



Impact of macro-economic surprises on carry trade activity

Michael Hutchison^a, Vladyslav Sushko^{b,*}

^a University of California Santa Cruz, E2, Santa Cruz, CA 95064, United States

^b Bank for International Settlements, Centralbahnplatz 2, CH-4002 Basel, Switzerland

ARTICLE INFO

Article history:

Received 1 December 2011

Accepted 21 October 2012

Available online 12 November 2012

JEL classification:

C22

F31

G14

Keywords:

Macro-economic news

Risk reversals

Foreign exchange futures

Carry trade

ABSTRACT

Can official news and policy announcements affect foreign exchange speculation? A widespread speculative strategy in foreign exchange markets is carry trade. This paper explores the links between macro-economic news and foreign exchange options to identify macro-economic fundamentals most relevant to the pricing of downside risk – measured by risk reversals options contracts – to carry trade activity. Focusing primarily on the Japanese yen carry trade, we identify a significant impact of macro-economic surprises on dollar/yen risk reversals. The effect is sizeable, with news related to bilateral trade balance of particular concern. Moreover, there is a close link between risk reversals and speculative futures positions in Japanese yen. This allows us to quantify a substantial effect of macro-economic news on carry trade activity, with the cost of hedging as the transmission mechanism.

© 2012 Elsevier B.V. All rights reserved.

1. Introduction

One of the consequences of the zero-interest rate policy in Japan was the emergence of massive yen (JPY) currency carry trade activity where investors borrowed in yen (funding currency) and bought higher-yield assets in other currencies (target or investment currency). Specifically, a carry trader borrows in a low interest rate currency and takes a long position in a higher interest rate currency betting that the exchange rate will not change so as to offset the profits made on the yield differential. For example, an investor can fund higher yielding deposits in the US by borrowing from commercial banks in Japan at low interest. This strategy will necessitate a foreign exchange transaction to sell yen for US dollars (USD) in order to convert yen liabilities into dollar assets. In addition to issuing liabilities in low-interest currencies, carry trade can be conducted using currency forwards and futures on the margin (Gagnon and Chaboud, 2007). For example, a hedge fund could enter a forward contract to sell yen for dollar at some future date. Such carry trade strategies generated persistent excess returns (e.g. Burnside et al., 2007; Darvas, 2009; Hochradl and Wagner, 2010), but also exposed carry traders to substantial currency risk and large losses if the yen were to appreciate substantially (Gyntelberg and Remolona, 2007). Brunnermeier et al. (2009)

confirm the presence of such crash risk (negative skewness) in carry trade returns due to rare occurrences of unexpected shocks to the interest rate differential between low and high yield currencies. Nirei and Sushko (2011) find that during periods of heavy carry trade yen appreciation jumps exhibit dependence and extremes not explained by random shocks alone. Both studies find that crash risk, whether measured as negative skewness or realized volatility jumps, is increasing in net speculative positions. It is as if spurs of carry trade unwinding when faced with risks of funding currency appreciation amplify the impact of otherwise random shocks. Anzuini and Fornari (2012) provide an examination of this channel by exploring the impact of specific macro-economic shocks on carry trade profitability and positioning, as such shocks would drive fluctuations in exchange rate as well as the interest rate differential. We add to this literature by explicitly focusing on market expectations of such crash risk – the market price of skewness in carry trade currencies derived from currency options – and how changes in these expectations serve to transmit macro-economic shocks into actual position taking by carry traders.

Fig. 1 shows the US–Japan interest differential and the JPY/USD exchange rate during 2004–2006 when the yen carry trade was at its height. The prolonged low interest policy and weak economy in Japan, during which short-term money market rates were continuously near zero, combined with a strong economy and rising interest rates in the US, led to a rising, large and persistent interest differential. The figure also shows that the JPY/USD depreciated on average over this period, but that trend depreciation was inter-

* Corresponding author. Tel.: +41 61 280 8757; fax: +41 61 280 9100.

E-mail addresses: hutch@ucsc.edu (M. Hutchison), vlad.sushko@bis.org (V. Sushko).

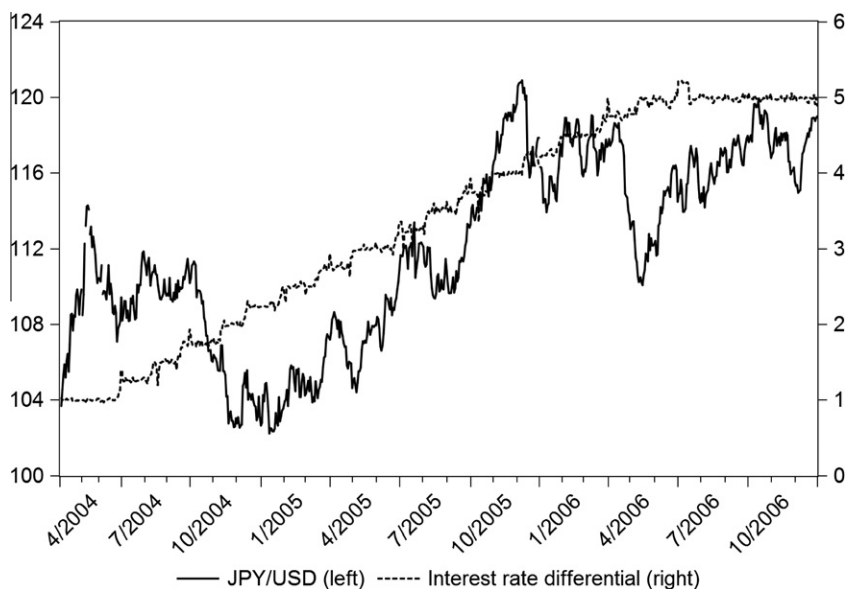


Fig. 1. US–Japan interest rate differential and JPY/USD exchange rate. *Note:* An appreciation of the high yield currency is an example of the forward premium puzzle and the violation of the uncovered interest parity (UIP). The UIP regression coefficient has been estimated as low as -2.79 for the yen (Ichiue and Koyama, 2011).

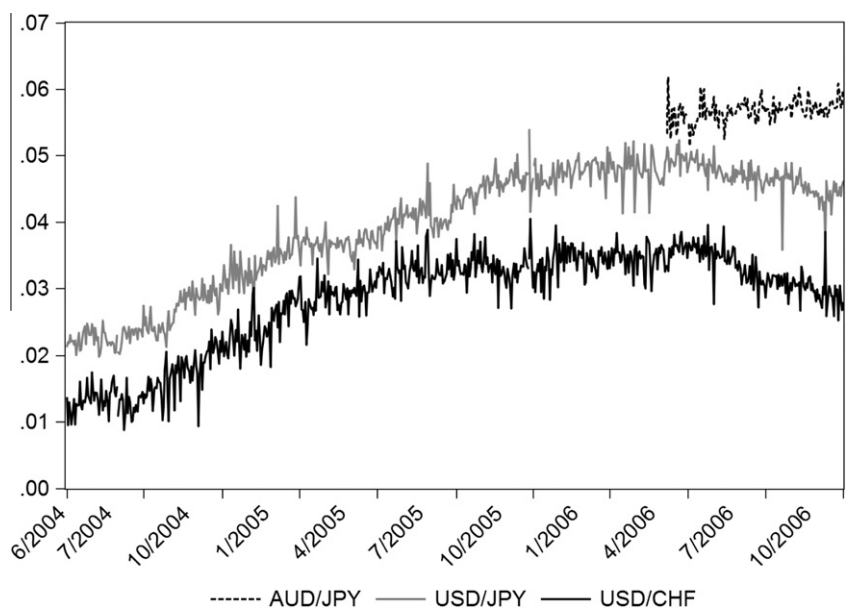


Fig. 2. Forward premiums for USD/JPY, USD/CHF and AUD/JPY exchange rates. *Note:* The figures shows the $(f_t - s_t)$ differentials calculated using forward rates. Carry trade candidate currencies selected using the Menkhoff et al. (2011) forward premium ranking procedure, subject to risk-reversal data availability.

rupted by several episodes of sharp appreciation and considerable volatility. This seeming violation of uncovered interest parity (UIP) allowed profit opportunities (ex post) for carry traders, but the riskiness of this strategy was also exposed during the bouts of large yen appreciation.^{1,2}

Fig. 2 presents a broader look at the ex-ante attractiveness of carry trade by currency pair during the sample period. Following the methodology of Menkhoff et al. (2012), we rank currencies

based on their forward premium/discount vis-à-vis the USD, assuming that the covered interest rate parity (CIP) still holds.³ If the differential is above (below) 0.25 (-0.25) percentage points the currency is classified as funding (target) currency. Based on this methodology, JPY and Swiss franc (CHF) traded at significant forward premiums to USD and Australian dollar (AUD). This implied an ex-ante profitable investment opportunity for carry trade (a bet against the CIP) is to short JPY or CHF and go long AUD or USD. Accordingly, we supplement the main analysis using JPY/USD with data from the CHF/USD and JPY/AUD foreign exchange market.

¹ An appreciation of the high yield currency is an example of the forward premium puzzle and the violation of the uncovered interest parity (UIP) well documented by Hansen and Hodrick (1980) and Engel (1996).

² Ichiue and Koyama (2011) estimate the UIP regression coefficient as low as -2.79 for the yen.

³ Unlike the USD, which could have been used as either funding or target currency depending on the counterpart, JPY was always a funding currency.

Download English Version:

<https://daneshyari.com/en/article/5089674>

Download Persian Version:

<https://daneshyari.com/article/5089674>

[Daneshyari.com](https://daneshyari.com)