

Currency Responses To Equity Shocks

While reflexive actions such as blinking or flinching can serve us well physically for the very reliable reason something moving toward your eye is dangerous, reflexive responses in markets often become self-fulfilling prophecies. These learned responses generally are born out of traumatic events in markets such as the 1987 stock market crash and the massive flight into Treasury bonds immediately following. These responses have become especially acute and distressingly more common in recent years as central banks undertake competitive devaluations of their currencies, add and remove quantitative easings just to see what is going to happen and as governments become increasingly dependent on commercial banks holding dodgy sovereign debt blessed with the illusion it is risk-free. Add diminished liquidity to the mix and we have markets bouncing like a ping-pong ball in a RORO (risk-on/risk-off) world.

Open The Pod Bay Door, HAL

Human decision-making and human emotions used to dominate trading, but as in so many other aspects of life, machines are taking over. One of the consequences of algorithmic trading is what had been human-driven cultural aspects of trading become hard-wired into trading rules. How hard is it to write a few lines of code to say, “If the stock market has a bad hair day, buy some Treasuries until the whole thing blows over?” This is a case of past performance not so much predicting future results but actually producing future results.

A second response, one more appropriately assigned to global equity markets where currency carry trades are involved, has been for equity selloffs to produce both sovereign debt rallies and gains in funding currencies such as the U.S. dollar, Japanese yen and Swiss franc.

A third response, implied in the negative from the unwinding of carry trades, should be higher-yielding major currencies such as the Canadian and Australian dollars should decline during global equity downturns. The sovereign debt market responses of these countries should be indeterminate; on one hand, their yields should fall given the global risk-reduction climate but just as domestic investors flee into lower-yielding Treasuries and not higher-yielding corporates, global investors tend to flee into the lower-yielding bonds of carry trade funding countries and not into higher-yielding but still-high quality bonds of countries such as Canada and Australia.

Currency Responses

Let’s map the weekly return on a set of currencies as measured by the Bloomberg correlation-weighted indices as a function of weekly returns on the MSCI-Barra World Free index in local currency terms and weekly returns on each country’s 7-10 year sovereign debt going back to the January 1999 inception of the euro. Negative returns are marked in red bubbles, positive in green bubbles; the diameter of the bubbles corresponds to the absolute magnitude of the return. A yellow rectangle corresponding to the average ± 1.00 standard deviations of both the MSCI World and each country’s 7-10 year sovereign bond returns is superimposed.

If the currency and 7-10 year bond reacts in a “risk-off” response to an equity shock and vice-versa we should see large green bubbles to the northwest of the yellow rectangle and large red bubbles to the southeast of the yellow rectangle.

Funding Currencies

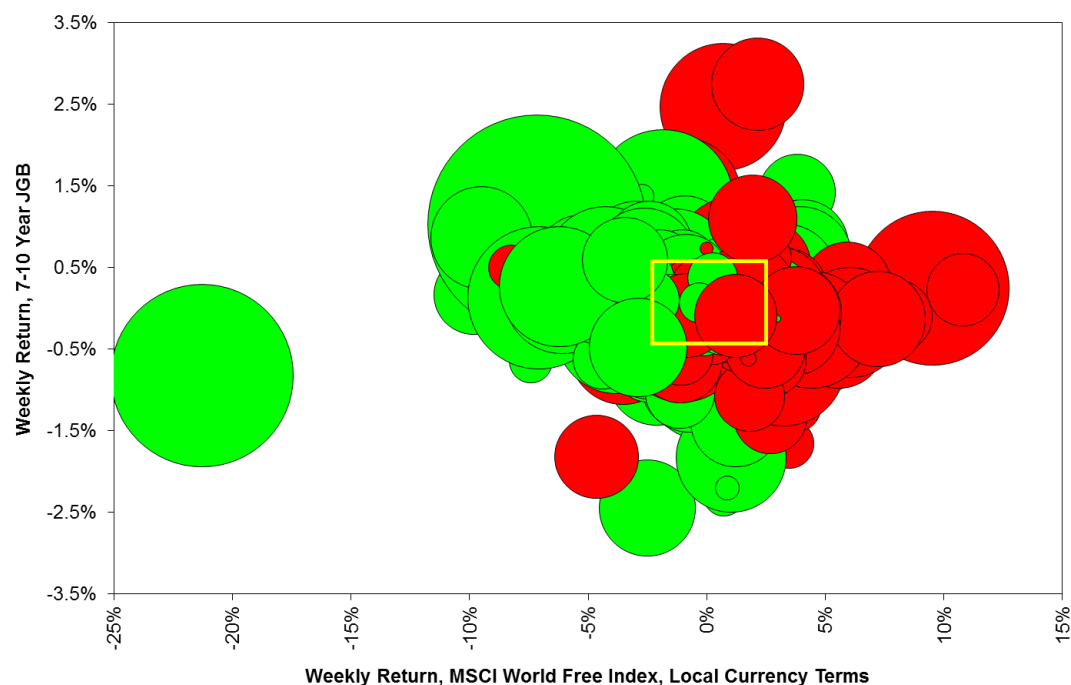
The USD, CHF and JPY had been the primary funding currencies over this period, with the dollar carry trade being the latest to emerge. This changed in early 2015 when the Swiss National Bank unexpectedly lifted the 1.20 CHF/EUR ceiling and when the European Central Bank drove the euro down to levels where it became competitive as a funding currency. Yes, these carry trades have been anything but uneventful.

The yen carry trade was the primary one until deflationary pressures started to mount in Japan in 2007 despite the Bank of Japan’s best and often misguided efforts. Japan has been doing everything humanly possible to destroy the yen ever since, but even after multiple rounds of money-printing and a move to negative short-term interest rates, it remains resilient. The Swiss franc’s trapdoor-opening in January 2015 was noted above. The dollar carry trade

eroded throughout much of 2015 and produced real pain on every commercial bank around the world with dollar liabilities.

Even with the yen carry trade's near-death experience between July 2007 and September 2012, returns on the yen have followed the posited equity shock response very closely. We see large green bubbles to the northwest and large red bubbles to the southeast of the yellow rectangle. Your intuition has not failed you; the yen has become a haven currency whenever the risk-off mood strikes.

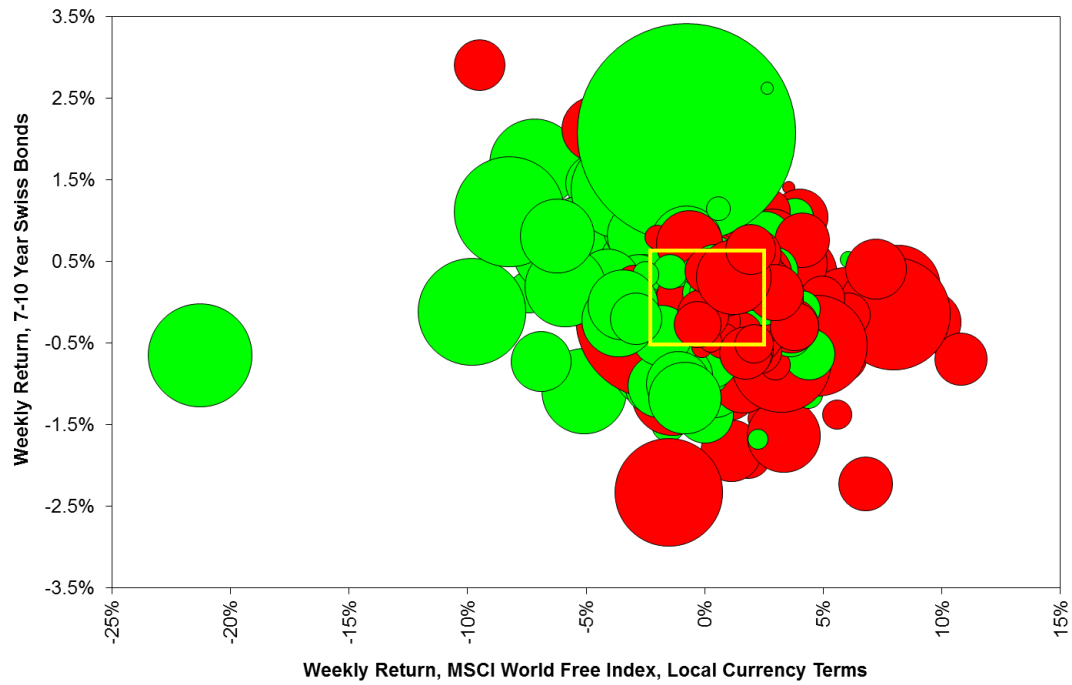
The Yen And Stock-Induced Shocks



Source: Bloomberg

What about the Swiss franc? Even after the surprise imposition of the franc ceiling in September 2011 and its removal in January 2015, it retains the posited response to equity shocks just as neatly as does the yen. This confirms your suspicion euro-domiciled investors have had an almost Pavlovian urge to borrow CHF during strong weeks for equities and to close the loans at the first whiff of trouble. Some investors clearly do not learn from experience.

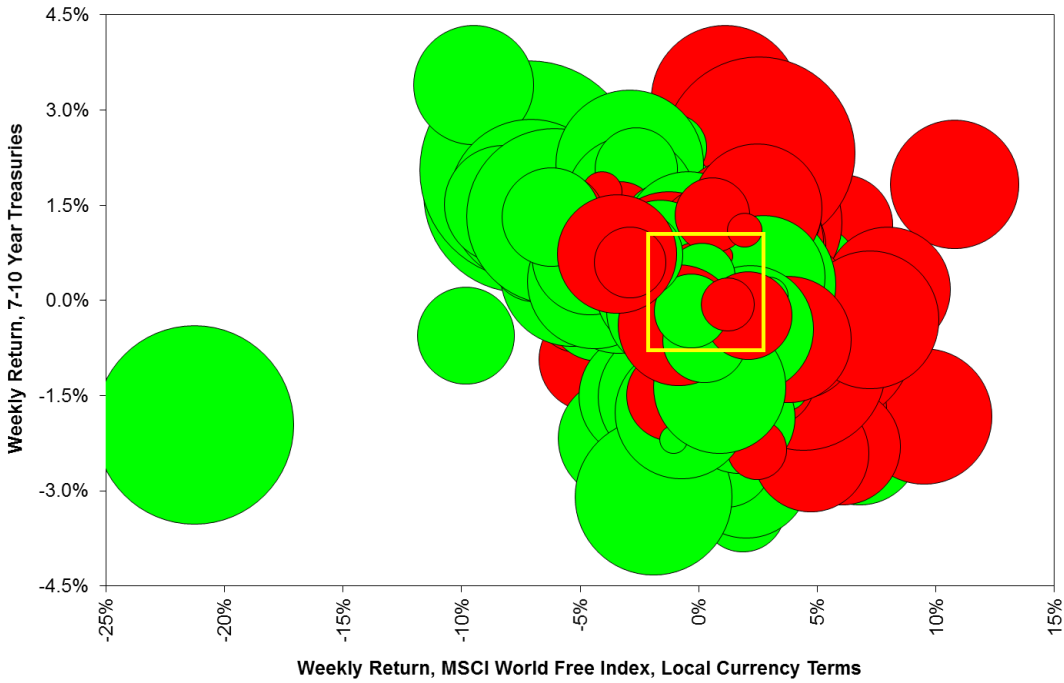
The Swiss Franc And Stock-Induced Shocks



Source: Bloomberg

The dollar carry trade has much more of the east-west divide we should expect for currencies such as the Canadian and Australian dollars. The USD retreats to the east of the rectangle and advances to the west of it, but the response of 7-10 year Treasuries remains somewhat indifferent to the changes in global equities. The much-hallowed “flight-to-quality” ascribed to the Treasury market exists for Japanese and Swiss 7-10 year bonds but not to their American cousins.

The U.S. Dollar And Stock-Induced Shocks

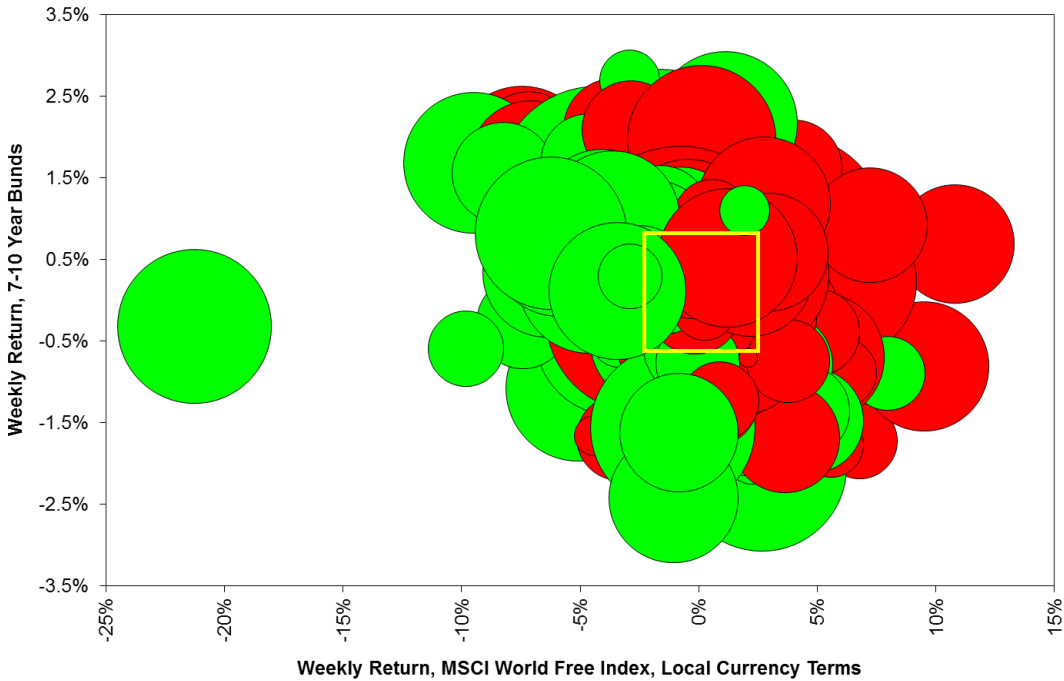


Source: Bloomberg

Other Major Currencies

The euro has not been either a major funding trade currency until early 2015 or a recipient of borrowed funds for most of its life. As such its behavior during equity selloffs has been somewhat unusual: The large green bubbles are concentrated slightly to the southwest of the rectangle while the large red bubbles are concentrated to the northeast. This odd behavior suggests Eurozone 7-10 year sovereign bonds decline during equity selloffs as the euro advances and gain during equity rallies as the euro declines. The euro thus acts like a bellwether “risk-on” currency.

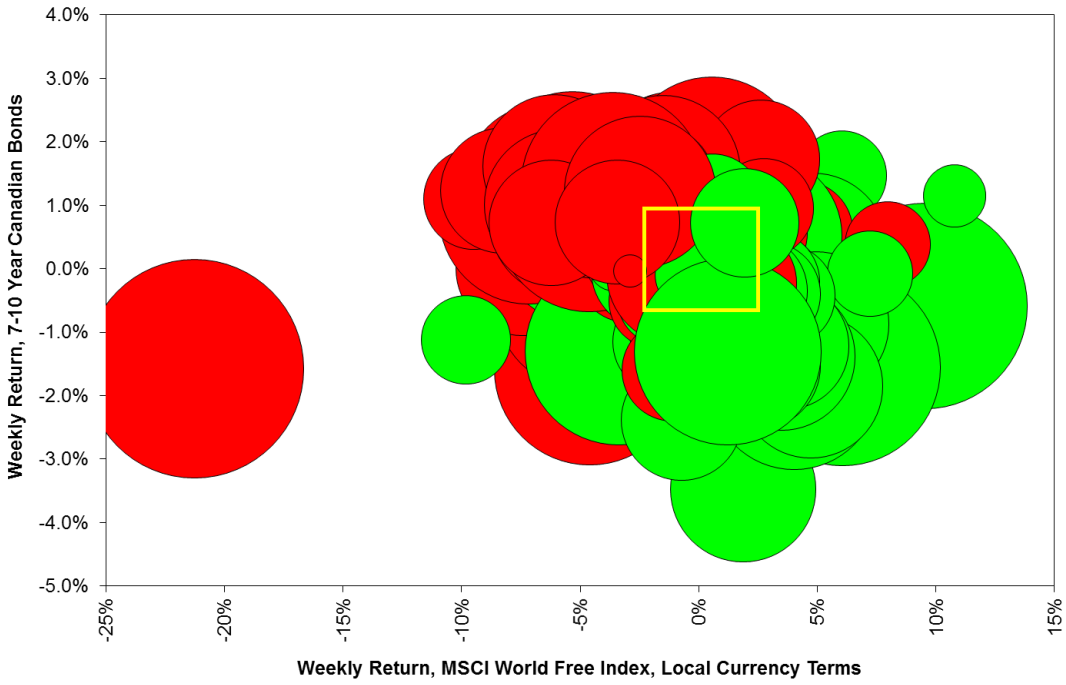
The Euro And Stock-Induced Shocks



Source: Bloomberg

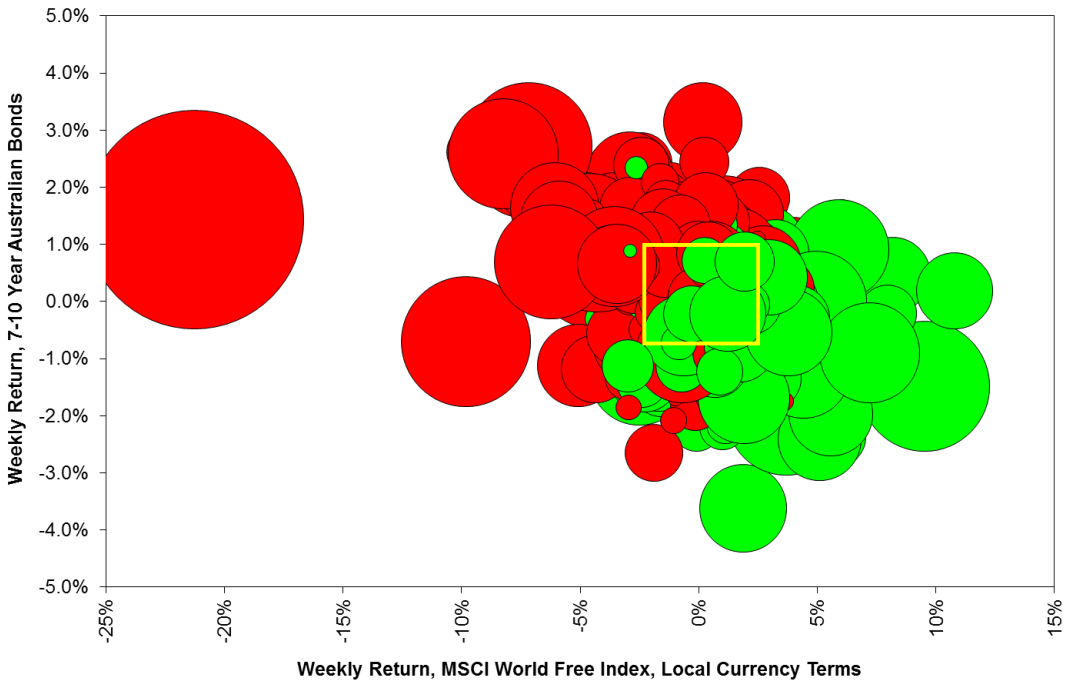
Both the Canadian and Australian dollars act exactly as we should expect higher-yielding currencies receiving carry trade inflows to react. They decline sharply to the west of their yellow rectangles and advance sharply to the right of those rectangles. Both countries' 7-10 year bonds have a bias toward advancing during equity downturns; surprisingly, this effect is much stronger for the AUD than for the CAD. This suggests Canadian 7-10 year bonds react more like 7-10 year Treasuries while Australian 7-10 year bonds react more like 7-10 year Japanese government bonds. Restated, Canada is linked more closely to the USD carry trade while Australia is linked more closely to the JPY carry trade. Geography apparently matters even in an electronic world.

The Canadian Dollar And Stock-Induced Shocks



Source: Bloomberg

The Australian Dollar And Stock-Induced Shocks



Source: Bloomberg

There is always a healthy skepticism whether carry trades in fact exist, you can often hear a hedge fund manager say, "I do not know anyone who does this." No matter; markets settle toward their arbitrage bounds regardless of whether anyone constructs the exact trades to put them there. All hail the Invisible Hand. What we do see, and rather convincingly, is major currencies do manage to ebb and flow in a predictable manner to changes in global equity markets.