



Needed: Central Bankers With Far Away Eyes

Rules of thumb are exceedingly useful. We could not live without them. For example, think about how you go about planning for a backyard barbecue with friends, relatives and neighbors. How do you know how much food and drink to buy? Most likely, you say something like: *W* hot dogs, *X* hamburgers, *Y* sodas and *Z* beers per person.

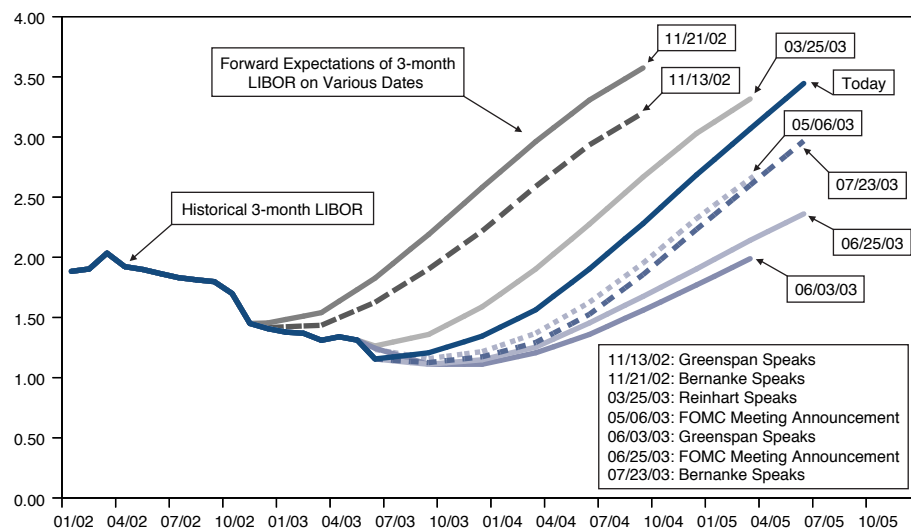
You won't get it exactly right, of course; but you gotta start somewhere. If Uncle Lou shows up, you are going to run out of beer, because he believes it is a sin to leave a party with unopened beer; and if Aunt Ethel shows up, you are going to end up with a surplus of hot dogs, because she believes it is a sin for civilized people to eat those things. But, a

per-person rule of thumb will probably serve you pretty well.

Central bankers and investment managers use similar rules of thumb in creating money and managing money. Central bankers do the creating, of course, and investment managers do the managing. And both of us are always looking for rules of thumb as to whether asset prices are "fairly valued," or infected with either irrational exuberance or irrational doom.

We call our rules of thumbs "models," and invest huge amounts of time, energy and money in building them. At the end of the day, however, what we all want is a simple rule of thumb, like the per-person

For The Fed's "Pre-Commitment Strategy" Of Holding Down The Fed Funds Rate To Be "Credible," Greenspan Needs To Say Amen To Bernanke



Source: British Bankers' Association, Chicago Mercantile Exchange

rule for getting provisions for a barbecue, to guide us.

This visceral need is nowhere more clear than in figuring the “right” course for Fed policy: for policymakers themselves, and for those of us who must (1) handicap policymakers, and (2) discount their prospective actions into **today’s** asset prices. Most simply, what we want is a rule that tells us where the Fed **should** put the Fed funds rate, in the pursuit of the Fed’s legislated **threefold** mandate to “*promote effectively the goals of maximum employment, stable prices and moderate long-term interest rates.*”

With a rule of thumb for where the Fed **should** put the Fed funds rate, consistent with its threefold mandate, we in the investment business can forecast where the Fed **will** put the Fed funds rate.

This is nowhere more important than in the Treasury and Swaps markets. As discussed in detail last month,¹ those two yield curves are **forward curves for the Fed-pegged Fed funds rate, plus a risk premium**. The steeper those two yield curves, the more the market is discounting Fed tightening, and/or the higher is the risk premium the market is demanding for uncertainty about potential Fed tightening.

But, you ask, doesn’t the long-end of the curve reflect investors’ inflationary expectations? Yes, it does. But inflationary expectations are, in the end, formed in the context of the Fed’s anti-inflation **credibility**.

Accordingly, a very steep yield curve is not necessarily a market statement about the risk of sharply higher inflation, but can alternatively be a market statement about how high the Fed will have to raise the Fed funds rate, in order to **prevent**

sharply higher inflation. In that circumstance, a steep yield curve is a probabilistic market statement that the prevailing **real** Fed funds rate is way too low to preserve “price stability” and that the market is confident that the Fed will, in the fullness of time, hike sharply the **real** Fed funds rate – so as to preserve “price stability!”

Simply put, the slope of the yield curve is not just about inflationary expectations but also about **real** short rate expectations. The TIPS market can help – but only help – us figure out which set of expectations are driving changes in both the level and slope of the yield curve. Conceptually, widening breakeven spreads on TIPS versus nominal Treasuries signal rising inflation expectations, while declining breakeven spreads on TIPS versus nominal Treasuries signal falling **real** short rate expectations.

In real time, however, TIPS and nominal Treasuries are not, perfect substitutes. TIPS are an asset class **unto its own**, with fundamentally different characteristics than nominal Treasuries. Most significantly, TIPS are the only asset class with a **government-guaranteed real return**. As such, TIPS are a **complementary** asset to both nominal Treasuries and stocks in a well-diversified portfolio. In addition, TIPS have unique tax treatment relative to both nominal coupon Treasuries and stocks: as TIPS accrue their non-cash principal adjustment for inflation, the adjustment is a real time cash tax liability, whereas nominal bonds always generate more cash flow than their real time cash tax liability, and any generalized rise in stocks in sympathy with inflation is not a taxable event until stocks are sold.

Thus, while movements in TIPS versus nominal Treasuries (and stocks, for

that matter) tell us something about the markets' evolving expectations of long-term inflation and the "necessary" **real** short level for preserving "price stability," TIPS are not the holy scripture. Movements in TIPS reflect their own fundamentals as a distinct asset class, and are subject to the same animal-spirited whims of investor psychology (most importantly, Soros's "reflexive" behavior) as is the case with nominal Treasuries and stocks.

There is only one player in the game that does **not** have to speculate as to where the Fed plans to put the Fed funds rate: the Fed itself. Unlike us mortals in the financial markets, who must live with real constraints called profit and loss reports, the Fed owns a printing press; accordingly, the concept of marking-to-market is an oxymoron in the matter of how the Fed manages its balance sheet. The Fed's mission is neither to make money nor to avoid losing money, but to produce macroeconomic outcomes consistent with the exigencies of its legislated **threefold** mandate.

Thus, the Fed has a duty to tell both (1) we the people and (2) we the financial markets what it is doing, why it is doing it, and to disclose the framework that guides its decisions. This duty is frequently called "transparency," and the Fed under Chairman Greenspan takes great pride in becoming more transparent.

In a narrow sense, this pride is justified. Since February 1, 1994, the Fed has announced immediately any changes in its Fed funds target, forsaking its prior policy of letting changes be divined in the tea leaves of its open market operations.² And since May 18, 1999, the Fed has also announced its policy "bias" immediately after the end of FOMC meetings, forsaking its prior policy of withholding

that information until after the following FOMC meeting (with the release of minutes of the previous meeting). Yes, the Fed has made strides towards **operational** transparency. I applaud.

The Fed has not, however, made strides in **goal** transparency, if I can call it that. In fact, I submit that the Fed has been backsliding (as they used to say in the Baptist ethos of my youth) in disclosure of its goals. For the 1980s and 1990s, the mission was clear: opportunistic **secular** disinflation, with a goal of lower and lower **cyclical** inflation troughs, until the promised land of "price stability" was reached. During that secular journey, there was no compelling need to define "price stability," just as there would be no need for William "The Refrigerator" Perry's doctor to define his "ideal" weight.

Once the promised land of "price stability" is in sight, however, there **is** a need for the Fed to define just what it is, because **it is incumbent upon the Fed to avoid overshooting into the land of excessively low inflation or, even worse, deflation**. With such a definition of "price stability," the Fed could more clearly define the **cyclical** risks to its mission, and the markets could discount **secular** Fed policy with more certainty, reducing demand for risk premiums for uncertainty.

What Does "Price Stability" Mean?

Such is the case at present, as Fed Governor Ben Bernanke has been preaching, and pleading (and begging?) of his FOMC colleagues, most importantly Fed Chairman Greenspan. Mr. Bernanke did most forcefully two weeks ago in San Diego, when he declared:

"In my view – and here I am quite obviously speaking for myself – one useful approach

would be for the FOMC to provide the public with a quantitative, working definition of price stability. The definition of price stability would be expressed as a range of measured inflation, with the lower boundary of the range a safe distance from zero.

“What I have in mind here is not a formal inflation target but rather a tool for aiding communication. The main purpose of this quantification of price stability would be to provide some guidance to the public and to financial markets as they try to forecast FOMC behavior. In a situation like the current one, with inflation presumably near the bottom of the acceptable range and trending down, and with considerable slack remaining in the real economy, the Fed could make use of this quantitative guidepost to signal its expectation that rates will be kept low for a protracted period, and indeed that they would be reduced further if disinflation were not contained. If private-sector forecasts also called for disinflation, confirming the downward risk to price stability, then medium-term bond yields should accordingly be low, supporting the Fed’s reflationary efforts.”³

I so thoroughly agree with Mr. Bernanke’s view that it is hard for me to embellish on it: the Fed needs to define quantitatively “price stability” for the sake of **institutional honesty**, as well as for the sake of reducing risk premiums in the term structure of interest rates associated with uncertainty about the Fed’s definition of “price stability.”

The Fed also needs to become more transparent as to its **cyclical** “reaction function” in the pursuit of better-defined **secular** “price stability.” In the same speech, Governor Bernanke took a major step forward when he laid out explicitly an example of the Fed’s **cyclical** rule of thumb for forecasting inflation:

“A highly simplified, though not quantitatively unreasonable, calculation may help. Let us suppose that economic activity does pick up in the second half of this year, by enough to bring real GDP growth in line with its long-run potential growth rate – roughly 3 percent or so, by conventional estimates. Moreover, suppose that activity strengthens further next year so, so that real GDP growth climbs to approximately 4 percent, a full percentage point above potential. What will happen to resource utilization and inflation?”

“Focusing first on the implications for economic slack, we note that this projected path for real GDP gap would imply no change in the output gap through the end of this year, followed by a percentage point reduction in the output gap during 2004. Given the average historical relationship between the change in the output gap and labor market conditions, known as Okun’s Law, the unemployment rate would be expected to remain at about its current level of 6.4 percent through the end of the year and then decline gradually to about 6.0 percent by the end of next year. This projection is fairly close to many private-sector forecasts.

“Let us turn now to the implications for inflation. From 1994 to 2002, core PCE inflation remained in a stable range while the unemployment rate averaged about 5 percent; so let us suppose, for purposes of this example, that the unemployment rate at which inflation is stable is 5 percent. (If the unemployment rate at which inflation is stable is lower than 5 percent, the disinflation problem I am discussing becomes larger.) A little arithmetic shows that this scenario involves 1.9 point-years of extra unemployment (relative to the full-employment benchmark) between now and the end of 2004. Now make the additional assumption that the sacrifice ratio (the point-years of unemployment required to reduce inflation

by 1 point) is 4.0, a high value by historical standards but one in the range of many current estimates. Then the additional disinflation between now and the end of next year should be about 1.9 divided by 4, or about 0.5 percentage points. So given our assumptions about GDP growth, core PCE inflation, say, might fall from 1.2 percent currently to 0.7 percent or so by the end of 2004.

"The precise figures I have used in this exercise should be taken with more than a few grains of salt. But the bottom line (which would not be much affected if we played around with the numbers) is that, even if the economy recovers smartly for the rest of this year and next, the ongoing slack in the economy may still lead to continuing disinflation. So the FOMC's May 6 statement, by indicating both balanced risks to economic growth (that is, a reasonable chance of a good recovery) and a downward risk to inflation, had no internal inconsistency."

Wanta Do Some Math, Honey?

Wow, I said when I read those words: Governor Bernanke just gave us the raw material for reverse engineering via the Taylor Rule just how long the Fed will keep the Fed funds rate at 1% – to wit, what the "foreseeable future" means! This is a subject near and dear to my heart, as it was the topic of the (excruciatingly boring, I admit) June 2000 **Fed Focus**, "NAIRU's Valentine."⁴

Mr. Bernanke didn't, of course, take the bottom line of his inflation "calculation" to its Taylor Rule conclusion, as doing so would have been most politically incorrect, since the FOMC doesn't "officially" admit that it looks at some type of Taylor Rule in setting the Fed funds rate. I have no such constraint.

Professor (now Under Secretary of the Treasury) Taylor's Rule is very simple:

$$\text{Fed funds} = \text{Equilibrium Real Short Rate} + \text{Actual Inflation} + 0.5(\text{Actual Inflation} - \text{Target Inflation}) + 0.5(\text{Actual GDP} - \text{Potential GDP}).$$

As you can quickly discern, if inflation is at target and GDP is at potential, the last two terms in Taylor's Rule will drop out, and the "neutral" Fed funds rate will equal the equilibrium real short rate plus the inflation rate. Mr. Taylor assumed that the equilibrium **real** short rate is 2%, an assumption that I want to challenge in a moment. But first, let's run Mr. Bernanke's numbers through Mr. Taylor's Rule.

Let's assume that the Fed's inflation target is at the top of its putative (but not officially declared!) 1-2% zone for the core PCE deflator. This is a logical assumption given the existence of an output gap or, put differently, an unemployment rate above NAIRU, which implies **continuing disinflationary pressure**, as Mr. Bernanke suggested.

Let's further assume, as Mr. Bernanke did, that the NAIRU is 5% and that potential GDP growth is 3%. That implies a current output gap of 3% [(6.2 current unemployment – NAIRU of 5%) x (1/ Okun Law Ratio of 2.5, which was Mr. Bernanke's assumption)].

Let's finally observe that the **current** year-over-year core PCE deflator rate is 1.2%.

Plug all those numbers into Taylor's Rule and you get an "appropriate" value for the Fed funds rate of 1.3% [(2% + 1.2% + (0.5% x -0.8%) + (0.5% x -3.0%)].

The current Fed funds rate at 1% is below that putative "right" 1.3%, but not by much. What is more, consider the following: (1) a one percentage point reduction in the output gap for 2004, as would be

the case with 4% growth versus 3% potential, along with (2) a further decline in the actual inflation rate to 0.7%, as implied by the continuing existence of an output gap (assuming a Sacrifice Ratio of 4, as Mr. Bernanke did), implies that (3) the “right” Fed funds rate one year forward would actually be **lower** at 1.05% [(2% + 0.7% + (0.5% x -1.3%) + (0.5% x -2.0%)].

But What Happens When Fed Accommodation Ultimately “Works”?

In the fullness of time, of course, successful reflation that (1) closes the output gap, bringing unemployment down to 5%, and (2) pushes up the core PCE deflator to 2% would imply, per Taylor’s Rule, a “right” Fed funds rate of 4%: a 2% “equilibrium” **real** rate plus 2% inflation.

I have zero problem with the notion that the Fed funds rate should include the inflation rate if inflation is at target, in this case, 2%. Thus, I have zero problem with the notion that the Fed will, in the fullness of time, need to tighten to at least 2% for Fed funds once – but only once! – unemployment is at 5% and inflation is at 2%. I’m known as a dove on Fed policy, but in this instance, throw me in the briar patch. I ain’t permanently an anti-tightening dude! Regrettably, I doubt that the Fed will get anywhere close to its implicit inflation and unemployment targets over the next two years (as implied by Bernanke’s Sacrifice Ratio arithmetic).

My bigger axe to grind longer term, however, is the 2% “equilibrium” **real** short rate assumption in Taylor’s Rule. Why did Taylor assume 2%? The economics profession has long assumed that the “equilibrium” real interest rate must be at or below the potential real growth of the economy, so as to prevent real debt service burdens from rising exponentially as a

share of the economy. On its face, there is nothing wrong with this assumption. It is based on the same commonsensical notion that banks can’t sustainably pay more interest on deposits than they earn on loans. At the time of Taylor’s research in the early 1990s, the potential real GDP growth was assumed to be 2-2 ½%. Thus, Taylor, via Occam’s Razor, assumed 2% for the “alpha” in his Rule.

As a factual matter, the realized **real** short rate for the entire 1953-2001 period (picking 1953 as a starting point, a “safe” distance after the 1951 Fed Accord that permitted the Fed to run monetary policy independent of fiscal policy), averaged 1.4%. But for the 1953-1979 period, it averaged only 0.5%. The average for the whole period was pulled up by a 2.5% average for the 1979-2001 period. And for the 1979-2001 period, the Fed was explicitly holding the actual **real** short rate above its “equilibrium” level, as implied by Taylor’s Rule, in which any “over-target” amount of inflation enters at 150% into the “right” nominal Fed Funds rate.

Thus, there is no **empirical** basis for Taylor’s assumption of a 2% “equilibrium” **real** short rate (it’s subject to the Lucas Critique, for those that are into this sort of stuff). I submit that there is also no **theoretical** support for Taylor’s assumption of a 2% “equilibrium” **real** short rate. If the notion holds that the economy can’t **sustainably** pay a real interest rate greater than its real growth rate – and I believe it does (since I believe in arithmetic!) – I submit that the real interest rate which must be at or below the real growth rate, is the **private sector long-term real rate**.

In the end, it is the private sector, not the government sector with a printing press, that is the source of real GDP growth. Or,

if you will bear with me for a Republican riff, the private sector makes things, while the government sector only redistributes that which the private sector makes.

In this context, the Fed's mission is to preserve the **real** purchasing power of money, not to generate a **real rate of return** for the holders of money. During the 1945-1971 Bretton Woods period, \$35 bought an ounce of gold, year after year. Thus, the dollar was as "good as gold," literally, in that it bought the **same physical volume** of gold, year after year. The dollar did **not**, however, generate a real rate of return. Indeed, as my colleague Chris Dialynas notes, gold generated a **negative** real return during that period, because to hedge against the risk of Uncle Sam devaluing the dollar versus gold (raising the number of dollars necessary to buy an ounce of gold, as "he" eventually did!), it was necessary to actually physically hold gold, and bear the insurance and storage costs of doing so.

But I digress. My essential point is that **money is different than capital**. The Fed funds rate is the return on money, which has zero default risk and zero price risk: a buck is a buck is a buck. In contrast, private sector credit carries both default risk and price risk. Thus, I believe that the "equilibrium" **real** short rate should not be equal to Taylor's putative 2%, but rather equal to: (the economy-wide marginal income tax rate) x (the Fed's inflation target).

Money should pay a sufficient interest rate to make holders of money whole for two taxes: the explicit tax on nominal interest income and the implicit tax of inflation. But **money** should not pay a real after-tax rate of return! In the long run, the economy can "afford" to pay a return only on **capital** that is at risk.

Thus, I don't buy that the "neutral" Fed funds rate should be 4% if unemployment is at 5% and inflation is at 2%, as suggested by Taylor's Rule. Rather, I think the "neutral" Fed funds rate should be 1 + .2% (a high-side estimate for the economy-wide marginal income tax rate) times the Fed's 2% inflation target: 2.4%.

What would that imply for the slope of the yield curve? If (1) the private sector long-term **real** rate "needs" to be at or below the economy's potential growth real rate of 3%, and if (2) the 10-year swap spread is about 60 basis points, as at present, then (3) a ten-year **real** Treasury rate of 2.4% "drops out." And if we add to that **real** rate a 2% inflation rate, the Fed's putative definition of "price stability," we end up with an "equilibrium" nominal 10-year Treasury of 4.4%. Such a rate would be consistent with the 2.4% "equilibrium" nominal Fed funds rate that my modified Taylor's Rule posits. Remember, these are levels consistent with unemployment at 5% and inflation at 2%, **not** today's levels of 6.2% and 1.2%, respectively.

Yes, such "equilibrium" yield levels would imply a steep yield curve. To my way of thinking, however, this is the way it **should** be. The front end of the yield curve is about **money**; the long end of the curve is about **capital**. In a world of winning the peace of "price stability" after a two decade-long war against inflation, money should be a reliable "store of wealth," **not** a generator of real wealth. In a world of "price stability," investors must accept – and the Fed must enforce! – the proposition that **real returns can come only with the taking of real risk**.

Bottom Line

Rules of thumb are wonderfully useful things. We all use them. Yet the Fed, under Greenspan, denies that it does,

while preaching that it has become more “transparent.” The Fed has, in becoming more open about its **operational** maneuvers (traditional ones, not nontraditional ones, I stress!), become less transparent about its **goals**. The Fed is floundering as to how to define its **mission**, now that the long **secular** war against inflation has been won, as the FOMC finally – finally! – declared “officially” on May 6, as Governor Bernanke has confirmed.

The time has come for the FOMC to define just what “price stability” means. **Mr. Bernanke is right, and Chairman Greenspan is wrong in his resistance.** The time has also come for the Fed to openly discuss its sense of what the “equilibrium” **real** Fed funds rate is – the “alpha” in its version of Taylor’s Rule.

The time has come for the FOMC to show its far away eyes, as Governor Bernanke has done. The time has come for the FOMC to lift its thumb of obfuscation from the markets’ troubled, near-sighted eyes.

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¹ “Promiscuity In The Pursuit Of Virtue,” *Fed Focus*, July 2003. http://www.pimco.com/ca/bonds/bonds_commentary_fed_focus_0703.htm

² “My Best Shot,” *Fed Focus*, June 2003. http://www.pimco.com/ca/bonds/bonds_commentary_fed_focus_0603.htm

³ <http://www.federalreserve.gov/boarddocs/speeches/2003/20030723/default.htm>

⁴ “NAIRU’s Valentine,” *Fed Focus*, June 2000. http://www.pimco.com/ca/bonds/bonds_commentary_fed_focus_0600.htm

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The Personal Consumption Expenditures (PCE) deflator is published by the Bureau of Economic Analysis as part of the GDP report. It measures inflation across the basket of goods purchased by households, and is computed by taking the difference between current dollar PCE and chained dollar PCE. Taylor’s Rule is a guideline for interest rate manipulation, introduced by Stanford University economist John Taylor to set and adjust prudent rates in an attempt to stabilize the economy in the short-term and still maintain long-term growth. Okun’s Law is the relationship between an economy’s GDP gap and the actual unemployment rate.

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