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## Don't Go Overboard with TIPS

By Wade Pfau    Mon, Dec 12, 2011

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"TIPS can play an important role in most retirement portfolios," writes this Tokyo-based economics professor. "... Like other assets, TIPS have risks and do not eliminate the need for broad diversification." This article first appeared in *Advisor Perspectives*.

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The Fed's aggressive monetary easing has many investors considering Treasury inflation-protected securities (TIPS) as a cornerstone of their retirement strategy. While TIPS' unique ability to protect against CPI-based inflation is undeniable, many investors neglect to consider the risks they pose, particularly for those who have not yet reached retirement.

The U.S. began issuing TIPS in 1997. Backed by the full faith and credit of the U.S. government and assurances that inflation cannot eat away at their value, TIPS seemed to be a truly risk-free asset for U.S.-based investors.

In 2003, Zvi Bodie and Michael J. Clowes published the book, *Worry-Free Investing: A Safe Approach to Achieving Your Lifetime Financial Goals*, in which they argued that typical retirement-oriented investors should rely primarily on TIPS for their retirement savings. Other financial assets should be included in the retirement portfolio only once one has enough savings (after accounting for any income expected from Social Security and other defined-benefit pensions) to cover their planned retirement expenditures without these riskier assets.

In an interview in the February 2010 issue of *Journal of Financial Planning*, Bodie confirmed his continued endorsement of this strategy. He also indicated that his personal retirement portfolio is 100% in TIPS.

Let's take a critical look at the safety of TIPS. To be clear, I do accept the arguments made by Bodie and others that it is fallacious to believe that stocks are less risky than bonds, even when held over long periods of time. And I don't believe, as some do, that investing in TIPS is foolishly conservative in light of the historical risk premium provided by stocks. TIPS can play an important role in most retirement portfolios. But Bodie and Clowes' strategy is not the no-brainer they make it out to be. Like other assets, TIPS have risks and do not eliminate the need for broad diversification.

### **1. TIPS have greater default risk than nominal government bonds.**

The conventional wisdom is that U.S. government debt carries negligible default risk. Because the dollar is the world's reserve currency, the government can easily issue bonds denominated in dollars. The U.S. can avoid default by "printing money" as the Federal Reserve buys U.S. Treasury bonds from the open markets, paying for their purchases by crediting the sellers with newly created bank reserves. Yes, we learned this summer that Congressional gridlock with regard to raising the debt ceiling could lead to a technical default, and, yes, there is an active credit default market for U.S. government debt - but, for now, let's set

these issues aside.

The default risk for TIPS, however, is actually greater than the default risk for traditional Treasury bonds. This is because, all things considered, issuing TIPS has more in common with issuing foreign-currency bonds than issuing domestic-currency bonds. TIPS owners will not necessarily get a free pass should inflation pick up in the coming years. Printing money to pay interest and principal on government debts will trigger inflation, which in turn raises the nominal value of payments the government must make on TIPS. Just as a country that borrows in a foreign currency cannot print money to pay its debt - printing money will only trigger depreciation of their exchange rate and make their debt obligations harder to meet - the U.S. government will not be able to print money to escape its obligations to TIPS investors.

History is full cases in which countries have defaulted on their foreign currency- denominated debt. To avoid an embarrassing outright default, the federal government could redefine the inflation measure downward in order to reduce its debt obligations, in which case TIPS owners may not receive adjustments appropriate for the actual rising costs of living. This would be a significant source of worry for individuals who primarily rely on TIPS to finance their retirement.

## **2. Fluctuating yields create reinvestment risk.**

Figure 1 shows the yields from the 89 Treasury auctions on newly issued TIPS notes and bonds since January 1997. Until mid-2002, each auction for TIPS of the various maturities provided an initial yield above 3%. Lucky investors in 1998 and 1999 could have purchased 30-year TIPS yielding close to 4%, and yields on 10- and 20-year TIPS exceeded 4% in 1999 and 2000. Since mid-2002, though, yields around 2% have become the norm. Only the auction in October 2008 for the 5-year TIPS notes, held in the aftermath of the Lehman shock and an accompanying deflation scare, provided a real yield above 3%. Yields subsequently fell, and an auction for a five-year note held in October 2010 made headlines as the real yield dipped below zero (to -0.55%) for the first time. Purchasers of those issues locked in yields that will not keep pace with inflation.

Whatever the yield may be, whether you buy TIPS directly from the U.S. Treasury or from the secondary market, you will lock in the currently offered real yield as the real rate of return should you hold the security to its maturity date. Nevertheless, a retirement saver who may be planning a savings strategy over 20 to 40 years, and then planning for a subsequent withdrawal phase that may last another 30 or 40 years, will have no idea what the future real yields on TIPS are going to be. No TIPS have maturity dates sufficiently long to cover the full planning horizon for a young person, and assuming one plans to make multiple contributions to his or her retirement savings portfolio over time, that investor will face significant reinvestment risk that the future real yields on TIPS will be lower. More generally, one cannot know how much to save today for an all-TIPS strategy without also knowing what future real yields will be when future savings are invested or rolled over. The possibility of lower future real yields will require a higher savings rate today as a precaution.

## **3. TIPS may never offer 4% real yields again.**

Figure 1 shows the downward trend in TIPS yields. TIPS yields may be decomposed into three components:

a nominal yield consisting of an underlying real interest rate and expected inflation, an illiquidity premium, and an inflation-protection premium. According to Jennifer Roush, William Dudley, and Michelle Steinberg Ezer of the New York Federal Reserve Bank, since the introduction of TIPS, all three of these components have boosted TIPS yields relative to conventional bonds in ways that cannot be expected to continue in the future. In particular, when TIPS were first introduced, they offered a substantial premium to compensate for their illiquid new market. One set of estimates Roush et al discuss suggests that as much as 200 basis points of the yield for early 10-year TIPS derived from this premium.

The illiquidity premium subsequently declined as markets became more established, reducing TIPS yields since the initial years. This premium may never return. The inflation-protection premium is the yield investors are willing to sacrifice for the unique protection against inflation provided by TIPS – an insurance premium that investors pay. Roush et al cite several studies which estimated that inflation-protection premiums have been low since the introduction of TIPS, as investors may not have been too worried about inflation in these years. This would cause TIPS to sell for lower prices, and thus offer higher yields, than otherwise possible.

#### **4. There is also real interest rate risk during retirement**

As well, retirees may not always hold their TIPS to maturity if they wish to sell some of the principal during retirement. This subjects them to interest rate risk, which is the risk that an increase in interest rates will leave retirees selling their TIPS at lower prices. In *The Simplest, Safest Withdrawal Strategy, Advisor Perspectives'* Robert Huebscher identified this as a potential risk for retirees using only TIPS. He made a strong case for using TIPS in retirement, though I'd emphasize his caveat that an all-TIPS strategy makes sense "if a retiree has sufficient funds to support a 4% withdrawal rate over 30 years." Next, I will discuss what savings may be required to pull this off when relying on TIPS both before and after retirement.

#### **5. Low real yields make retirement planning costly**

Much of the analysis of TIPS in the Bodie and Clowes book is based on TIPS providing a constant 3% yield in the future. The book's publication in 2003 came right during the dying days of 3% yields for TIPS. Figure 2 shows some potential outcomes for a retirement saver with a constant real salary who saves over 30 years and makes plans for 30 years of retirement. With a planned 50% income replacement rate (with Social Security being added on top), a savings rate of 15% is needed when real yields are a constant 4%. The required savings rate increases to 20% with a 3% yield, to over 25% with a 2% yield, to over 35% with a 1% yield, and to 50% with a yield that matches inflation. Due to precautions for reinvestment risk, someone starting out with this strategy today should consider savings rates in the neighborhood of 35%, and that isn't even particularly conservative nor would it help anyone living longer than the planned 30 years. The savings rates needed for an 85% replacement rate are accordingly higher.

This is important, as the higher the necessary savings rate, the less attractive or practical a TIPS strategy will appear and the more potential regret one will feel at having sacrificed so much should stocks provide decent returns after all. (I showed in an article on safe savings rates that a 16.6% savings rate was the highest savings rate anyone, even in the worst- case scenario, might have needed since 1871 for this type of 60-year lifecycle for a 60/40 portfolio of stocks and Bills.) Faced with the reality of such a high savings

rate, an investor may be much more willing to take his or her chances with riskier assets in the hopes of earning a risk premium over time. A stock market boom could even push TIPS prices down, leaving one exposed to too much regret and the risk that investors will abandon the strategy at the worst possible time. At some point, the savings rate needed to implement the TIPS strategy will be too high to be feasible for even the most cautious retirement savers.

## **6. TIPS lack historical data**

Finally, there is simply not enough historical data on TIPS to properly model their role as a retirement savings vehicle. For example, the period since the introduction of TIPS has been one of moderate inflation, and TIPS have yet to be tested by high inflation. It is reasonable to expect that high inflation will increase the demand for TIPS. At the same time, if inflation increases, it is conceivable that the supply of newly issued TIPS from the U.S. government could decline or even stop. Increased demand and a lower supply would both work to raise prices, which would push the real yields for TIPS lower. We have already witnessed negative TIPS yields, and in the future it is completely plausible that TIPS will consistently provide negative real yields, requiring further increases in savings rates. We just don't know what to expect.

### **The Bottom Line**

TIPS have many attractive features for a retirement savings portfolio. In particular, they protect against bouts of unexpected inflation. An all-TIPS strategy, however, will require a high saving rate that is only justified if TIPS are truly risk-free, which is not the case. I have a hard time accepting that TIPS will be invulnerable to the types of black swan events that could decimate an otherwise well-balanced portfolio, and that, after all, is the strategy's main selling point.

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