moderately reluctant as the appreciation would occur after a delay of around two weeks. Finally, using the range-based variance model, confirmative evidence is found that successive, rather than solo, exchange rate communications can calm the exchange rate movement in terms of excess volatility.

1. Introduction

Traditionally, monetary authorities have intervened directly in foreign exchange markets, impacting exchange rate levels and their fluctuations by actually trading currencies. In recent years, however, actual intervention has been supplemented or supplanted by oral intervention, i.e. official communications via policy announcements or other means such as informal meetings with market participants intended to mitigate exchange rate trends by influencing market expectations (Fratzscher, 2006, 2008a, b; Beine, Janssen, & Lecourt, 2009; Sakata & Takeda, 2013). For major economies like the US and EU member nations, there has been almost no direct market intervention by the authorities since the mid of 1990′s; however, the frequency of oral interventions has increased.

In China, both actual and oral interventions are performed by Chinese monetary authorities, but in a secret way. However, we do know the occasions when the People's Bank of China (PBOC) makes statements directly to the foreign exchange market or talks to the state-owned banks. In recent years, the PBOC has announced that it will gradually reduce direct or "regular" interventions in the Chinese exchange market. But given PBOC's long standing of extensive intervention, this change is likely to be more form than substance.

China has been internationally noted for the extensity and sophistication of its foreign exchange interventions. Generally, three major forms can be identified for the Chinese intervention: (1) direct sales or purchases of foreign currencies by PBOC in the marketplace. (2) Setting and adjusting of the official central parity rate and the range around which the daily trading prices are allowed to fluctuate. (3) PBOC's oral intervention in the form of policy briefing, moral persuasion, formal and informal meetings, and telephone conversations. The first two are regularly operated by the PBOC and the central bank's indication of a gradual reduction in regular interventions is likely to mean a possible change to engaging more in oral intervention.

Although many researchers have studied China's exchange rate policy and have been aware of intervention as a central feature of that policy, to date there has been very little research attention directed towards China's oral intervention. This paper fills the gap in the foreign exchange intervention literature by considering the Chinese case.

Oral intervention as a policy tool has found to have mixed effects in existing literature. Recent studies have shown some progress in mitigating the problems in previous research. For example, the event study methodology has been applied in intervention studies, which is considered to be better at capturing the clustered property of interventions compared to time-series analysis (Fratzscher, 2008a; Gnabo & Teiletche, 2009).

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This paper follows the event study approach to explore China's oral intervention in foreign exchange to better our understanding of China's exchange rate. We focus on domestic as well as international aspects of China's exchange rate communication, China's response to international calls for exchange rate adjustment, particularly those form the USA, is considered.

We analyse the effects of oral intervention on the Chinese yuan/US dollar (CNY/USD) rate from 22 July 2005 to 22 July 2013. Four event window lengths, of 2, 5, 10 and 15 days, are deployed to check when the effects of oral intervention occur. Four dimensions - event, direction, reversal and smoothing - are investigated to test for the impacts of the events. We also employ more extensive tests in the empirical investigation. The event study approach that is commonly used in other similar research is based almost exclusively on the sign tests. In this research we extend the literature by employing the rank tests along with the sign tests, to check to what extent the communications may have the desired effects. We also compare the results of parametric and nonparametric tests, as the nonparametric tests may yield additional insights in the context of the event studies.

We find that exchange rate communications could help the Chinese central bank impact RMB exchange rate levels moving in desired directions. Based on the whole sample results, while against the event criterion, exchange rate communications are not successful, in the reversal dimension, all the event window lengths under examination are significant. Finally, the longer the event window length is, the more significant the effects are in the four dimensions. We also test the effects of the international aspects of China's exchange rate communications, particularly in the case of the US calling for appreciation of the RMB exchange rate. As the events are significant in all dimensions, the results suggest that such calls can influence movements of the Chinese exchange rate, and hence by and large the Chinese authorities are responsive to American pressure for RMB appreciation. Finally, using the range-based variance model to get volatility, we find confirmative evidence of the effect of successive exchange rate communications on calming the exchange rate movement in terms of excess volatility.

The rest of the paper is organized as follows. Section 2 comprises a review of the literature on oral intervention. Section 3 introduces the forms of intervention in China with a focus on China's oral intervention. Section 4 explains the event study methodology; it defines the events, event windows and criteria, and describes the parametric and nonparametric tests. Section 5 discusses the estimation results. Section 6 offers concluding remarks.

2. Related literature

In recent decades, exchange rate communication has become an increasingly important policy tool for monetary authorities (Fratzscher, 2006). Using reports issued by the newswire service Reuters News, Fratzscher (2006) analyses exchange rate communication on the basis of two sets of search criteria. They are used to extract all statements in which policy makers expressed a view about the domestic exchange rate. The search terms are the phrase ‘exchange rate’ or the name of the exchange rate, such as the US dollar for the United States, and the title or name of relevant policy makers. Then, Fratzscher (2006) classifies the contents of the statements according to whether they support a stronger domestic currency or a weaker one, or are neutral:

$$IO_t = \begin{cases} +1 & \text{if}'strengthening'oral\ statement; \\ 0 & if'ambiguous'oral\ statement; \\ -1 & if'weakening'oral\ statement; \end{cases} \tag{1}$$

Using the above classification process, Fratzscher (2006) identifies exchange rate communication in the Group of Three (G3), comprising the USA, Japan and the euro area, from 1990 to 2003. The findings show that from the mid-1990s the United States and the euro area has practically abandoned the use of actual purchases and sales in FX markets, and shifted to almost exclusive use of communication to affect exchange rate developments. The Japanese authorities, however, has intensified both actual intervention and exchange rate communication. The empirical results based on an EGARCH framework indicate that communication not only exhibits a significant contemporaneous effect on exchange rates, but also moves forward exchange rates in the desired direction up to a horizon of 6 months. Moreover, communication is found to reduce exchange rate volatility and uncertainty, whereas actual interventions tend to have the opposite effect. Overall, communication tends to be a fairly effective policy tool over the medium term.

In a subsequent study, Fratzscher (2008a, b) investigates the channels through which communication works. Using the same data and search classification process as in his 2006 research, Fratzscher (2008a, b) employs a standard asset-pricing framework. The research provides two key findings: first, G3 communication policies have constituted an effective policy tool in influencing exchange rates in the desired direction; second, communication has been effective independently of the stance and direction of the monetary policy and the occurrence of actual interventions. Meanwhile, the effects of communication are strongly related to the degree of uncertainty and the positioning of participants in FX markets. Taken together, the results provide support for micro-based approaches to exchange rate modelling and are consistent with the argument that oral and actual interventions function through a coordination channel rather than a signalling channel.

One key question for Fratzscher (2008a, b) is whether communication is successful in inducing a permanent, long-term effect on exchange rates. Still using the same data as in his 2006 research, Fratzscher (2008a, b) employs an event study methodology based on four criteria - ‘event’, ‘direction’, ‘reversal’, and ‘smoothing’ - and nonparametric sign tests. The empirical findings for the success of interventions based on these criteria provide strong evidence for the medium- to long-term effectiveness of both oral interventions and actual interventions by G3 authorities since 1990. Then, Fratzscher (2008a, b) attempts to gauge the channels through which these two types of interventions function. He tests hypotheses for the channels: if the portfolio balance channel is dominant, one would expect that oral interventions should have little or no effect on exchange rates; if the signalling channel is working, a close relationship between monetary policy and the effectiveness of interventions would be expected; if the coordination channel is relevant, interventions may be most effective in times of large market uncertainty or when exchange rates strongly deviate from fundamentals (Taylor, 2004).

In order to test the coordination channel, Fratzscher (2008a, b) applies a formal test using odds ratios in a logit-model framework. The findings show that both oral and actual interventions are effective under large market uncertainty and when exchange rates deviate substantially from fundamentals. Fratzscher (2008a, b) also finds that the success of communication and actual interventions is largely unrelated to monetary policy, thus suggesting that interventions function primarily through a coordination channel.

Using Dow Jones and Reuters press reports to identify oral interventions during 1989–2003 for the USD/DEM (the EUR/USD after 1999), and during 1991–2003 for the YEN/USD, Beine et al. (2009) assess how communication influences exchange rate levels and exchange rate volatility. They consider two types of communication: ex post communication includes all the official statements detected by market participants that are issued after direct interventions, while ex ante communication comprises statements issued at G7 meetings or potential future interventions issued by monetary authorities. The results indicate that oral intervention has effects on both exchange rate level and exchange rate volatility. Moreover, statements by monetary authorities on exchange rate policy can be a valuable complementary tool to actual exchange rate operations. The authors also conduct robustness checks for a range of factors: change in intervention regime, size of the intervention, the coordination channel, official statements as separate policy