

Massimiliano La Marca

# The Carry Trade and Financial Fragility

Increasing openness of the capital account and liberalization of domestic financial markets have resulted in both deeper financial integration and increased episodes of contagious turmoil in the exchange rate and other financial markets. The ongoing financial crisis provides an example of the potentially disruptive consequences of the build-up of large leveraged speculative positions by individual investors leading to economy-wide and global systemic risk. Financial turmoil may spread across economies and within domestic financial systems, via the exchange rate channel.

## Exchange rate:

### Shock propagator rather than absorber?

Currency speculation has proved to be a formidable amplifying factor for market volatility in other sectors of the credit and financial system, and has contributed to the financial crisis, both by enhancing domestic credit booms and by exacerbating currency mismatch problems during the credit and liquidity crunch (UNCTAD 2007, 2009a). The crisis quickly spread to other segments of financial markets worldwide. It generated an initial unwinding of currency speculation in mid-2007 and strong yen appreciation at the end of June 2007. From August 2008, previously appreciating high-yielding currencies of developed economies such as Australia, Iceland, New Zealand, of emerging markets such as Brazil, Turkey, South Africa and Republic of Korea, as well as of some transition economies such as Hungary, Romania and Bulgaria, experienced large depreciations. Sudden depreciations had adverse balance-sheet effects for households and banks, causing severe stress in the financial sector, bankruptcies in both the financial and non-financial sectors and a decline in household expenditures and income contraction.

In the years preceding the crisis, these currencies had already experienced a series of small-scale crisis-like exchange rate reversals in which prolonged periods of steady appreciation and capital inflows were followed by shorter periods of sharp devaluations. In general, speculative and leveraged cross currency flows, induced by return differentials, are as relevant during boom phases as

they are during busts. They impact domestic financial systems and support a sustained, but fragile credit expansion based on currency and often on maturity mismatches in firms', banks' and households' balance sheets. While speculators enjoy larger returns by borrowing in a low yielding currency and lending in a high-yielding currency, domestic investors can access cheap credit in low-yielding foreign currencies and invest in high-return financial, real estate and other speculative assets. Credit availability and wealth effects, induced by speculative capital inflows can also feed consumption booms and changes in key relative prices within the economy. Exchange rate flexibility does not effectively deter highly-leveraged cross-currency investments. Even if recurrent exchange rate reversals may lead to significant short term losses, interest rate differentials between funding/low-yielding currencies and target/high-yielding currencies and creeping appreciation of the latter tend to generate higher-than-average profits in the longer run.

Hence, speculative and other induced capital inflows may lead to real appreciation of domestic currencies via nominal appreciation, price inflation, or both. This distorts trade by changing the relative prices of traded goods. Eventually, these flows may become the main drivers of the exchange rate and the credit business cycle in economies with structurally high interest rates such as developing and transition economies.

## Transmission between economies

The apparently naïve strategy of borrowing in and selling a low-yielding currency to buy and lend in a high-yielding currency to create leveraged cross-currency speculative positions has become known as the “currency carry trade”.<sup>1</sup>

<sup>1</sup> Carry trade can be broadly defined as a cross-currency position long in high-yielding currencies and short on low-yielding currencies. It can be realized via a “buy and hold” strategy, i.e. borrowing the funding currency and lending the target currency or in forward and futures currency markets, by selling (buying) forward the funding (target) without hedging. The covered interest parity, that is, the arbitrage equilibrium between the interest rate differential and the forward premium, guarantees that these two strategies have proportional payoffs.

The relative size and persistence of these speculative flows generate two distinct, cumulative and destabilizing effects on the currency involved: Speculative positions pile up, feeding real appreciation of target/high-yielding currencies and real depreciation for funding/low-yielding currencies. When the former is associated with trade deficits and the latter with trade surpluses, the carry trade can contribute substantially to widening global imbalances. With unwinding positions, fears of currency reversals generate sales and depreciation of target currencies, while loss-minimizing players suddenly close their positions, inducing volatility and cross-country contagion. Liquidity constraints come into play as speculators are forced to sell their collateral (in the high-yielding currency) when its value drops below the required margin, further depressing the high-yielding currency rate. The scenario is a type of Mynskian cycle in which investors' net worth affects investment returns, expectation and feeds back into net worth (La Marca, 2007).

The carry trade may therefore constitute a significant factor in the amplification and world-wide synchronization of domestic financial and economic cycles, feeding on global imbalances, and hence, is a direct source of financial fragility and crisis contagion.

### **Carry trade cycles**

Detecting carry trade activities is problematic: there is only indirect evidence of speculation using publicly available information, and it is difficult to distinguish between carry trade positions and other exchanges. As their relevance has increased in the last decade, it has recently received attention by economists.

Carry trades are profitable and risky, but attractive. Carry trade are naturally risky, and more diversified currency portfolios – long in target currencies and short in funding currencies – have had better profitability/risk profiles than smaller, more speculative ones in the last decade. In terms of their profitability/risk profile, carry trades outperformed the S&P 500 in the 30 years before the crisis.

...yet, speculation suffers from crash risk and “likelihood of extreme events” that cannot be diversified away.

Currency returns, like stock market returns, are “negatively skewed”, i.e. subject to crash risk, and have “fat tails”. That means that high-yielding currencies appreciate a little most of the time, but sometimes depreciate significantly. This can be attributed to asymmetric

responses to shocks. Negative shocks ignite sheer unwinding, as funding becomes constrained, high-yielding currencies are sold, and exchange rates further depressed. This asymmetric response is greater, the higher the interest rate differential vis-à-vis the funding currencies. As in any Mynskian cycle, the net worth of investors can be a binding constraint that can spiral downward together with asset prices (here, the exchange rate), market expectations and currency returns.

In general, high-yielding currencies appreciate in tranquil times, and sharply depreciate during episodes of global volatility and liquidity shortage.

High-yielding funding currencies have long episodes of appreciation interrupted by sharp depreciations. Along this pattern, they are not only positively correlated with one another, but also negatively correlated with the standard measures of total risk or risk aversion, global volatility, and funding liquidity (such as the VIX) that signal global market sentiments and desire to “fly to safety”.<sup>2</sup>

Moreover, higher-yielding currencies are more likely to crash when global market sentiments shift.

The exchange rate sensitivity to global risk aversion/liquidity changes is correlated with interest rate differentials. This clearly points to currency speculation as the source of correlation between global volatility and exchange rate crashes.

### **Policy responses?**

Cross currency speculation has become endemic in lightly regulated open financial systems, and has displayed cyclical patterns that contribute to financial fragility. Exchange rates appear to behave like asset prices in a globalized market, and are fundamentally linked to the investment climate and funding liquidity of international investors. Moreover, if currency speculation drives a wedge in the exchange rate adjustment and supports the build-up of economy-wide leveraged positions, then currency speculation is clearly destabilizing for the whole economy.

The inconsistent design of domestic financial markets and the lack of an international monetary and exchange rate system have been at the root of the build-up of financially fragile positions at the firm and household level that spill over into the macroeconomic system in the form of unsustainable imbalances and macroeconomic policies.

---

<sup>2</sup> The VIX is a measure of total risk or risk aversion in the US equity market and is not mechanically related to the expectation of currency reversals.

Financial markets can be inherently unstable while unfettered capital flows represent a source of systemic financial risk and a crisis transmission mechanism. As shown in the previous sections, the aggregation of individual market actions can be highly destabilizing. In the currency market, investors' general risk aversion, funding constraints as well as a funding currency policy change can trigger a generalized unwinding of positions. When currencies are under strain, countries that have become fragile due to capital inflows and credit booms can incur balance of payments problems, which are amplified as investors change their perception of the country's macro-fundamentals and their assessment of economic and financial sustainability.

Increasing evidence of volatility contagion and external determination of exchange rates fluctuations have highlighted, once more, the inadequacy of traditional currency crisis analyses, focused on domestic policy inconsistencies, as well as of traditional crisis resolution measures seeking to restore confidence of financial investors. The current financial and economic crisis has clearly shown how crises can be generated by inconsistencies in the financial and monetary systems at national and international levels (see UNCTAD, 2009b; and United Nations, 1999 and 2009).

In deciding policy responses for crisis-stricken economies, and whether policy changes should aim at restoring the "normal" functioning of the domestic financial system, it has to be borne in mind that any economic outcome depends on public sector action (or inaction) as well as private sector operations, particularly in domestic and international financial markets. The assumption that financial markets operate efficiently, and seize opportunities offered by policy inconsistency has the effect of rationalizing the behavior of both domestic and international investors, and rule out systemic failures of the global financial system. More importantly, it ignores the fact that the lack of a proper international monetary and exchange rate system generates international financial instability.

---

*Massimiliano La Marca is currently Economist at the Research and Policy Analysis Branch of the Division for Africa, Least Developed Countries and Special Programmes, United Nations Conference on Trade and Development (UNCTAD), Palais des Nations 8-14, Av. de la Paix, 1211 Geneva 10, Switzerland: massimiliano.la.marca@unctad.org*

## References

- La Marca, M. (2007). "Carry trade and financial fragility". In H. Flassbeck and M. La Marca (eds). *Coping with globalized finance: recent challenges and long term perspectives*. UNCTAD/GDS/2007/2, United Nations, Geneva and New York.
- La Marca, M. (2009). "Crisis propagation: the exchange rate channel". Paper prepared for the international workshop "Transmission mechanism of the global financial crisis on the developing world", School of Oriental and African Studies, London, 11 July.
- UNCTAD (2007). *Trade and Development Report*. United Nations, Geneva and New York.
- UNCTAD (2009a). *Trade and Development Report*. United Nations, Geneva and New York
- UNCTAD (2009b). The global economic crisis: systemic failures and multilateral remedies. UNCTAD/GDS/2009/1. United Nations, Geneva and New York.
- United Nations (1999). "Towards a New International Financial Architecture: Report of the Task Force of the Executive Committee on Economic and Social Affairs of the United Nations". United Nations, New York.
- United Nations (2009). General Assembly Recommendations by the Commission of Experts of the President of the General Assembly on reforms of the international monetary and financial system. A/63/XXX. 19 March, New York.