



Paul
McCulley

Global Central Bank Focus

P I M C O

December 2007

Comments Before the Money Marketeers Club *Minsky and Neutral: Forward and in Reverse*

*New York City
15 November 2007*

It is a great pleasure to be invited to speak before this group for the third time. It's wonderful being among friends, many going back over 25 years. It is also humbling to be forced to go back and read what I said the last two times, in April 2004¹ and February 2006². I rarely write speeches, preferring to speak extemporaneously, but for this august group, I put fingers to keyboard, because you deserve carefully thought out analysis, as well as a speaker who must own his words.

In preparing for tonight, re-reading my words was both instructive and humbling – good normative logic about policy, I re-learned, does not necessarily lead to good forecasts! Indeed, the older I get the more I regretfully conclude that too much thinking is probably counterproductive to good forecasting, particularly in the short run. The same holds for good portfolio management, my day job since leaving the Street back in 1999.

Financial objects in motion tend to stay in motion a lot longer than fundamental analysis suggests they should. Unless, of course, the fundamental analyst is a student, not just a student of Graham and Dodd but also of the late great Hyman Minsky, who famously taught us – borrowing from the great John Maynard Keynes – that stability is ultimately destabilising. More about that in a few minutes.

But first, let me review what I said here in 2004 and 2006, chronicling what I got right and what I got wrong, which will provide us a good basis, I think, for considering where we are right now and where we're going. Not to hold you in suspense, the conclusion is that we're in the midst of a Minsky Moment and have embarked on a Reverse Minsky Journey, as I wrote in my monthly essay posted on the PIMCO web site last month.³ And such a journey implies a parallel journey downward for the "neutral" real Fed funds rate – a long, long journey down!

Neutral is as Neutral Does (or Doesn't)

Back in April 2004, right before the Fed began its long, 17-step, 25-basis-points a step journey from 1% Fed funds to 5 ¼% Fed funds by June 2006, my axe to grind was that the “neutral” real Fed funds rate was a lot lower than most pundits – and policymakers – were touting. I argued:

“As I have been writing ever since last fall⁴, I believe that the near universal assumption, as per Taylor’s Rule, that the ‘neutral’ real Fed funds rate is 2% is wrong. Put differently, I believe the notion that the real short rate should be just a touch below potential real GDP growth (assumed to be 2 ½% when Taylor came up with his Rule) is wrong. I believe ‘neutral’ is about one-half of one-percent.

Essentially, my thesis is that overnight money, carrying zero price risk, zero credit risk and zero liquidity risk should not yield a real, after-tax return. A 50-basis-point real rate in the context of a 2% inflation rate – my definition of ‘effective price stability’ – would translate to a zero real rate on money: a 2 ½% nominal rate, with 50 basis points going to Uncle Sam for taxes (assuming an average marginal tax rate of about 20% in this country) and 200 basis points making the holder of money whole for inflation.

In contrast to my axe to grind with Taylor (and everybody else, it seems!) about the ‘neutral’ real short rate, I have zero problem with using potential GDP growth as a rough cap for the ‘equilibrium’ real long-term rate for high-grade private sector obligations. Common sense, the most powerful tool in portfolio management, as Bill Gross has pounded into me, says that over the long run, the return on financing GDP cannot be above the internal rate of return of GDP.

Thus, I think that the ‘neutral’ long-term private rate is now probably about 3 ½%, my rough guess as to potential GDP growth. Subtract a long-term swap rate, and that implies a ‘neutral’ real long-term Treasury rate in a range of 3% - 3 ½%.

The contrast between my assessment of the ‘neutral’ real short-term rate and the ‘neutral’ real long-term rate implies a market segmentation view of the yield curve, of course. It also implies a very, very steep real yield curve. And I have no problem with that: real returns should be connected to the longevity of risk that an investor is underwriting.

A market-segmentation view of the yield curve is, I acknowledge, in conflict with an expectations-driven view of the yield curve, which states

that the yield curve is a forward curve on the Fed-controlled Fed funds rate, plus a risk premium for uncertainty about the forward Fed funds rate. Yes, my market-segmentation view implies a structural reward for levering up into the carry trade. And, indeed, that was definitionally the case during the era of Regulation Q, when banking was about borrowing short at 3%, lending long at 6%, and hitting the golf course at 3 pm. 3-6-3 banking it was called.

Thus, if the Fed were to enforce my view of the 'neutral' real short rate, the Fed and other financial regulators would need to also enforce quantitative rules on growth in levered players' balance sheets, so as to prevent unbridled growth in credit creation via the carry trade. And indeed, that's precisely what is on the table for the maestros of the carry trade, the housing finance agencies. Thus, in a world of effective price stability, in which there is no justification for the Fed to richly reward the holders of money with a hefty return for taking no risk, I anticipate that regulatory tools, rather than the interest rate tool, will become the dominant governor against excess credit creation."

In retrospect, the Fed did not give a hoot about my estimate of the "neutral" short

rate, driving the nominal Fed funds rate to 5 ¼%, which translated to about 3% in real terms (before taxes), depending upon your preferred inflation measure. And the reason, besides conventional wisdom? **The housing and mortgage markets proved remarkably inelastic to a rising real Fed funds rate with both inflating into bubbles!**

The Shadow Grows: IS-LM Implications

I fully recognised this risk back in 2004, but downplayed it because I explicitly thought that the Fed and other financial regulators would "enforce quantitative rules on growth in levered players' balance sheets, so as to prevent unbridled growth in credit creation via the carry trade." How could I have been more wrong?

Financial regulators, with the Fed's full support, did, to be sure, restrain the growth of Fannie and Freddie's balance sheets. But the Fed went the **exact opposite direction** away from those institutions, cheerleading an explosion of growth in the levered balance sheets of what I've dubbed the shadow banking system – the whole alphabet soup of levered non-bank intermediates. They funded themselves not with insured deposits, but asset-backed commercial paper and reverse repo, with no access to the Fed's discount window in the event

of a drying up of such funding (also known as a run), only access to (less-than-complete) back-up lines of credit with conventional banks.

Former Fed Chairman Greenspan would, no doubt, argue that he was not a cheerleader for the explosive growth of the shadow banking system, merely a cheerleader for Adam Smith's invisible hand of markets, which birthed and nurtured non-bank levered intermediaries. I could counter that he doth protest a bit too loudly, but it would be a useless exchange; Alan believes what he believes, just as I do, and I respect him for that.

Where there can be no room for argument, however, is that if the marginal creditor of credit – the shadow banking system – is systematically relaxing loan underwriting standards (with the blessing of the credit rating agencies, critical to the shadow's ability to float asset-backed commercial paper on comparable terms to conventional banks), then it is tautologically the case that **both** the demand and supply of credit will become less elastic to changes in the Fed funds rate.

Or, for those of you, like me, who are still fond of the old IS-LM model of our college youth, wanton and rakish degradation in loan underwriting standards by loan originators, supported by shadow bank buyers of such originations in

securitised form, both shifts the IS curve to the right and makes it steeper. Put more simply for those who hated playing with the IS-LM model, such a journey to the credit cesspool both increases the volume of credit creation while also making it less sensitive to changes in the Fed funds rate.

A Loan or Calls and Puts?

Indeed, I've taken to calling the 2004-2006 vintages of limited or no document, no down payment, negative amortisation (pay-option) subprime ARM loans **as not loans at all, but rather free, at-the-money call and put options on property prices**. Not exactly free, to be sure, as the putative borrower was obligated to pay something in cash interest, even if not the full amount, with the unpaid amount being added to the principal.

But as a practical matter, the options were essentially free. If home prices went up, the putative "borrower" would stay current, as the call went into the money, refinancing before the ARM reset, essentially re-striking the option exercise price higher. Simply stated, the borrower wouldn't default, as logical people do not walk away from in-the-money call options.

And they didn't, until about a year ago. As a consequence, default rates on pools of such subprime loans came in amazingly low, soothing rating agencies' nerves and

re-enforcing the shadow banking system's appetite for securitised pools of them.

But if house prices didn't rise, the call option would fall out of the money, and the put option – the right to default on the **full** principal value of the loan – would go into the money. Indeed, house prices didn't have to fall, but simply not rise for this outcome to unfold, given negative amortisation. In which case, the putative borrower would no longer have any incentive to stay current: Why throw good money after bad for an at-the-money call option that you got for free, which has gone out of the money?

And so it came to pass about a year ago, when early-payment defaults became a new phrase in our collective lexicon. The home price bubble popped, the at-the-money call options went out of the money, the at-the-money put options went into the money, and the holders of them remembered the wisdom of Paul Simon's 1975 treatise on 50 ways to leave a bad situation:

*You just slip out the back, Jack
Make a new plan, Stan
You don't need to be coy, Roy
Just get yourself free
Hop on the bus, Gus
You don't need to discuss much
Just drop off the key, Lee
And get yourself free*

And with Jack, Stan, Roy, Gus and Lee setting themselves free, the shadow banking system was revealed to be caught between the longing for love and the struggle for the legal tender, living life as Jackson Browne's Pretender, ships bearing their dreams sailing out of sight, with the junkman pounding their fenders. To wit, a run on the asset backed commercial paper market!

My 2004 forecast of a cyclical peak for Fed funds of 2 ½% was spectacularly wrong. I own that. I also own the very rational reason why: the Fed chose **not** to use its regulatory powers to police the mortgage loan originator sharks feeding the levered yield appetites of the shadow banking system. I thought they both should and would, and I was wrong.

Too Much Success is Unsuccessful

Which brings me to my February 2006 address before this group. Having had my head handed to me with my April 2004 forecast, my axe to grind 21 months ago was that the Fed's implicit 1-2% target for the core PCE deflator was too low, even as I applauded new Chairman Bernanke's push to move toward an explicit inflation objective, which he had earlier dubbed the Optimal Long-term Inflation Rate, or OLIR.

I actually grounded my thesis with a flashback to Chairman Greenspan's

valedictory address at Jackson Hole the prior August, and follow-up remarks he made a month later. Specifically, at Jackson Hole, Alan said:

“The lower risk premiums – the apparent consequence of a long period of economic stability – coupled with greater productivity have propelled asset prices higher.”

He went on to say:

“Any onset of increased investor caution elevates risk premiums and, as a consequence, lowers asset values and promotes the liquidation of the debt that supported higher asset prices. This is the reason that history has not dealt kindly with the aftermath of protracted periods of low risk premiums.”

And then a few weeks later, on September 27, Mr. Greenspan upped his Jackson Hole ante on himself and declared:

“In perhaps what must be the greatest irony of economic policymaking, success at stabilization carries its own risks. Monetary policy – in fact, all economic policy – to the extent that it is successful over a prolonged period, will reduce economic variability and, hence, perceived credit risk and interest rate term premiums.

A decline in perceived risk is often self-reinforcing in that it encourages presumptions of prolonged stability and thus a willingness to reach over an ever-more-extended time period. But, because people are inherently risk averse, risk premiums cannot decline indefinitely.

Whatever the reason for narrowing credit spreads, and they differ from episode to episode, history cautions that extended periods of low concern about credit risk have invariably been followed by reversal, with an attendant fall in the prices of risky assets. Such developments apparently reflect not only market dynamics but also the all-too-evident alternating and infectious bouts of human euphoria and distress and the instability they engender.”

Irony, indeed, I proclaimed: *“The Fed can be too successful in cyclically fine-tuning inflation, if such success breeds irrationally thin risk premiums, the aftermath of which history has not dealt kindly!”*

Thus, I argued, the Fed faced a dilemma (not a conundrum): if it set the inflation target too low and achieved it, asset bubbles would be the inevitable consequence, the eventual bursting of which would create fat-tailed deflation risk. Thus, ironically, the best prospects for achieving

secular price stability would involve, I theorised, more, not less **cyclical** volatility in inflation, in a wider and higher band than 1-2%. I suggested 1 ½% to 3%.

But that was just a suggestion. My key point, which I had made public in September 2005⁵, was the irony of too much success for too long in maintaining very low and very stable goods and services prices; it was a prescription for asset price bubbles followed by a debt-deflation fat tail.

Bottom Line

Which brings us to the here and now: we are living in a debt-deflation fat tail, also known as a Minsky Moment. Well actually, as I wrote last month, the Moment has passed and we are now embarked on a Reverse Minsky Journey where *“instability will, in the fullness of time, restore stability, as Ponzi Debt Units are destroyed, Speculative Debt Units are severely disciplined, and Hedge Debt Units make a serious comeback (remember, in Minsky terms, Hedge Units are the good guys!).”*

The shadow banking system is being turned into a shrunken shadow of itself, as my partner Bill Gross articulately explained just a few weeks ago in his monthly essay, “Shadow Dancing⁶.” Most important, from an investment perspective, a Reverse Minsky Journey

will have the precise opposite, probably more violent, effect on the ‘neutral’ real Fed funds as the Forward Minsky Journey of 2004–2006. A Reverse Minsky Journey will lower it dramatically, as the implosion of the double bubbles of housing prices and the shadow banking system renders the demand for credit very interest rate inelastic to Fed easing.

Might we get back to a 2 ½% Fed funds rate, as I forecast would be the peak, way back in 2004? I honestly don’t know. What I do know, or at least think I know, is that the slower the Fed is in lowering the Fed funds rate, the greater will be the cumulative decline in the Fed funds rate. Debt deflation is a nasty beast and will not be tamed with a gentle monetary policy response.

Or, in the famous words of John Maynard Keynes:

“For whilst the weakening of credit is sufficient to bring about a collapse, its strengthening, though a necessary condition of recovery, is not a sufficient condition.”

The sufficient condition will be a **combination** of house price deflation and lower interest rates that re-incites animal spirits towards housing as an asset class. Which means not fair, but cheap. So cheap, perhaps, that I, who’ve never owned

more than one house, might decide that a second one might not just be a fun idea, but a good speculative put.

But I ain't there yet. And to borrow a Fed phrase, I don't anticipate being there for a considerable period. Perhaps by the time I'm blessed to be invited to speak before this group yet again.

Meanwhile, let me thank you, from the heart, for inviting me here today for the

third time. I understand this puts me in a small club, for which I'm deeply honoured, as the Money Marketeers is a club of great history and distinction.

Paul McCulley
Managing Director
15 November 2007
mcculley@pimco.com

¹ "A Brave New World," *Fed Focus*, April 2004.

² "Musings on Inflation Targeting," *Fed Focus*, February 2006. <http://singapore.pimco.com/LeftNav/Featured+Market+Commentary/FF/2006/FF+March+2006.htm>

³ "A Reverse Minsky Journey," *Global Central Bank Focus*, October 2007. <http://singapore.pimco.com/LeftNav/Featured+Market+Commentary/FF/2007/GCBF+October+2007.htm>

⁴ "Needed: Central Bankers With Far Away Eyes," *Fed Focus*, August 2003.

⁵ "Pyrrhic Victory," *Fed Focus*, September 2005. <http://singapore.pimco.com/LeftNav/Featured+Market+Commentary/FF/2005/FF+Sept+2005.htm>

⁶ "Shadow Dancing," *Investment Outlook*, November 2007. <http://singapore.pimco.com/LeftNav/Featured+Market+Commentary/IO/2007/IO+November+2007.htm>

¹ Regulated by the Monetary Authority of Singapore as a holder of a capital markets services license in fund management. The services and products provided by PIMCO Asia Pte Ltd relate to advisory accounts, which are available only to accredited investors as defined in the Securities and Futures Act. The investment management services and products are not available to persons where provision of such services and products is unauthorised.

² Licensed by the Securities and Futures Commission ("SFC") for Types 1, 4 and 9 regulated activities under the Securities and Futures Ordinance. PIMCO Asia Limited provides the following services to institutional clients: (a) Marketing and distribution of collective investment schemes in Hong Kong; (b) Giving advice on collective investment schemes, debt securities and market opinion; and (c) Acting as a medium to gain access to the asset management expertise of overseas member companies of the PIMCO group.

The SFC license does not imply any recommendation.

Past performance is not a guarantee or a reliable indicator of future results.

This article contains the current opinions of the author but not necessarily those of the PIMCO Group. Such opinions are subject to change without notice. This article has been distributed for educational purposes only and should not be considered as investment advice or a recommendation of any particular security, strategy, or investment product. Forecasts, estimates, and certain information contained herein are based upon proprietary research and should not be interpreted as investment advice, as an offer or solicitation, nor as the purchase or sale of any financial instrument.

Core PCE deflator is a US-wide indicator of the average increase in prices for all domestic personal consumption, excluding the more volatile seasonal food and energy prices. It is indexed to a base of 100 in 1992. Using a variety of data including U.S. Consumer Price Index and Producer Price Index prices, it is derived from the largest component of the Gross Domestic Product in the BEA's National Income and Product Accounts, personal consumption expenditures.

Information contained herein has been obtained from sources believed to be reliable, but not guaranteed. No part of this article may be reproduced in any form, or referred to in any other publication, without express written permission. ©2007, PIMCO.

P I M C O

Singapore¹

PIMCO Asia Pte Ltd

30 Cecil Street #23-01

Prudential Tower

Singapore 049712

65-6491-8000

Registration No. 199804652K

Hong Kong²

PIMCO Asia Ltd

24th Floor

Units 2403 & 2405

Nine Queen's Road Central

Hong Kong

852-3650-7700