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Identifying speculators in the FX market: A microstructure approach☆

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ABSTRACT

This paper suggests a methodology for identifying speculators in FX (foreign exchange) markets. A player is identified as a speculator only if his speculative characteristics are extreme compared with those of other players and his influence on exchange rates on outlying days is significant. Implementing the proposed methodology on Israel's FX market, which includes 366 large players, identified 58 potential speculators – almost all of them nonresident entities, local banks, and financial companies. Examining their activity based on a unique dataset for 2008–09 revealed speculators that purchased foreign currency before and/or on outlying depreciation days and sold foreign currency before and/or on outlying appreciation days. Thus, some speculators joined or initiated the trend before the outlying appreciation or depreciation days. Based on these speculators found during 2008–09, it was possible to identify similar behavior before and on outlying days during 2010, which was defined as an out-of-sample period. The proposed methodology may help market makers and regulators track speculators before and on outlying days.

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1. Introduction

Although speculators have a major influence on FX markets, there is no consensus in the literature or among practitioners as to the definition of a speculator or of a method to identify these important market players. There is a wide range of definitions for the term speculation, ranging from broad definitions that essentially include all day-to-day investment activity to those with only a very narrow scope. Moreover, the term speculation (or speculator) in a FX market is even more problematic than in other markets due to the sophistication of the players, the cross-border nature of FX activity (e.g., "carry trade"[1]), and the relative scarcity of information regarding trading and players. Hence, although the FX market is a very large market, Menkhoff, Sarno, Schmeling, and Schrimpf (2013) call it a 'dark market'. It is argued that speculators have a greater influence on the FX markets in emerging markets (see Chang, Hsieh, & Lai, 2009), but even in those economies, it is quite difficult to identify and track them in the absence of an agreed-upon definition of a speculator. Melvin and Taylor (2009) describe several crises caused by "carry trade" players that substantially affected the FX markets. Moreover, Burnside, Eichenbaum, and Rebelo (2007) find that the returns to currency speculation in emerging markets are positive and much higher than in developed countries. Thus, it is important to be able to identify and track speculators especially in emerging markets. This is particularly the case on outlying days, which are defined in this paper as days with sharp movements (to be defined later) in the Israeli Shekel/Dollar exchange rate changes (hereafter er). This paper is related to Menkhoff and Schmeling (2010), Menkhoff et al. (2013), Moore and Payne (2011) and Osler (2008). All of these studies found different motives, sophistication, trading pattern and style, and price impact, by various player groups in the FX market. There are, however, several differences between this paper and those studies, as follows: (1) This paper examines the activity of key players regardless of their sectoral affiliation, e.g., whether they are financial companies or households; (2) the paper focuses on outlying days (to be defined later); and, (3) the unique data set consists of a detailed data on all trades in the Israeli FX OTC market – thus, the relationships between the order flows and the er ought to be more significant compared to a sample of disaggregated order flow as in those studies or a sample based on aggregated data, as in many other studies. The paper suggests an empirical methodology to identify speculators using the following two non-exclusive conditions:

(1) Whether a player's Net Buying Pressure (hereafter NBP, defined as buying foreign currency minus selling foreign currency) has a significant impact on the er. This relationship is determined using the three-stage-least-square (3SLS) regressions.
(2) Whether a player's trading activity has substantial speculative characteristics (to be defined herein). A player is identified as a potential speculator in this paper by fulfilling both conditions, i.e., having extreme speculative trading characteristics relative to those of other players and having a significant influence on the er on outlying days.

The main finding is that the behavior of the financial sector (domestic banks, financial companies and foreign institutions) differed significantly from that of the commercial sector (exporters, importers, and institutional investors), particularly on outlying days. This evidence is consistent with the current evidence that the majority of players can be distinguished by their core business, i.e., financial versus commercial players. However, not all players in the financial sectors were found to be speculators, and not all players in the commercial sectors were non-speculators.[2] The implementation of the proposed methodology on the Israeli FX market identified 58 large players (out of 366) whose NBP significantly influenced the er and had trading characteristics that were extreme compared to those of the other large players.[3] Thus, these players fulfilled conditions (1) and (2) above during the

[1] Taking a loan at a low interest rate in one market and simultaneously depositing the funds at a higher interest rate in another market.

[2] Although not all speculation is due to speculators (some speculative activity is carried out by, for example, exporters' or importers' CFOs), the paper focuses on speculators who actively trade in the FX market for financial profit.

[3] The methodology can be implemented on any player, particularly a small one. However, for practical purposes the paper focuses on large potential speculators who have the ability to affect the exchange rate. Although small players can statistically

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