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The impact of macroeconomic surprises on spot and forward foreign exchange markets

Marc W. Simpson [a,*], Sanjay Ramchander [b,1], Mukesh Chaudhry [c]

[a] *Department of Economics and Finance, University of Texas, Pan American, 1201 West University Drive, Edinburg, TX 78539, USA*
[b] *Department of Finance and Real Estate, College of Business, Colorado State University, Fort Collins, CO 80523, USA*
[c] *Department of Finance and Legal Studies, Indiana University of Pennsylvania, 324 Eberly Complex, Indiana, PA 15701, USA*

Abstract

This paper evaluates the effects of surprises in 23 types of macroeconomic announcements on foreign exchange rates, and on the forward premium. Several findings emerge. First, as in the balance-of-payment framework, announcements that convey a decline in consumer demand increase foreign exchange rates. Second, the PPP hypothesis is rejected in favor of portfolio balance effects in determining exchange rates. Third, the behavior of forward premiums is consistent with covered interest rate parity. Fourth, exchange rates respond to announcements related to consumer demand, inflation, and interest rates, but not to the announcements directly related to the general strength of the economy. Finally, among the

* Corresponding author. Tel.: +1 956 381 2830.
E-mail addresses: mwsimpson@coba.panam.edu (M.W. Simpson), sanjay.ramchander@colostate.edu (S. Ramchander), chaudhry@grove.iup.edu (M. Chaudhry).
[1] Tel.: +1 970 491 6681.

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news releases considered, surprises in the Treasury budget, trade balance and capacity utilization have the strongest influence in the currency market.

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1. Introduction

An empirical study of the effect of macroeconomic surprises on foreign exchange markets offers an excellent opportunity to test and clarify several fundamental theories in international finance. Such theories as purchasing power parity (PPP), covered interest rate parity (CIP), and the international Fisher effect (IFE) are all, internally-consistent, compelling models of exchange rate determination. In addition, Mundell–Fleming type models of adjustment in a large open economy posit balance of payment (BOP), and portfolio balance (PB) explanations for exchange rate movements. While there exists a broader tension and consistency among many of these theories, others appear to be at odds with one another. In the development of a unified theory of international exchange, it is necessary that these hypotheses, each of which contains merit in its own right, fit into a broader, cohesive whole. What is more, it is precisely when theories appear ambiguous or contradictory that one must look to empirical examination for clarification.

While the clarification of hypotheses in international financial theory may seem purely academic, it is perhaps a false dichotomy that separates theory from practical utility. Policy makers in governments, central banks, and the private sector can all gain from a deeper understanding of how forward and spot exchange rates react to unanticipated news. It could be of immense benefit to know, for example, whether an unexpected increase in the Consumer Price Index (CPI) tends to cause a devaluation in the currency, á la the PPP hypothesis, or if such an increase in CPI tends to raise domestic interest rates as per the Fisher effect, leading to a capital inflow and a currency appreciation as conjectured by the PB hypotheses.

The main goal of this paper is to shed light on the various theories of exchange rate determination. Specifically, we examine the reaction of spot and forward exchange rates, as well as the forward premium, of five currencies against the U.S. dollar, to the release of 23 types of periodic U.S. macroeconomic news. The announcement variables are chosen based on their information content and their expected association with exchange rate determination and variability. News about macroeconomic variables are defined as the difference between the actual values of the fundamentals and what market participants expected the fundamentals to be before they were announced. From a methodological standpoint, given the equilibrium nature of the relationship between spot and forward exchange rates, our