



THE ECONOMIZER

Do We Really Expect Deflation?

By Matt Ravet

Last March, investors were so sure of future inflation, they were willing to purchase TIPS (Treasury Inflation Protected Securities) with negative yields just to shield them from the impending inflationary period. At the time, inflation seemed inevitable; oil prices were on the rise, food prices were being driven up by the rise of the middle class overseas, and the economy show no signs of weakness. Months later, deflation appears the real threat according to US Treasury securities prices.

The calculation of expected inflation using Treasury securities is fairly straightforward. When traditional bonds are valued, inflation must be considered since it changes the purchasing power of the investment at maturity. Because of the inclusion of inflation rate, the yield on these securities is a nominal rate by definition. Conversely, the yield on TIPS is a real rate, since TIPS are inflation neutral. TIPS are adjusted by the percent change in the Consumer Price Index (CPI). As the CPI increases, so does the principal on the TIPS, effectively shielding the return from inflation. From Fisher's equation, we can determine expected inflation by subtracting the real from the nominal rate. The graph found on the next page shows expected inflation since 2004. As you can see, we have had fairly stable expectations of inflation over the last 4 years, at around 2.5%. Historically, this method has proven to be reliable, but has yet to be tested in times of deflation. *Continued on Reverse*

Red I Win, Black You Lose

By Zilai Li

Barry celebrated at one of Cambridge University's May Balls. Part of the festival included a casino. Everyone was given \$20 worth of chips. And the person who had amassed the greatest fortune by evening's end would win a free ticket to next year's ball. When it came time for the last spin of the roulette wheel, by a happy coincidence, Barry led with \$700 worth of chips, and the next closet was a young Englishwoman with \$300. The rest of the group had been effectively cleaned out. Just before the last bets were to be placed, the woman offered to split next year's ball ticket, but Barry refused. With his substantial lead, there was little reason to settle for half.

The betting in roulette is based on where a ball will land when the spinning wheel is based on where a ball will land when the spinning wheel stops. There are typically numbers 0 through 36 on the wheel. When the ball lands on 0, the house wins. The safest bet in roulette is to bet on even or odd (denoted by Black or Red). These bet pay even money - a one-dollar bet returns two-dollars - while the chance of winning is only $18/37$. Even betting her entire stake would not lead to victory at these odds. Therefore, the woman was forced to take one of the more risky gambles. She bet on her entire stake on the chance that the ball would land on a multiple of three. This bet pays two to one (so her \$300 bet would return \$900 if she won) but has only a $12/37$ chance of winning. She placed her bet on the table. At that point it could not be withdrawn. What should Barry have done? If Barry had been first to place 200 on black, what should the woman have done? *Continued on Reverse*

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TIPS, being a specially constructed financial vehicle, have some interesting unique characteristics. As stated before, as the principal of TIPS are tagged to the CPI, so as the CPI changes, so does the principal. In a time of sustained deflation, the adjusted principal will drop below the initial. If principal at maturity is less than the initial principal, then the investor is paid the initial amount. Due to this hypothetical deflation, the initial principal, though having the same numerical value at the beginning and end of the period, could have dramatically different real value. For example, if

the 5 year expected deflation turns out to be true, with a value of approximately 2% deflation annually, then \$1000 dollars principal returned after the 5 years would be equivalent to \$1106 today. This provision prevents TIPS from being deflation neutral, and therefore limits its accuracy in finding the rate of expected deflation. If this condition was not in place, expected deflation would be higher than it currently is, as the market value of TIPS would be less than it currently are, which would drive the TIPS yields and therefore expected deflation up.

Even though the numbers point to long term deflation, many experts deny the possibility. Jeff Lacker, the President of the Federal Reserve Bank of Richmond, claims that inflation is still the most likely of outcomes and history suggests the same; not evening the Great Depression caused deflation for 5 straight years. But what should we think? The probability of sustained deflation seems so low, but anything is possible, especially with the amount volatility in the market. In either case, these events make for some interesting discussion and will help economists to better understand how and why bonds prices vary in relation to each other.

Red I Win, Black You Lose

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Answer: Barry should have copied the woman's bet. This guarantees that he stays ahead of her by \$400 to \$0, or they both win the bet and Barry ends up ahead \$1300 to \$900. The woman should have bet her \$300 on Red. Betting her stake on Black would do her no good, since she would win only when Barry wins (and she would place second with \$600 compared with Barry's \$900). Winning when Barry lost would be her only chance to take the lead, and that dictates a bet on Red.

The general point is that in games it is not always an advantage to seize the initiative and move first. This reveals your hand and the other players can use this to their advantage and your cost. Second movers may be in the stronger strategic position.

Cited from THINKING STRATEGICALLY by Avinash K. Dixit and Barry J. Nalebuff

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The Economizer is a quarterly newsletter published in the Department of Economics by the EUB. The articles herein do not necessarily reflect the views of the department or its faculty.

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Questions, Comments, Concerns?

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