Paul McCulley

# Fed Focus

PIMCO

June 2000

## NAIRU's Valentine

I spent the first three weeks of May visiting PIMCO clients and prospects in eleven countries. It was a delightful sojourn, starting in North Asia, passing through Australia, and concluding in the Middle East. In many cases, I was renewing old friendships, forged during many visits when I headed UBS's economic and fixed income strategy team for the United States.

After having heard me preach for many years the gospel of a Brave New United States economy, some old friends commented that they had never heard me so dire, declaring the need for a **cyclical** landing. "Why, why, why?" they asked. "Has moving from the sell side to the buy side, to a bond house no less, transformed you from an optimist to a pessimist about life? Do you no longer believe all those wonderful things that you touted about the United States economy?"

No, I reassured my friends, PIMCO has not morphed me into a doubting Thomas. I still believe that the U.S. economy's performance is profoundly more satisfying than the consensus thought possible in the mid-1990s.

- The "natural" rate of unemployment (the Non-Accelerating Inflation Rate of Unemployment, or NAIRU) has fallen sharply.
- The cyclically-adjusted (structural) rate of productivity growth has accelerated.

Perhaps the reason I sounded so dire on this trip was that some of my old friends had forgotten a long-term health warning that I had **always** attached to the Brave New United States thesis: Once the **journey** was complete to a more fully employed, more efficient United States economy, old-fashioned cyclical outcomes would reassert themselves. More specifically,

- Once the unemployment rate had fallen to its new, lower NAIRU, the **cyclical** trade-off between unemployment and inflation would once again hold.
- Once the stock market P/E had risen to its new, higher normalized level, reflecting the positive structural shock to productivity growth, expected returns to stocks would fall sharply.

Thus, I used to quip, we never really wanted to reach the Promised Land, but always be on the journey to it. Actually, however, I wasn't musing, but rather warning that regardless of how optimistic one might be about a productivity-driven improvement in the U.S. economy's long-

**Time For a Landing**

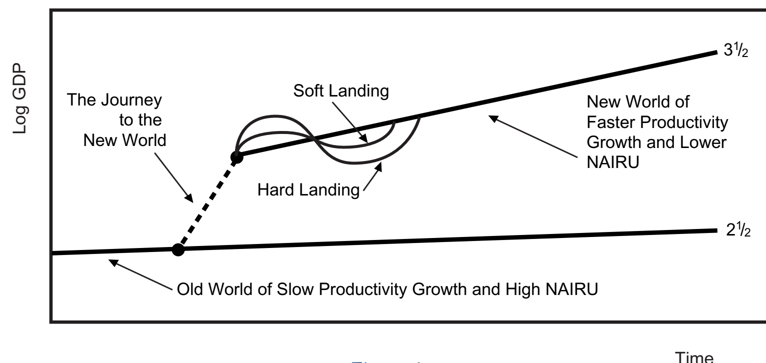


Figure 1

*Source: PIMCO*

term GDP growth potential, GDP growth would have to slow, **once the economy's new, lower NAIRU had been achieved**.

Yes, I have and do believe in NAIRU. My longstanding quarrel with the Nattering Nabobs of NAIRU has always been with the Nattering Nabobs of a **fixed** NAIRU. To me, a positive productivity shock, by raising the marginal product of the marginal worker, **definitionally** implied a lower NAIRU. But with unemployment now at 4% and recent evidence of accelerating employment costs, as displayed in Figure 2, there is little need to quibble about whether the new, lower NAIRU may be below the current 4% unemployment rate. We're there, and maybe, below it! Thus, the debate now shifts to arguing about:

- How nefarious will any **cyclical** rise for inflation become?
- What should the Fed do or not do about it, and even more important , what will the Fed do?

**What a Long, Wonderful Journey It's Been**

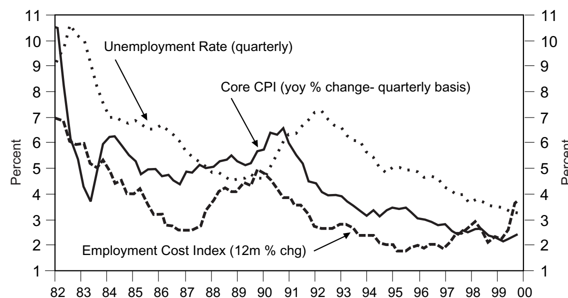


Figure 2

*Source: U.S. Commerce Dept., U.S. Labor Dept.*

To address these questions, economists use a variety of models that are actually quite simple to understand. Out of a rational desire for continuing employment, however, economists also try to make those models as imponderable as possible. I should know, because I used to do it for a living! But now that I'm liberated from the club, I feel a duty to come clean. So, dear reader, please bear with me for a few paragraphs as I walk you through some of the economists' simple rules of thumb. This ain't hard stuff, I promise!

## The Gordon/Blinder Rule and Okun's Law

Every card-carrying economist I know has taken an econometric shot at estimating the **cyclical** trade-off between unemployment and core inflation (ex-food and energy). But the "standard" has always been the estimates of Northwestern's Gordon and Princeton's Blinder: Each one-percentage point "gap" between actual unemployment and NAIRU will generate an **ongoing** annual change in core inflation of one-half percentage point. To wit, an unemployment "gap" will not produce a one-off change in core inflation, but continuing acceleration (or deceleration).

This Gordon/Blinder Rule gives us a starting point for considering just how high inflation might rise in the years ahead. If the new NAIRU is 4%, then core inflation will stabilize in the current 2-2$\frac{1}{2}$% zone. In contrast, if the new NAIRU is actually 5%, and unemployment stays at its present 4% level, then core inflation will accelerate to a 2$\frac{1}{2}$-3% zone in 2001, and to a 3-3$\frac{1}{2}$% zone in 2002. Note the two "ifs" in that sentence: **if** NAIRU is 5% and **if** unemployment stays at 4%.

I happen to think that NAIRU is below 5%. I also happen to believe that the Gordon/Blinder "co-efficient" of 0.5 between the unemployment "gap" and core inflation has probably been rendered too high by the positive productivity shock. But let's give the inflation hawks their day in the sun and, for the purposes of this exercise, concede that NAIRU is 5% and use the Gordon/Blinder Rule. In that case, core inflation will rise to a 3-3$\frac{1}{2}$% zone over the next two years.

Such an acceleration would, of course, be inconsistent with the Fed's implicit "inflation targeting" regime, aimed at a 2-3% zone for core

inflation. **In that case, the Fed's mission becomes one of driving up the unemployment rate, not merely holding it constant.** How much of a growth slowdown would be necessary to do that? No surprise, economists have yet another "rule" for determining that! Well, not actually a rule but a law, as in Okun's Law: Each one percentage point change in the unemployment rate will translate to a two percentage point change in GDP. Thus, to push the unemployment rate from the current 4% to a (presumed!) 5% for the new NAIRU would "require" that GDP fall two-percentage points **relative to its sustainable trend**.

Which, of course, begs the question of how large the underlying, or structural productivity shock has been! Let's be generous, and for our purposes here, assume that there has been a full percentage point positive shock to productivity from its Old World $1^1/_2$% trend, implying that the new sustainable GDP growth trend is $3^1/_2$%: with 1% coming from labor force growth and $2^1/_2$% from productivity growth (see Figure 1 on cover). By Okun's Law, growth would need to slow to $2^1/_2$% for two years to push the unemployment rate up to 5%.

Hoping you're still with me, we now have the parameters for a "stagflationary" soft landing, **if the new NAIRU is 5%:** (1) Inflation peaks at 3-$3^1/_2$% in about two years, as (2) growth slows to $2^1/_2$%, pushing the unemployment rate up to 5% in about two years. No wonder the economics profession is called the dismal science! But hopefully, this exercise demonstrates the importance of defining the new NAIRU.

## Inflation Targeting and Taylor's Rule

At the just-completed PIMCO Secular Forum, we had the pleasure of an address by Princeton's Ben Bernanke, the leading academic light on the evolution of global central banks to regimes of explicit and implicit inflation targeting. He argued convincingly that this had been a profound shift, and that it has staying power. He also thinks this shift is a very good thing, and strongly advocates that the Fed move from implicit to explicit inflation targeting, publicly declaring an inflation target of 2-3%.

I seriously doubt the Fed will explicitly do that, but there is no question that the Fed is, in fact, (1) targeting a 2-3% zone for inflation, and (2) using a pre-emptive, NAIRU-driven rule in pursuit of that objective. And, yes, this rule is named for a professor too — the Taylor Rule, conceived by Stanford's John Taylor. This Rule specifies that the Fed should peg the Fed funds rate such that:

*Fed funds = Equilibrium Real Short Rate + Actual Inflation + 0.5 (Actual Inflation – Target Inflation) + 0.5 (Actual GDP – Potential GDP)*

Please, do not let your eyes glaze over here! While this equation may seem arcane it is, in fact, the closest representation there is of the Fed's present mind set. If you want to understand why the Fed is doing what it has been doing, it is absolutely imperative to grapple with this equation. Sorry, but that's just the way it is.

As you can quickly discern, when inflation is at target **and** actual GDP equals potential GDP (actual unemployment rate equals NAIRU), the last two terms in Taylor's Rule will drop out, and the equilibrium or "neutral" Fed funds rate will equal the equilibrium real short rate plus the **at-target** inflation rate. When Taylor specified his Rule, sustainable GDP growth was assumed to be $2^1/_2$%, on the basis of $1^1/_2$% trend productivity assumption. So Taylor assumed the equilibrium real short rate was 2% (on the widely accepted assumption that the real risk-free rate on cash cannot, in the long run, be greater than the economy's real growth rate).

If we assume that trend productivity growth is now $2^1/_2$%, yielding a $3^1/_2$% sustainable GDP growth trajectory when unemployment is at NAIRU, logic would imply an upward shock in the equilibrium real short rate by the same

amount, or to 3%. Add a target inflation rate of 2½% (the mid-point of a 2-3% target zone), and you get a 5½% Fed funds target in an equilibrium world.

Given that core inflation is currently running just over 2%, it is in the "target zone." Thus, **if, but only if**, NAIRU is near the current 4% unemployment rate, 5½% would actually be the "right" Fed funds rate now.

In contrast, if NAIRU is 5%, the Gordon/Blinder Rule implies that core inflation will rise by one percentage point over the next two years. Put that into Taylor's Rule, and it adds one and one-half percentage points to the **cyclical peak** Fed funds rate (a one-for-one increase with inflation **plus** a "penalty" of one-half of that amount for being over target). In turn, Okun's Law tells us that the one-percentage point unemployment gap yields a two percentage point output gap, which in Taylor's Rule adds another percentage point to the **cyclical peak** Fed funds rate. **Thus, if NAIRU is 5%, while the current unemployment rate is 4%, an inflation targeting regime with a pre-emptive policy rule implies an 8% Fed funds rate.**

## The Bottom Line

The journey to the Brave New United States economy is over. Some form of landing is necessary, with the only question being just how **stagflationary** it will be. And the key to that is where NAIRU is relative to the prevailing 4% unemployment rate. If NAIRU is 4%, the Fed funds rate should be at 5½%; but if NAIRU is 5%, the Fed funds rate should be at 8%. The current Fed funds rate of 6½% is implicitly consistent with a NAIRU of about 4½%, in which case the Fed has already taken sufficient tightening action to stabilize inflation below 3% over the next two years.

And in fact, I think that's probably a pretty good **cyclical peak** forecast for the core inflation rate. Whether or not 6½% is a good **cyclical peak** forecast for the Fed funds rate is, of course, an entirely different matter. There are many at the Fed, led by Governor Meyer, who believe that the new NAIRU is near 5% not 4½%, and are therefore pushing for a Fed funds rate closer to 8%. Thus, it would be foolish for me to forecast that the Fed is necessarily finished tightening, even though that outcome would be consistent with my own preferences.

What I can forecast with very high confidence, however, is that the economy's performance is going to be starkly less pleasing over the next two years than in recent years. As both a citizen and an economist (once one, always one!), that doesn't bother me. I'm more than happy to sing the praises of a Brave New United States economy of only 4½% unemployment and an inflation rate near 3%. Only five years ago, those of us who envisioned such a wonderful United States neighborhood were viewed as members of Mr. Rogers' fan club.

But regardless of the beauty of the destination, the journey to it is over. And that has profound implications for asset allocation. The winning asset class in the midst of a positive productivity shock is logically always equities, because the P/E multiple should go up. But because stocks are the winners during the journey, investors become ever more enamored with stocks, even as the new, lower NAIRU destination is reached. Accordingly, I've long believed that the end of the journey to the Brave New United States economy would be marked by an equity market bubble.

I think that moment has come. The current P/E is simply too high relative to a **cyclical** landing scenario that is **skewed toward stagflation**. Accordingly, I must admit that the investment message I delivered on my recent trip was indeed somber: A fully employed Main Street is a beautiful thing, but has ugly implications for an irrationally exuberant Wall Street.

The time has come to **strategically** sell high P/E stocks into high quality bonds!

Paul McCulley
Executive Vice President
June 1, 2000
mcculley@pimco.com

PIMCO

840 Newport Center Drive
P.O. Box 6430
Newport Beach, CA
92658-6430
(949) 720-6000

*No part of this publication may be reproduced in any form, or referred to in any other publication, without express written permission. This article contains the current opinions of Pacific Investment Management Company, and does not represent a recommendation of any particular security, strategy or investment product. Such opinions are subject to change without notice. Information contained herein has been obtained from sources believed to be reliable, but is not guaranteed. This article is distributed for educational purposes and should not be considered as investment advice or an offer of any security for sale. © 2000, PIMCO*