Recently we received the following question from a reader and thought it might be helpful to answer it for all of our subscribers. The question is as follows:

> *?Who buys a French bond with a negative yield when they can buy a safer U.S. Treasury bond yielding over 2%??*

The simple answer: **the economic incentive for a foreigner to own higher yielding U.S. Treasuries is significantly diminished or entirely erased when adjusted for currency and credit risks.** Following is a detailed analysis explaining the answer. That question was recently posed following the publishing of Deficits Do Matter. In that article, we presented data showing the pace of foreign buying of U.S. Treasury securities had slowed considerably in recent years. Of concern, the amount of debt foreigners are currently buying is not keeping up with the increasing issuance of Treasury debt. Given that foreign holders are the largest investors in U.S. Treasuries,

accounting for over 40% ownership, as well as their large holdings of corporate and securitized individual debts, this change in behavior should be followed closely. Why are foreign investors shunning U.S. Treasuries despite significantly higher yields than many other sovereign debt issuers? The question is even more perplexing when one considers that U.S. Treasury securities are believed to be safer from a credit perspective and offer more liquidity than any bond outstanding, sovereign or otherwise. When considering bonds of different countries, the analysis is not as simple as comparing yields. When factors such as foreign exchange (FX) rates and credit quality are factored in, the math becomes more complicated, and the results tell a very different story.

Buy and Hold

In this article, we walk through the calculations that buy and hold investors of sovereign bonds use to effectively compare yields on bonds from different countries. Before going into details, it is important to note that there are two other types of buyers and their decision making is different from that discussed in this article. One investor grouping consists of the banks, brokers and hedge funds that speculate on a short-term basis to take advantage of an expected change in yields. The other type of ?investors? are the central banks and/or treasuries of countries that hold U.S. dollars for trade purposes. These dollar reserves are typically invested in highly liquid fixed income securities, with U.S. Treasuries generally the most desired. Global bond mutual funds, pension funds and other types of institutional investors that buy foreign government bonds tend to hold them to maturity. These investors are constantly assessing yields, credit risk, liquidity status and many other factors to help them achieve the highest returns possible. This task is not as simple as comparing the stated yield of a German bund to a U.S. Treasury bond of similar maturity. As mentioned, two other important risk factors one must consider, assuming the investor holds to maturity, are expected currency exchange rate changes and credit risk. Assume the perspective of a German-based sovereign bond fund. The German portfolio manager, when valuing various sovereign bonds, must take two steps to re-calculate yields so they are comparable on a risk-adjusted basis. The first step is to quantify the credit risk. This is a relatively easy task as credit default swaps (CDS) provide a real-time market assessment of credit risk. These swaps are essentially insurance policies where the writer/seller of the swap receives semi-annual premium payments, and the buyer of the swap is entitled to be made whole if the bonds default. The less risky the bond, the lower the premium. Our German investor might buy a related CDS in conjunction with a Treasury bond to hedge the credit risk. The second step is to gauge the foreign exchange risk. For our German portfolio manager to buy a U.S. dollar bond, he must first convert his Euros to U.S. Dollars. Going forward, each interest payment and the ultimate payment of principal the portfolio manager receives must be converted back from U.S. Dollars to Euros. The risk the portfolio manager bears is the changing FX conversion rate of future interest and principal payments from U.S. dollars back into Euros. Our manager can assess and hedge the risk, if he chooses, using FX forward swaps. These swaps represent the ?price? at which an investor can lock in an exchange rate between two currencies in the future. Investment banks facilitate a swap where mutually agreed upon *future* exchange rates can be negotiated. This transaction allows the investor to buy the foreign bond and establish certainty around the exchange rate at which future payments will be received and converted. To walk through a transaction, let?s compare a 2-year German bund to a 2-year U.S. Treasury note. The yield on the German bund is currently -0.58% and the U.S. note yields +2.64%. At first blush, one might surmise that a German investor can pick up 3.22% (2.64% - (-0.58%) buying the 2-year U.S. Treasury. However, as we stated, the investor would then be assuming foreign exchange risk. Currently, the two-year forward euro/dollar exchange rate is priced at 6.57% (3.23% annualized) higher than the spot exchange rate. If the Euro were to appreciate 3.23% each year, the previously stated 3.22% annual pickup in yield (benefit) would be entirely offset with a 3.23% currency loss, resulting in the German portfolio

manager being largely indifferent between the two bonds. In selecting the German bund over the U.S. Treasury, the investor is also taking on additional credit risk, as Germany is considered slightly riskier than the U.S. The current German two-year credit default swap (CDS) swap costs five basis points a year more than U.S. CDS. Factoring in the CDS swap, the new rate differential for

	2 Yr. Yields	FX Forward Spread (annualized)	FX Adjusted Yield	Yield Difference vs. 2yr. Tsy	Credit Adjustment (CDS)	Net Yield Difference
Germany	-0.58%	3.23%	2.65%	0.01%	-0.05%	-0.04%
Italy	1.17%	3.23%	4.40%	1.76%	-2.01%	-0.25%
France	-0.41%	3.23%	2.83%	0.19%	-0.15%	0.04%
Japan	-0.11%	3.06%	2.95%	0.31%	-0.10%	0.21%
UK	0.72%	1.79%	2.52%	-0.12%	-0.36%	-0.28%
USA	2.64%					

As highlighted above in the Net Yield Difference column, investors in Japan are better off on a risk-adjusted basis (.21%) by buying their domestic 2-year bonds with a negative yield than buying 2-year U.S. Treasury notes at 2.64%. German and French investors are indifferent, while Italian and UK investors should favor U.S. bonds. While the math can get confusing the important takeaway is as follows: **For the countries shown above and many others not included in the table, the economic incentive to own higher yielding U.S. Treasuries is significantly diminished or entirely erased when adjusted for currency and credit risks.**

Interest Rate Parity

This article is based on what economists call interest rate parity, *a theory in which the interest rate differential between two countries is equal to the differential between the forward exchange rate and the spot exchange rate.* Financial theory, in general, rests on a bedrock that states that risk-free arbitrage opportunities, such as those shown above, should not exist. In reality, there are other factors such as capital requirements, liquidity concerns, and regulations that add costs and preclude some investors from participating in such opportunities and thus allow them to exist as highlighted above.

Summary

This analysis addresses the common misconception that U.S. Treasury bonds and notes offer significant relative value based solely on yield levels. As exhibited, there is little if any financial incentive currently for foreign buyers to choose U.S. bonds over European, British or Japanese bonds despite significantly higher yields on U.S. Treasuries. Required adjustments incorporating the foreign exchange component into the equation negates any optical advantage of higher yields in the U.S. While there is certainly a yield that is attractive to foreign investors and will incentivize foreigners to fund U.S. deficits, based on the math that yield resides somewhere north of current levels. Either that or the U.S. dollar would have to strengthen further to offset the foreign exchange adjustments in play. A stronger dollar however presents other economic challenges beyond the scope of this discussion. Considering the size of the current debt overhang in the U.S. and the increased supply of Treasuries projected to be coming forth over the next several quarters, this is an important and largely overlooked challenge. Each additional basis point required to meet funding needs raises the interest expense on the debt as well as the interest expense on all corporate, muni and individual new issues and floating rate debt. Given the excessive financial leverage employed by the U.S. economy, every basis point has a detrimental economic effect.