

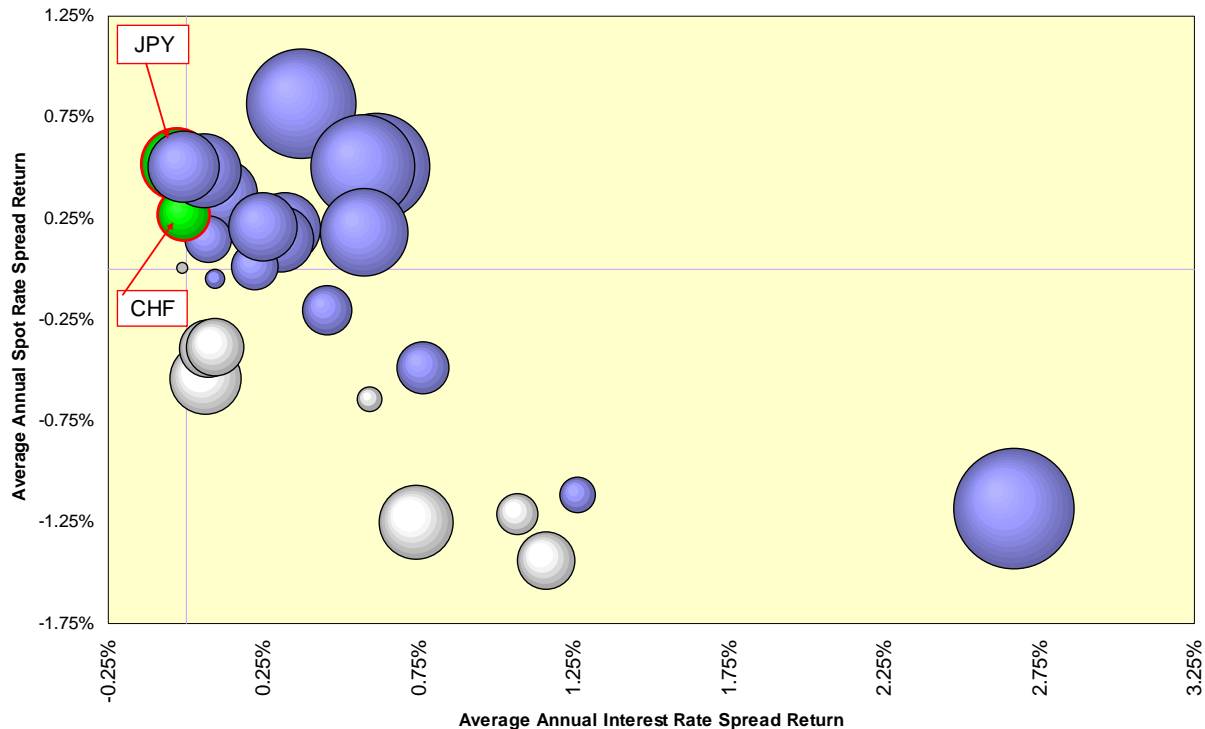
## The Paradox Of Negative Interest Rates

The role of education has moved front-and-center in the public policy debate around the world as national economic growth, not to mention individual income, increasingly depends on adding value to information. This may be the case in many endeavors, but it is not at all clear market analysis is one of them; some believe doctrinaire adherence to textbook explanations is a formula for disaster. Indeed, it is not what a person knows; it is how that person unlearns commonly held beliefs proven inadequate that defines the real value of an education.

You are free to contemplate why you were not told this during your own formal education.

One case in point deriving from the interest rate arbitrage model of currencies wherein expectations of higher short-term interest rates should propel a currency higher as funds will be lent there is the presumption high-yielding currencies are strong currencies. However, if we map the total carry returns for twenty-eight different currencies against the USD since the January 1999 inception of the euro as a function of the average annual spot rate and interest rate spread (see “The Long, Awful Life of The Dollar Carry Trade,” January 2012) we see two of the most prominent low-yielding currencies, the CHF and the JPY, have strongly positive spot-rate return currencies. In fact, the only currency with a negative interest rate spread against the USD, the Hong Kong dollar, has had negative total carry return against the greenback.

### Low-Yielding Currencies Often Have High Spot-Rate Returns



In the case of the JPY, the spot-rate strength is attributable in part to both the country’s persistent skirting with deflation across its various Lost Decades and to the necessity of Japan’s customers to buy yen to pay their Japanese suppliers. Moreover, once the yen carry trade was displaced by the dollar carry trade beginning in 2009, Japanese investors began repatriating funds (see “Requiem For a Carry Trade,” February 2012).

#### The Swiss Franc Case

The CHF presents an interesting case on several grounds. First, it has tried to remain an island within the euro sea, which is quite difficult considering its geography and trade patterns (see “The Major Euro Crosses,” March 2007). Second, it has been a carry trade funding currency itself (see “Franc-ly My Dear, I Don’t Give a Carry,” September 2008 and “How Eastern Europe Got Carried Away,” October 2009). Finally, it has also been a stopping ground for earnings coming from various resource producers, no questions asked (see “The Swiss Franc’s Commodity Connections,” October 2008).

These factors plus flight capital coming out of the Eurozone during the sovereign credit crises of 2010-2011 pushed the CHF to levels the Swiss National Bank (SNB) considered unsustainable. Having international investors consider you a haven is flattering to a point; drowning in their fund inflows is a little excessive. The SNB, which had lost somewhere in the neighborhood of CHF 14 billion in its 2009-2010 interventions to suppress the CHF against the EUR, “went big,” as the phrase goes in September 2011 and announced a ceiling of 1.20 CHF per EUR and promised it effectively would print as many francs as necessary to enforce that ceiling.

We can admire their courage even if we question their sanity. After all, the history of central banks and finance ministries in wagering their countries’ wealth and price stability to defend or impose an arbitrary exchange rate is not a happy one. George Soros famously broke the Bank of England in September 1992 by betting the BOE would not be able to keep short-term interest rates high enough for long enough to defend the three DEM / GBP level. A country can fix its interest rates or it can fix an exchange rate, but it cannot fix both simultaneously; this is true for large countries such as the U.S. and China and for any Alpine confederation of your choice.

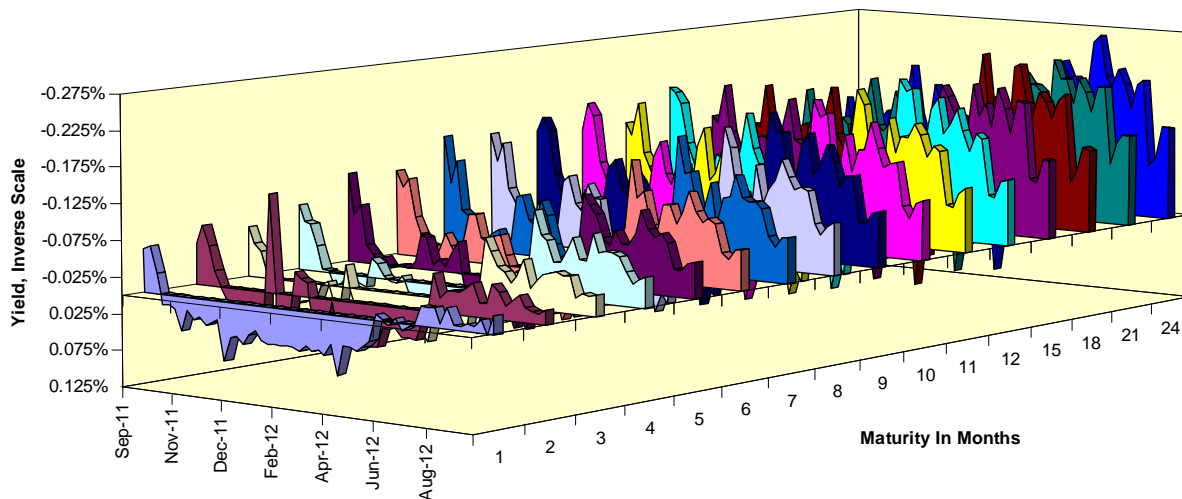
### Negative Interest Rates

Not very long ago many professionals considered negative interest rates to be something akin to a perpetual motion machine, faster-than-light, the Chicago Cubs winning the World Series or other unobserved events; this was despite the occasional gentle reminder from some the U.S. had effectively negative Treasury bill rates in 1937 and the Swiss had imposed a negative interest rate on foreign deposits in 1979. By mid-2012, a host of higher-quality European sovereign interest rates turned negative.

There are several ways to conceive of these negative interest rates. The first is the lender is paying the borrower for the privilege of lending money thereto. The second is the lender is paying a premium for an asset and the amortization over time is a loss of money. The third is the lender is engaging in an insurance transaction: In exchange for the know loss on the loan, the lender will avoid the possibility of a larger and unknown loss elsewhere at some point in the future.

Let’s take a look at how the Tomorrow-next overnight indexed swap (TOIS) market behaved after the SNB imposed the franc ceiling on September 7, 2011. The most obvious feature of the chart below is how much of it is in negative territory. Negative interest rates are not an oddity here; they are a part of the landscape.

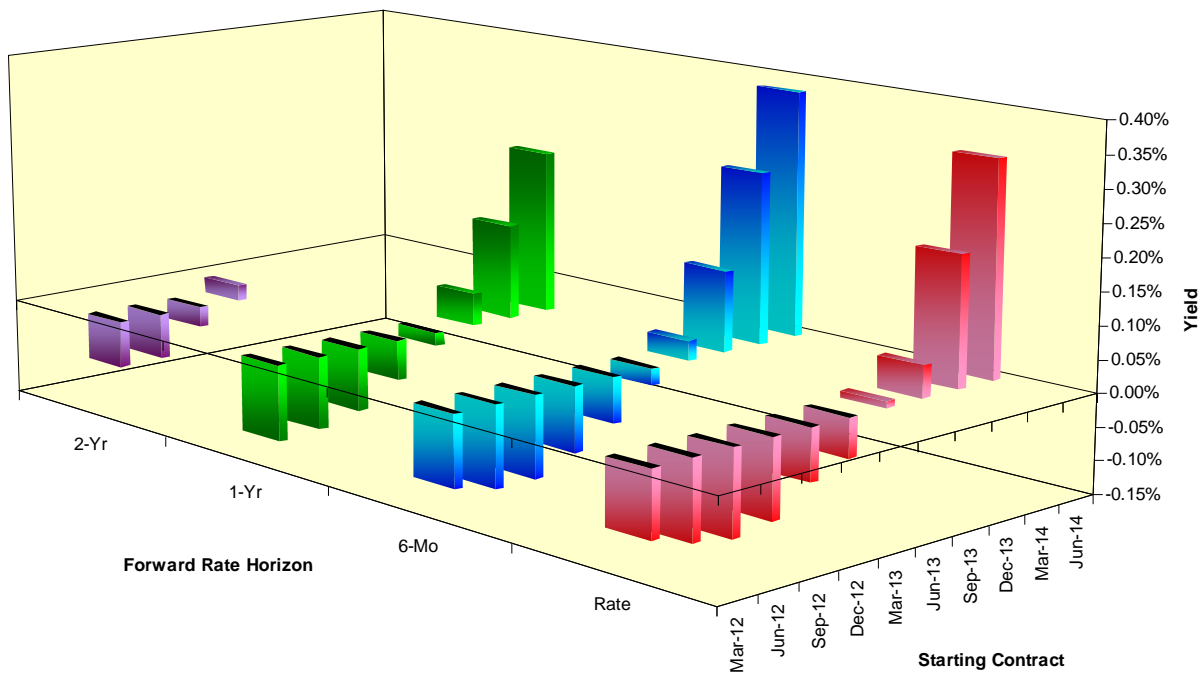
**TOIS Yields Largely Negative In An Inverted Yield Curve**



The second feature of the chart that may stand out is how it started inverting in November 2011 via a twist; the very shortest-maturity swaps started to rise in yield while the longer-maturity swaps were falling in yield. That twist started to signal greater comfort in the persistence of negative yields and indeed a greater demand for CHF overall; the more people wanted to hold CHF as opposed to EUR, the more they were willing to accept the interest rate penalty. Such willingness had to be construed as bullish for the CHF over the longer-term as the minute rates came off negative levels, the dam would break and flood the country with funds willing to push the CHF higher.

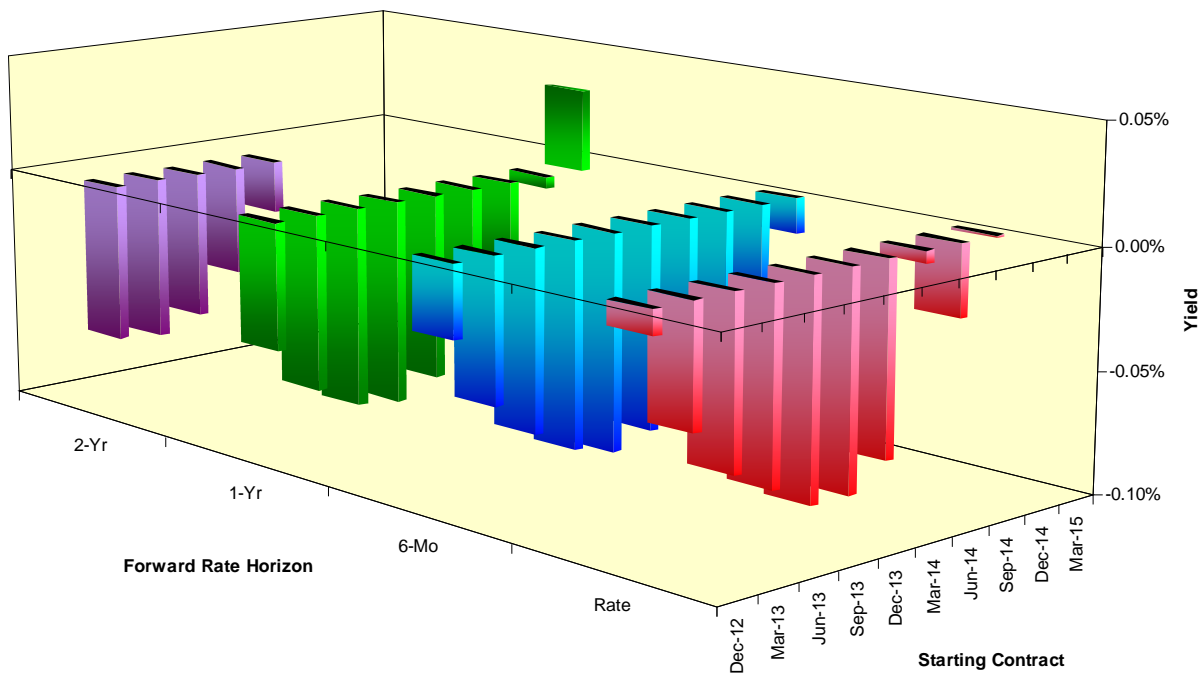
The synthetic forward rate structure for Euroswiss futures was quite telling by the time the Swiss joined other central banks in expanding dollar swap lines into the Eurozone at the end of November 2011. Six-month Euroswiss forward rates were negative for the entirety of calendar year 2013, and one-year forward rates were negative through March 2014. Anyone looking to lock in a franc loan could do it at a negative interest rate, but the risk would be the spot CHF would be much higher at repayment time.

**Euroswiss Synthetic Forward Rates: December 2, 2011**



The situation became much more extreme by the end of September 2012. The negative forward rates are far more prevalent and persistent; indeed, the only positive forward rate visible is the one-year starting in December 2014.

## Euroswiss Synthetic Forward Rates: September 28, 2012



Someone with a classical understanding of interest rate arbitrage might say the franc should be weak because of these negative interest rates. Once you unlearn that training, you then can understand Swiss interest rates are negative because demand to lend into the CHF is so strong lenders are willing to accept a penalty rate.

Nothing lasts forever, though, and the SNB risks losing its bet it can counter global fund inflows in a chronic financial crisis. The sign it is losing its bet will come when the volatility of three-month CHF forwards rises as the CHF strengthens against the EUR; that will signal the market's belief more increases will come and must be protected against.

By luck or design, this has yet to happen. Not only did the Swiss franc ceiling hold through the various Eurozone sovereign debt crises of 2012, the aggressive monetary policies of the European Central Bank served to slow the panic and led to a decline in the CHF against the EUR in August-September 2012. Volatility has been tame.

There we are in our through-the-looking-glass world: A currency with negative interest rates strengthened against a currency at existential risk until the latter's central bank promised to engage what amounts to money-printing. If you learned about interest rate arbitrage or even about supply/demand balances, you might have thought the opposite would occur in both situations.

### The SNB Maintained Credibility On Franc Ceiling

