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Monetary policy transmission to
exchange rates: the role of currency
carry trades

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Monetary policy transmission to exchange rates: the role of currency carry trades

Key takeaways

- Carry trade activity can shape the exchange rate response to monetary policy. Significant short positions of carry traders in funding currencies amplify the impact of policy tightening.
- This amplification arises from the unwinding of leveraged carry trade positions accumulated prior to the policy announcement, creating a state-dependent monetary policy transmission to the exchange rate.
- The currency trading strategies of hedge funds and other leveraged investors can play a key role in shaping the exchange rate response to monetary policy and therefore warrant careful monitoring.

The exchange rate is a key channel for monetary policy transmission, yet its response to policy changes often appears erratic. In some instances, exchange rates react with extreme sensitivity to central bank announcements and macroeconomic news. At other times, shocks of similar magnitude provoke only muted exchange rate responses.

This Bulletin quantifies the impact of leveraged currency speculation on the exchange rate reaction to monetary policy news in carry trade funding currencies. Currency carry trade is a prominent form of speculation in foreign exchange markets. Carry traders borrow in low interest rate “funding” currencies and invest in high interest rate currencies.¹ When currency carry trades are prevalent, the exchange rates of the currencies used by speculators, eg hedge funds, to lever up become extremely sensitive to monetary policy tightening shocks. Using the two main funding currencies in global carry trades, the Swiss franc and Japanese yen, as examples, we find that when these currencies are heavily shorted by speculators, a domestic monetary policy tightening shock leads to their significant appreciation, driven by deleveraging as the corresponding short positions are unwound. In contrast, when carry trade activity is minimal, with limited or no shorting of these currencies, the exchange rate response is muted due to the absence of a deleveraging spiral.²

Erratic shifts in exchange rates around monetary policy announcements, an example

The contrasting reactions of the Swiss franc to comparable monetary policy surprises underscore the significant role of carry traders. The exchange rate response varied significantly around four select Swiss National Bank (SNB) policy announcements (Graph 1.A), despite their having been selected precisely because of the similar size of their impact on domestic interest rates (Graph 1.B). The franc appreciated

¹ Carry trade is a risky bet on the violation of uncovered interest rate parity, which links exchange rates to interest rates, predicting that exchange rate moves will offset any excess returns from borrowing in low rate currencies to invest in high rate ones.

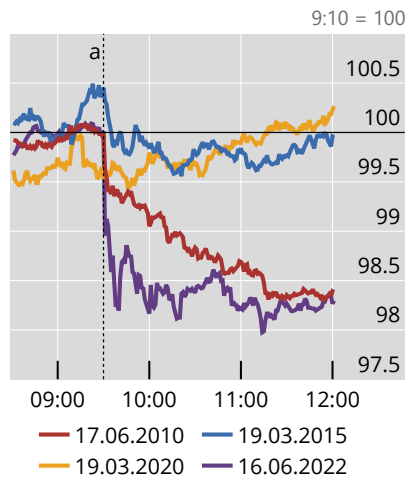
² See Gürkaynak et al (2021) for analysis of exchange rate responses to monetary policy, and Antolín-Díaz et al (forthcoming), Falconio (2022) and Hutchison and Sushko (2013) for the role of carry trades in the pass-through of monetary policy and macro news to exchange rates.

sharply around two announcements, in June 2010 and June 2022 (purple and red lines), but barely moved around two others, in March 2015 and March 2020 (blue and yellow lines).³

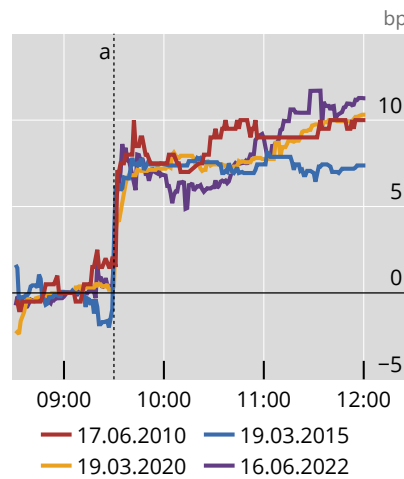
Exchange rate response to monetary policy announcements and leveraged positions in currency futures

Graph 1

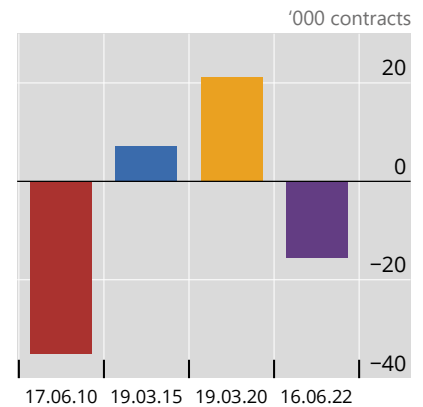
A. Highly different exchange rate responses to monetary policy...¹



B. ...despite broadly similar monetary policy surprises...²



C. ...related to net speculative positioning in CHF futures prior to monetary policy announcements³



^a The SNB monetary policy announcement.

¹ CHF/USD exchange rate around SNB monetary policy decisions. ² Intraday change from the level at 9:10 in average short-term SARON futures contracts on 16 June 2022 or CHF LIBOR futures contracts on 17 June 2010, 19 March 2015 or 19 March 2020. ³ Net positions in CHF futures of non-commercial traders in the week before each monetary policy event; weekly data.

Sources: Commodities and Futures Trading Commission (CFTC); Securities and Financing Transactions Datastore (SFTDS); authors' calculations.

Significant Swiss franc appreciation in response to monetary policy shocks can be linked to carry trade activity. Speculative positioning in currency futures is a reliable, if incomplete, gauge of carry trades, which are often implemented via futures and forwards for leveraged exposure. Before the two SNB announcements associated with strong franc appreciation, speculators were net short on the Swiss franc (Graph 1.C, red and purple bars). This indicates leveraged borrowing of the Swiss franc, which was vulnerable to unwinding when hit by higher rates, potentially driving the subsequent appreciation of the franc. By contrast, the franc was not used to fund carry trades before the announcements associated with muted exchange rate responses.

The remainder of the Bulletin examines this channel more systematically. First, it describes the measure of carry trade activity and methodology. It then systematically examines the role of speculative positioning and subsequent unwinding of short positions in funding currencies in shaping a state-dependent exchange rate response to monetary policy shocks.

Measuring carry trade activity

Carry trade activity can be gauged with speculative positioning in currency futures. Specifically, net positioning of non-commercial traders (ie those without an underlying hedging need, a proxy for speculators) in currency futures on the Chicago Mercantile Exchange (CME) is a reliable indicator of carry

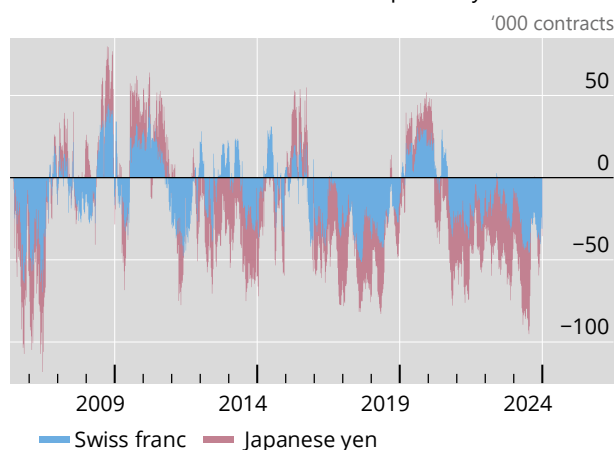
³ Other circumstances besides leveraged positioning could also have contributed to the difference in exchange rate responses. For example, in June 2010, the SNB indicated a reduced willingness to prevent excessive appreciation of the Swiss franc. March 2015 marked the first monetary policy assessment following the discontinuation of the minimum exchange rate policy, while June 2022 was the first policy rate hike since 2005.

trade activity. This is even though futures account for only a small part of the overall activity, which mainly takes place in over-the-counter spot and forwards markets (see eg Galati et al (2007)).⁴

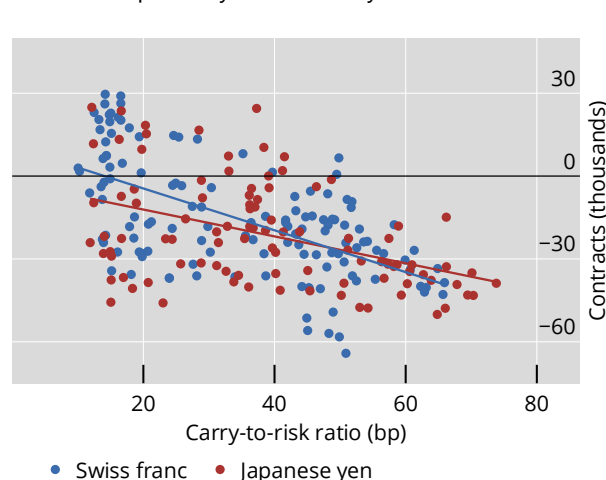
Indicators of carry trade activity

Graph 2

A. Carry trades are prevalent when speculators are net short on both the Swiss franc and Japanese yen¹



B. Speculators turn increasingly net short on the Swiss franc and Japanese yen when carry-to-risk ratios rise



¹ Net positions in currency futures of non-commercial traders; weekly data. ² Carry-to-risk ratios computed by dividing the currency forward-implied interest rate differential with the US dollar by foreign exchange option-implied volatility; one-month horizon; monthly frequency.

Sources: Bloomberg; Commodities and Futures Trading Commission (CFTC); authors' calculations.

Periods of large net short positions of speculative traders on the Swiss franc and Japanese yen are tell-tale signs of strong global carry trade activity, which occasionally reverses abruptly in response to shocks.⁵ For instance, speculative traders were net short on both currencies in 2006–07 until carry trades were rapidly unwound during the “Quant Meltdown” of August 2007 (Graph 2.A). Carry trades were also unwound in July 2010, amid euro area sovereign debt crisis concerns. A more recent carry unwind occurred during the August 2024 foreign exchange market turbulence (see Acquilina et al (2024)).

The reliability of the measure based on non-commercial net positions in futures is further validated through its relationship with the price-based measure of ex ante risk-adjusted returns to the carry trade. The incentives to enter a carry trade can be proxied with carry-to-risk ratios, where the carry, ie the interest rate differential, is divided by option-implied volatility. Indeed, speculative positions on both the Swiss franc and Japanese yen turn increasingly net short when this carry-to-risk ratio is higher (Graph 2.B).

The influence of carry trade activity on the exchange rate response to monetary policy

The effect of investor leverage on the exchange rate response to monetary policy shocks can be assessed using local projections:⁶

$$y_{t+h} - y_{t-1} = \beta_1^h \times D_{HIGH,t-1}^h \times MP_t + \beta_2^h \times D_{LOW,t-1}^h \times MP_t + \sum_{l=1}^{10} \beta_{3,l}^h X_{t-l} + \varepsilon_{t+h}$$

⁴ Traders are classified as non-commercial if they do not reveal a foreign exchange exposure to hedge and therefore presumably trade to make a profit. CFTC staff may reclassify the trader if they possess additional information about the trader.

⁵ See Brunnermeier et al (2008).

⁶ Jordà and Taylor (2025) review the practical applications of local projection methods in estimating the impact of exogenous interventions and subsequent feedback effects on economic and financial market outcomes.

where $y_{t+h} - y_{t-1}$ is the cumulative percentage change in the exchange rate from the day before the monetary policy announcement, $t - 1$, to day $t + h$. $MP_{c,t}$ denotes monetary news captured by the first principal component of changes in interest rate futures measured in a tight window around the central bank announcement.⁷ $D_{HIGH,t-1}^h$ ($D_{LOW,t-1}^h$) are dummy variables taking the value of 1 (0) if the carry trade activity is high (low). Carry trade activity is measured based on net speculative positions in currency futures. The historical median is used as a cutoff point to designate carry activity as high. Note that this cutoff is conservative, since, for carry trade funding currencies, the median net speculative positioning in futures is negative. X_{t-l} denotes control variables that include $D_{HIGH,t-1}^h$, $D_{LOW,t-1}^h$, past changes in the exchange rate and the VIX index.

The key parameters are β_1^h and β_2^h , which capture the impact of monetary policy shocks on the exchange rate, conditional on whether carry trade activity was high, $D_{HIGH,t-1}^h$, or low, $D_{LOW,t-1}^h$, going into the monetary policy announcement.

The impact of carry trades on the exchange rate response to monetary policy shocks

Conditioning on carry trade activity reveals significant differences in the exchange rate pass-through of monetary policy.⁸ When carry trade activity is high, domestic policy shocks lead to a large and persistent exchange rate response. By contrast, when measured carry trade activity is low, monetary policy shocks do not lead to statistically significant exchange rate responses. Furthermore, the significant response of exchange rates occurs following policy tightening, not easing, shocks.

Results for the Swiss franc and Japanese yen are shown in Graph 3. During carry trade periods, as measured by speculative positioning in currency futures, a 25 basis point monetary policy surprise results in a 4% move in the Swiss franc and an almost 10% move in the Japanese yen (Graph 3.A).⁹ During these periods, it is monetary policy tightening shocks that elicit significant Swiss franc and Japanese yen appreciation, while depreciation in response to easing shocks is not significant (Graph 3.B).

Deleveraging by carry traders following monetary tightening in funding currencies

The stipulated channel through which carry trades amplify exchange rate responses to monetary policy tightening shocks is deleveraging. In the context of carry trades, deleveraging entails the unwinding of short positions in funding currencies, which exerts further appreciation pressure on them.

Carry trader deleveraging can be tested by replacing the outcome variables in local projections with the variables proxying carry trader positioning. Hence, for both funding currencies, local projections are rerun with $y_{t+h} - y_{t-1}$ now measuring changes in net speculative positions in currency futures.

The results confirm significant unwinding of short futures on days when monetary tightening shocks occurred during carry trade periods. In both carry trade funding currencies, net speculative short positions are (at least partly) unwound following monetary policy shocks (Graph 4.A). By contrast, when speculative leverage is low, no such unwinding is observed.

⁷ SNB monetary policy shocks are identified following the methodology of Gürkaynak et al (2005), while Bank of Japan shocks were computed by Kubota and Shintani (2022).

⁸ Related evidence on liquidity-state-dependent transmission along the yield curve is provided by Ashtari-Tafti et al (2025).

⁹ In the online appendix we show that this result is robust to classifying carry trade periods according to carry-to-risk ratios (ie based on interest rate differentials and currency volatility).

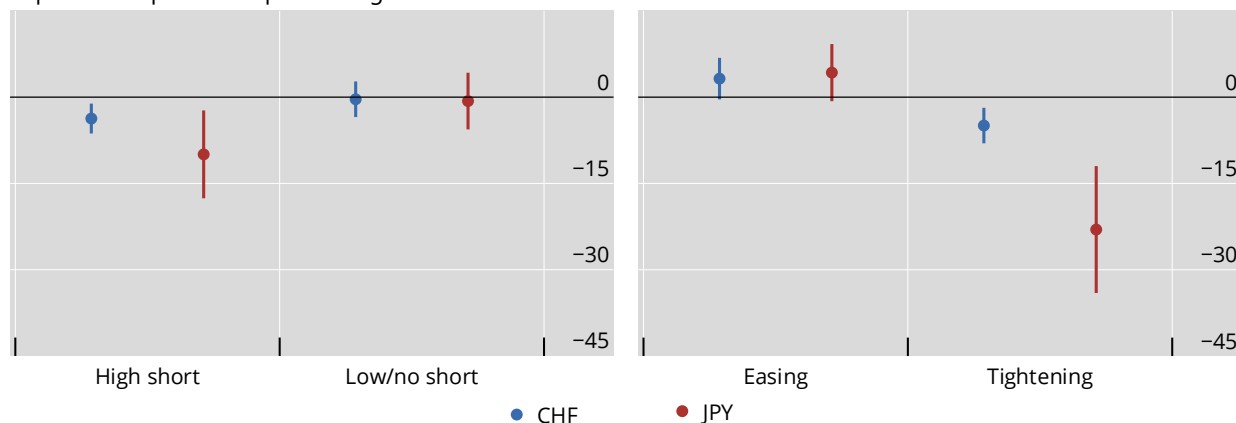
Exchange rate response to monetary policy amplified by carry trade activity¹

In per cent

Graph 3

A. Exchange rate response to monetary policy shocks depends on speculative positioning...²

B. ...and is driven by policy tightening³



¹ Effect of a 25 basis point monetary policy shock on CHF/USD and JPY/USD. ² Short futures positions are defined as high when net non-commercial shorts exceed the sample median. ³ Separate effect of a 25 basis point monetary policy easing versus tightening shock on CHF/USD and JPY/USD.

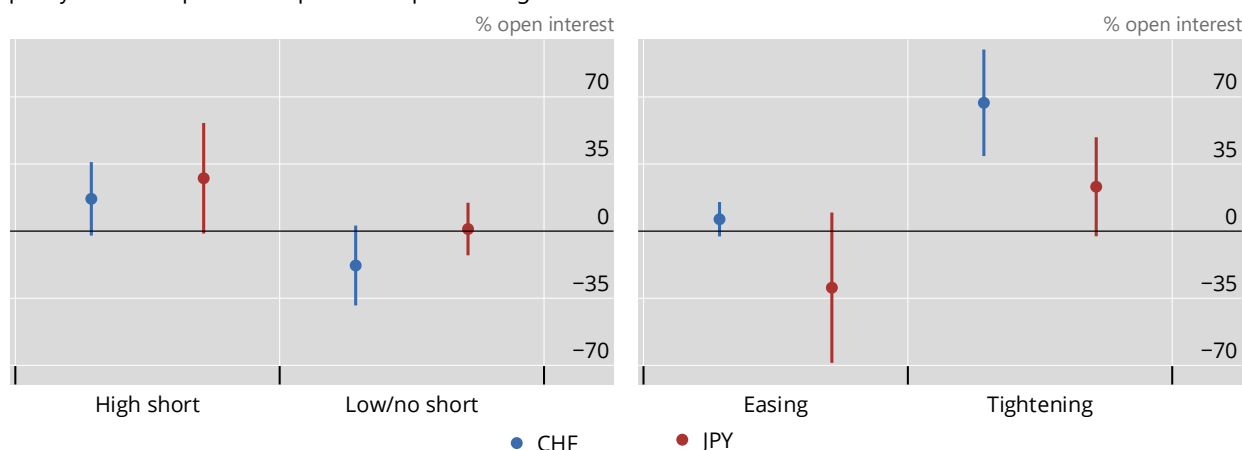
Sources: Bloomberg; Commodities and Futures Trading Commission (CFTC); authors' calculations.

Carry trade unwinding following contractionary monetary policy shocks^{1,2,3}

Graph 4

A. Unwinding of short positions in response to monetary policy shocks depends on speculative positioning...

B. ...and is driven by policy tightening⁴



¹ Effect of a 25 basis point monetary policy shock on speculative positions in currency futures. ² Short futures positions are defined as high when net non-commercial shorts exceed the sample median. ³ Direction of change in net positions of non-commercial traders in currency futures on the Chicago Mercantile Exchange (CME). ⁴ Separate effect of a 25 basis point monetary policy easing versus tightening shock on CHF/USD and JPY/USD.

Sources: Commodities and Futures Trading Commission (CFTC); Continuous Linked Settlement (CLS) Group; authors' calculations

Tightening shocks drive carry trade deleveraging in these currencies. Following a contractionary policy shock, net speculative short positions in CHF futures shrink by over 60% of all open interest (ie relative to the total outstanding open CHF futures contracts) (Graph 4.B). In the yen, the point estimate for contractionary shocks is barely significant, in part due to few monetary policy tightening events. This

underscores the pivotal role of carry trade activity and subsequent quantity adjustments to the leveraged positions in shaping the state-dependent reaction of the exchange rate to monetary policy.¹⁰

Policy implications

Through the lens of currency carry trade activity, this Bulletin shows that the degree of leverage in currency markets can influence the impact of monetary policy on the exchange rate. When carry trades are prevalent, monetary policy tightening in funding currencies can lead to their sharp appreciation, as carry traders deleverage and their short positions are unwound.¹¹

The state-dependence of the exchange rate pass-through of monetary policy on currency speculation has broader implications for central banks. First, it suggests that exchange rate models and forecasts may need to account for the heft of leveraged traders in currency markets. More broadly, our results highlight a channel through which non-bank financial intermediation adds uncertainty to monetary policy transmission (Banerjee et al (2025)). Specifically, the currency trading strategies of hedge funds and other leveraged investors can play a key role in shaping the exchange rate response to monetary policy and therefore warrant careful monitoring.

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¹⁰ The online appendix shows that this result also extends to the unwinding of short CHF and JPY positions in over-the-counter forwards, which is a broader market; however, available data do not allow us to distinguish speculation from hedging.

¹¹ In principle, these results should apply to carry trade investment currencies. A negative shock to market values of long speculative futures positions in investment currencies due to monetary policy easing could elicit a similar deleveraging spiral.