

Covered Interest Parity (CIP) And The Dollar – Currency Theory

First, let me explain some key terms:

- **Forex (FX) swap:** Is a contract between two parties (generally) where one party borrows US dollars and pledges another currency as collateral.
- **Forward rate:** Is the agreed upon exchange rate at which repayment (the closing of the FX swap) takes place. This is the implied US dollar interest rate for the length of the swap.
- **London Interbank Offered Rate (Libor):** Is the average interest rate estimated by each of the leading banks in London that it would be charged were it to borrow from other banks. Roughly \$400 trillion in derivatives are priced directly or indirectly off this rate.
- **Covered Interest Parity (CIP):** Is the theory that the interest rates implicit in the FOREX swap rate should be consistent with market interest rates (Libor).

Don't let this financial jargon put you off. What I'm about to tell you is really not that complicated and it's extremely important to the global economic system — so it's worth understanding.

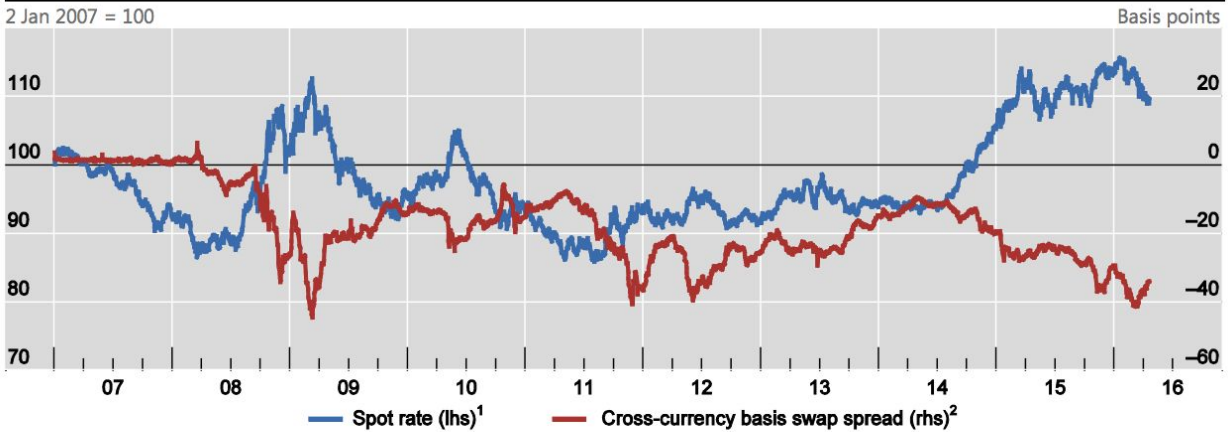
Economist Hyun Song Shin presented a paper to the Bank of International Settlements (BIS) two weeks ago titled *Global liquidity and procyclicality*.

In it he discussed the breakdown of covered interest parity theory, and said the following:

There is an intriguing market anomaly in the foreign exchange market right now: the widespread failure of covered interest parity. Covered interest parity, or "CIP" for short, is the proposition that interest rates implicit in foreign exchange markets should be consistent with market interest rates. Before 2008, CIP held as an empirical regularity with very few exceptions worth mentioning. As an academic, I used to tell my students that CIP is about the only relationship that can be relied upon in international finance. I know better than to say this now. Textbooks still say that CIP holds, but it is no longer true.

US dollar exchange rate and the cross-currency basis

Graph 2



¹ Simple average of bilateral exchange rate of the dollar against CAD, EUR, GBP, SEK, CHF and JPY. Higher values indicate a stronger US dollar. ² Simple average of the five-year cross-currency basis swaps against CAD, EUR, GBP, SEK, CHF and JPY vis-à-vis the US dollar.

Sources: Avdjiev, Du, Koch and Shin (2016); Bloomberg; BIS calculations.

The chart above shows the breakdown of CIP. The blue line is just the average USD exchange rate against a basket of currencies. A higher blue line means a stronger dollar. And the red line is the average USD swap rate against a basket of currencies. A lower red line means a wider spread — a larger gap between USD libor rate and USD swap rate.

If that chart went back further in time, it would show the red and blue line tracking each other perfectly, just like CIP says it should. Previous breakdowns in CIP were generally temporary and isolated to financial crises. What is interesting now is that the widening in spread between USD libor and USD swap rates has persisted — even gotten wider — in times of relative calm.

Why is this happening?

Hypothetically this divergence should be arbitrated out. Banks should be borrowing USD at the market (libor) rate and lending them out in swaps, thus closing the gap.

Shin explains that this is likely due to increasing bank regulation and risk adversity. From Shin:

In textbook settings where someone could borrow and lend without limit at prevailing market interest rates, the cross-currency basis could not deviate from zero, at least not by much, and not for too long. This is because someone could borrow at the cheaper dollar interest rate and lend out at the higher dollar interest rate. However, executing such a trade entails a sequence of transactions, often through intermediaries. As such, it makes demands on the risk-taking capacity of dealer banks as well as counterparties.

So there seems to be little appetite for being short a large amount of dollars at this point in time, at least in the swap market. The swaps market is not like the forex cash market, swaps can be very illiquid, meaning that occasionally it can be tough to find buyers, which means they have higher risk. And when the world is collectively short \$8-11 trillion US dollars there is an abundance of rocket fuel for a USD short-squeeze from hell... banks know this, which is why CIP is not working.

What's really important about all this though are the global and second order effects that a strengthening dollar and higher swap rate are having on the economic system.

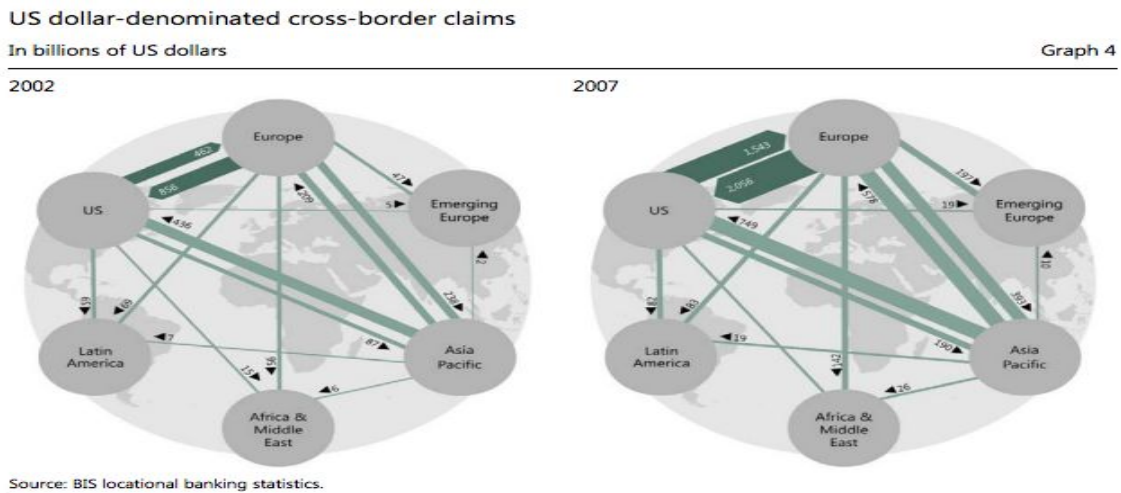
It's not just emerging markets that the dollar is directly impacting but the other hard currency zones as well, most strikingly the euro, yen, and Swiss franc.

The reason for this causal linkage is most likely due to the greenback's role as the global funding currency and the importance of the eurodollar.

Eurodollars are US dollar denominated deposits held outside of the US. Since they are outside of the US, they are not subject to US banking regulation and the banking costs associated with this regulation. This means that banks in the eurodollar market can operate on thinner margins than US institutions in USD financing. Because of this, along with the secular downward trend in US rates, the eurodollar market has absolutely exploded over the last two decades.

The dollar is used for international hedging, as a bridging currency in cross-border transactions, and for invoicing international trade among many other things. Needless to say, it's become a very important and integral part of the global financial system.

This has intensified the rate at which dollar recycling flows around the world; which you can see in the chart below.



The flow of US dollars from here to Europe have increased from \$462 billion in 02' to \$1.54 trillion in 07' (the latest period for which we have data) and from \$856 billion in 02' to over \$2 trillion in 07' for the Europe-US leg.

This matters because it's this round-tripping of dollars between the US and the rest of the world that causes liquidity crises to spread from one country to another. The greater this linkage, the greater the fragility of the whole system — and today this linkage is greater than it ever has been in history.

In 2008, the US subprime crisis quickly spread to Europe because European banks were borrowing dollars at low rates in the US and then buying US equities and subprime mortgages with those borrowed dollars. And it wasn't just Europe, but banks all over the world were doing it, which is one of the reasons the 08' financial crisis was so devastating.

This time however, the key players most exposed to a stronger dollar are not financial institutions, they're emerging market corporates. And the USD borrowing has been done through corporate bonds versus bank funding.

This is extremely important because should the dollar debt unwind occur — and it will, it's just a matter of time — the mechanism by which financial stress will spread through the system will be much faster and more intense because the borrowers are corporates in the real economy and not just banks. Shin says the following:

First, even if the bonds have long maturities, there are other repercussions on the economy if US dollar-denominated borrowing begins to unwind. Non-financial firms are deeply embedded in the economy, and their financial activities spill over into the rest of the economy. Bruno and Shin (2015c) find that dollar borrowing by emerging market corporates has had the attributes of a "carry trade" where, for every dollar raised through a bond issue, around a quarter ends up as cash on the firm's balance sheet. Here, cash could mean a domestic currency bank deposit or a claim on the shadow banking system, or indeed a financial instrument issued by another firm. So, dollar borrowing will spill over into the rest of the economy in the form of easier credit conditions. When the dollar borrowing is reversed, these easier domestic financial conditions will be reversed, too.

Furthermore, even if a country has large foreign exchange reserves, the corporate sector itself may find itself short of financial resources and may cut investment and curtail operations, resulting in a slowdown of growth. So, even a central bank that holds a large stock of foreign exchange reserves may find it difficult to head off a slowing real economy when global financial conditions tighten. Arguably, such a slowdown is part of what we are seeing right now in emerging market economies.

All this goes to show that international financial developments have to be placed in the broader context of past and anticipated central bank actions.