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THE UNINTENDED CONSEQUENCES OF ULTRA-EASY MONETARY POLICY

– Could Future Crises Be Brewing? –



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THE UNINTENDED CONSEQUENCES OF ULTRA-EASY MONETARY POLICY

– Could Future Crises Be Brewing? –

In several past essays, we have drawn upon the theory of “macro-controllability” to argue that monetary policy has been over-utilized and indeed abused during the past five years. This was largely due to the failure of policy makers to properly use fiscal and deregulatory policy to redress the collapse of economic growth since 2008. A number of notable central bankers and economists have arrived at a similar conclusion, even if they chose not to utilize the controllability framework we find indispensable for explaining tepid growth and in proposing sound policy prescriptions.

But one economist stood out from the pack. In a paper he wrote last fall, William White, Chief Economist of the OECD in Paris and formerly of the BIS in Basel, was arguably the first to express grave concern over the long-run, unintended consequences of ultra-easy monetary policy.¹ In this new *PROFILE*, we shall discuss six of his far-reaching and disturbing arguments. Yet we will not restrict ourselves to White’s paper. Where appropriate, we will introduce the research of others whose arguments support and extend White’s own, in particular, the compelling concerns recently set forth by Federal Reserve Board Governor Jeremy Stein.

A Point of Confusion

Before going any further, one point needs emphasis. While most everyone acknowledges that monetary policy will soon tighten, most of the focus has been on the prospect of tapering down QE asset purchases as a necessary first step. They ask: Exactly when will this begin? What form will this process take? Will it be a mere cessation of new asset purchases, or a sell-off of existing assets as well? And what will be the impact of the onset of tapering on longer-term interest rates given today’s jittery and confused bond market?

¹ See “Ultra-Easy Monetary Policy and the Law of Unintended Consequences” by William R. White, Dallas Federal Reserve Working Paper 126. September 12, 2012.

But what about the *second* dimension to the unwinding of ultra-easy monetary policy, namely, higher Fed funds rates and an upward shift in the entire yield curve — for reasons having nothing to do with QE? This is seldom discussed. From the research we have carried out, it is this second dimension of the end of easy monetary policy that is the more important of the two. The nation has never experienced *six years* of hyper-low interest rates. What impact has this had on the restructuring of the balance sheets of insurers and banks? In striving to match assets and liabilities across 24 consecutive quarters of near-zero rates, what tricks might financial institutions have played (reaching-for-yield via derivative positions) that could backfire and occasion a financial crisis once the yield curve rises from the dead? In particular, what about the increased utilization of new “collateral and maturity transformation” schemes that could occasion future panics?

Is today's (Nov. 12) front page Financial Times article correct — that the true winner from zero interest rates will have been the shadow banking system? God forbid!

William R. White's Paper

White's main argument is that, since the financial crash of 2008, both the scope and the magnitude of ultra-easy monetary policies by central banks are unprecedented. Even during the Great Depression, rates were never so low for so long. While he would agree with the necessity of some of these policies, if not their magnitude, White raises two concerns. First, he believes the efficacy of ultra-easy policy in stimulating economic growth has been much less than most others assume. This finding is important — not only because it helps explain the weakness of the recoveries of many OECD nations to date, but also because it suggests that we should not over-rely on monetary policy in dealing with future potential shocks.

White's second concern goes deeper. He sets forth a number of adverse “unintended consequences” that will stem from today's “ultra-easy” monetary policy. While admitting that ultra-easy policies have “bought time” to deal with the global crisis, he worries that the longer-term price of such policies will prove very high. In short, will the gamble of ultra-easy policy have been worth taking in retrospect?

In this essay, we discuss both sets of White's concerns. While his essay serves to organize the flow of ideas that follows, we take the liberty to draw upon the research of others who share White's basic concerns, but who look at matters differently.

Part A. The Relative Ineffectiveness of Ultra-Easy Policy in Stimulating Growth

A.1. Why the “Transmission Channels” of Monetary Policy Were Sclerotic

White begins by reminding us that “stimulative monetary policies are commonly referred to as ‘Keynesian.’ However, it is important to note that Keynes himself was not convinced of the effectiveness of easy money in restoring real growth in the face of a Deep Slump. This was one of the principal insights of the *General Theory*.” In the first part of his discussion, White asks: *First*, will ultra-easy monetary policy be effectively transmitted to the real economy, as opposed to, say, financial institutions that benefitted enormously from central bank largesse? *Second*, assuming that policy is effectively transmitted, will the private sector respond in such a way as to stimulate aggregate private demand and employment? He answers both questions in the negative.

First consider the policy transmission issue. There are several reasons why policy transmission has been less effective than usual.

- **The Zero Bound Trap:** By lowering rates to 0%, the Fed *foreclosed* upon the possibility of further interest rate easing should future conditions require it. This restriction on future policy is new and worrisome.
- **Government Yield Curve Transmission:** While near 0% yields were associated with lower long-bond yields as was desired, there is ambiguity as to whether this reflected monetary policy *per se*, or was simply a disinflation-based extension of a 10-year decline in nominal long rates already in play. Looking forward, White is concerned that long rates might rise without a corresponding rise in Fed funds rates. And indeed, in the year since he published his essay, T-bond yields had doubled at one point despite no change in the funds rate. He also worries that the ongoing fiscal crises in the US and elsewhere could ultimately create a meltdown of trust and drive long-yields higher regardless of the funds rate policy. *All in all, he views the classical yield curve transmission policy to have been compromised.*

- **Corporate Spreads:** These fell less than would have been “normal” and less than was expected. Looking forward, credible fiscal tightening (causing even slower GDP growth) could serve to increase these spreads, thus impairing the normal corporate transmission effects of a very low Fed funds rate.
- **Mortgage Spreads:** Mortgage rates in the US and many other nations have not followed policy rates to the normal extent. In the US, as the funds rate fell sharply from 2008 onward, the 30-year FNMA rate declined much less. This reflected a less competitive mortgage market due to increased concentration, greater regulatory costs, and a loss of confidence in financial institutions which caused higher wholesale funding costs. Whatever the reasons, the mortgage transmission mechanism was less effective than usual.

Lower Fed interest rates are not the only means by which monetary conditions in advanced economies can be transmitted. There are also:

- **Higher Asset Prices and Wealth Effects:** Higher asset prices serve to increase wealth and thus consumption — or so we are told. In the case of the crash of 2008, however, much lower rates in many nations did not prevent ever-lower housing prices driven by non-interest-rate issues. As for equity wealth, stock prices did recover after easing began, as might have been expected. Yet these increases moderated in the summers of 2010 and again in 2011. As White notes in his paper, “In each case, the announcement of some ‘non-standard’ policy measure caused stock prices to rise once again. The fact that numerous central banks repeatedly had to turn to non-standard measures indicates the degree to which even zero-lower-bound rates have failed to stimulate as they should have.”
- **Non-Standard Policy Measures:** These include US-style QE, ECB-style QE, and firm pre-commitments to keep the policy interest rate very low for prolonged periods. Again, White stresses:

“Many of the non-standard measures taken were similar to those previously undertaken by Japan. *It is instructive therefore that the Japanese monetary authorities remain highly skeptical of their effectiveness in stimulating aggregate demand.* Perhaps the most important reason for this is that the demand for bank reserves tends to rise to match the increase in supply. In short, loan growth does

not seem to be much affected. If, in expanding the monetary base, the central bank also absorbs collateral needed to liquefy private markets, that too could be a negative influence on demand.”

- **Exchange Rate Depreciation Due to Lower Rates:** Finally, lower policy rates are supposed to cause currency depreciation and generate increased aggregate domestic demand (exports rise, imports fall). They are also supposed to stimulate inflation through higher prices of imported goods. The problem with this transmission channel is that it works best when only *one* nation devalues in this manner. Its effectiveness will be blunted should other trading partners be lowering *their* exchange rates — whether due to conditions at home or simply to remain competitive.

This is precisely what happened this time around. In the developed world, most every nation attempted currency depreciation. As for the emerging economies whose currencies should have risen, policy makers prevented this via large-scale currency market interventions, and outright capital controls. They refused to suffer reduced domestic demand due to currency appreciations.

For these many reasons, the transmission channels from easy monetary policy to economic activity on Main Street have been much less effective than policy makers had hoped for, or than they had been in the past.

A.2. Why Private Sector Demand Has Been Non-Responsive

The analysis in this section extends that of the previous section, but it goes much deeper in investigating the sources of stagnant private sector demand despite very low interest rates.

- Most economists assume that lower rates encourage households to save less and consume more, and companies to invest more. One reason why this may not have held true this time is that *ultra-easy* policy smacks of “policy desperation.” Households and business people alike may have interpreted such an extreme policy response as proof that things are much worse than they are being told. This could further dampen animal spirits, depress confidence, and reduce the will to spend.
- Economists have assumed a positive relationship between interest rates and the savings rate. But recent analysis suggests that this relationship is much weaker than once supposed.

For example, if savers have a goal to accumulate a certain amount of money for retirement (true of most everyone we know), then to achieve their goals as interest rates fall (and thus as accumulation rates fall) will require a *higher* rate of savings. The algebraic sign of the standard relationship thus reverses.

- What about the assumed negative relationship between aggregate household spending and interest rates? Low rates depress the income of creditors (elderly people in particular), and boost the spending power of debtors. Given new evidence on the marginal propensity to consume of these two groups, it is now thought that lower rates in fact *depress* rather than *raise* aggregate household spending.
- Finally, there is the putative “wealth effect,” whereby low rates lead to higher asset prices and thus greater wealth. White stresses that this commonplace argument masks a serious analytical flaw:

“Lower interest rates cannot generate ‘wealth,’ if an increase in wealth is appropriately defined as the capacity to have a higher future standard of living. From this perspective, higher equity prices constitute wealth only if based on higher expected productivity and higher future earnings.”

Neither condition is thought to hold true given today’s circumstances.

Going further, the widespread assumption that higher house prices raise future living standards suffers from ignoring the higher future cost of living in a house. What higher house prices really do is produce more collateral against which loans can be taken out to sustain present levels of spending. But the resulting increase in debt must be repaid in the future, thus reducing future consumption — a lesson driven home during the recent crisis which has altered people’s views of “housing as a great investment.” Accordingly, no new “wealth” (if it is properly defined) is created. Above and beyond this reality, lower rates were accompanied by *falling* house prices during the recent crisis, at least in certain OECD economies.

- What about the impact of lower rates on corporate investment spending? To begin with, note that corporate investment as a percent of GDP has been decreasing, not increasing, in most OECD nations during the past recession *and recovery*. Remarkably, this has occurred despite strong profit growth and good balance sheets. Why is this the case?

First, there is the growing conviction that GDP growth is in the process of slowing permanently throughout the OECD for at least a decade to come. So why invest?

Second, booms in corporate investment such as that of the latter 1990s in the US are usually due to technological breakthroughs that have nothing to do with interest rate levels. For example, capital spending increased by nearly 8% of US GDP between 1994 and 1999 due to Marc Andreessen's invention of the Netscape browser late in 1994. As a result, the US was rewired for the Internet Age between 1995 and 2000. Shocks of this kind cannot be "ordered in" like a Thanksgiving dinner in New York. They occur infrequently and randomly, and so-called policy experts are the last to fathom them.

Third, a recent Duke University study showed CEOs in today's environment are not responding to interest-rate levels in making investment decisions. Rather, they want an end to policy uncertainty in Washington, and await government policies focused on growth.

Fourth, there is the increased "short-termism" of business in today's adverse environment. The counterpart to a growing reluctance to think long term is a focus on increasing short-term profits, on larger payouts and salaries, and on higher equity prices due to share buy-ins so as to maximize the value of executive stock options. "Such behavior comes at the expense of both fixed capital investment and the health of businesses in the longer run," says White. Finally, lower interest rates have caused many pension funds to become (and remain) very underfunded, and this too ties management's hands in investing large sums for the long run.

To sum up Part A, many of the transmission channels through which monetary policy usually works have been partially blocked. Additionally, there is considerable evidence that neither household nor corporate spending has responded to ultra-easy policy in ways that it has in the past. Moreover, this would have been true even if the transmission channels had not proven to be as sclerotic as they have been.

Part B. The Unintended Consequences of Ultra-Easy Policy

Just as most government models of the link between monetary policy and economic reality have proven way off the mark, so (posits White) will current assumptions about the longer-term consequences of the unprecedented monetary policies that have been utilized. White's view is not only that there will be long-term unintended consequences, but that these will be adverse in nature. What are these consequences?

B.1. Adverse Long-Term “Debt Stock Effects” from Ultra-Easy Policy

“Debt Stock Effects” in White's paper refer to the way in which the increase in credit outstanding resulting from ultra-easy policies may well trigger problems in the future.

In particular, assets purchased with central bank-created credit — both real and financial assets — will eventually yield returns that prove inadequate to service the debt associated with their creation.

As a result, “stimulative policies” that might have worked in the past may prove anti-stimulative in the future due to this long-term negative feedback on the real economy from debt stock effects. An extreme example here would be what is already happening in China. Credit growth exploded to combat the Global Financial Crisis. Much of the resulting spending (e.g., on new see-through cities) was “malinvestment” as it is known. The difficulty of servicing the associated debt and of managing the new low-return investments is now threatening the growth rate of China in the future.

B.2. Problematic Gap between the “Natural” and the “Financial” Interest Rate

Another perspective from which to appreciate future difficulties is to assess the disparity between the “natural rate of interest” and the “financial rate” (AKA policy rate) set by the central bank. The natural rate is usually proxied by the average long-term growth rate of the

economy. Think of it as the rate of return on normal investments expected by business people. This rate will fluctuate around some mean due to changing animal spirits.²

In the period preceding the crash of 2008, the *financial* rate of interest had been falling for a decade due in part to ever-falling inflation, while at the same time the *natural* rate had been rising. One reason for this rise was increased optimism about the rise of emerging markets and their future growth prospects. A consequence of the easy credit that results from the rising positive natural/financial gap is excess investment, as in US housing.

Once the crash came, however, the financial rate could only fall to the “Zero Bound” (of 0) whereas the natural rate went *negative* given the bad “animal spirits” generated by the global collapse. The result was the negative natural/financial gap with which we have been living for six years. When this gap is negative, investment spending typically collapses just as it has, and past investments (e.g., all those new houses built between 2002 and 2007) end up earning negative returns. As regards future investment, who would want to receive an expected rate of return lower than the cost of funding the investments?

The traditional question in this context is how a central bank can transform a negative natural/financial gap (such as we have today) into a positive gap whereby business people and households once again wish to invest. It normally could do so in either of two ways: It could drive the financial rate downward, or it could *indirectly* attempt to raise the natural rate back up. The problem today is that by having pushed the financial rate to its Zero Lower Bound and kept it there, the central bank cannot lower the policy rate at all.

What about the role of the central bank in “indirectly” pushing the natural rate upwards? Regrettably, it is hamstrung by the fact that its own actions underscore how poor the broader economic environment remains: Dead Cat Bounce “recoveries” prevail throughout the OECD. As we have stressed for years, what is needed to push up the natural rate is not monetary policy, but rather *proper fiscal policy* (productive investment rather than transfer payments) and *incentive-structure-based regulatory policy* (incentives for small businesses to hire rather than fire). This is a point with which White wholeheartedly agrees.

² This distinction was first introduced by the Scandinavian economist Knut Wicksell.

B.3. When and How Should the Fed End QE?

– And Its Impact on Interest Rates –

Traditionally, there was no mystery to the cyclical behavior of monetary policy: The central bank would lower the short-term interest rate under its control when the economy slowed down and entered a recession. It would then reverse course and raise rates when recovery set in. Matters were that simple, and investors knew it. But the advent of QE has changed everything. Does anyone know how the Fed *should* end QE? Can anyone predict what it most likely *will* do — and when, and what its policy impact will be on longer-term yields? The author recently had lunch with Larry Summers, Donald Kohn, William White, and a couple of other monetary experts. There was very little agreement on the answers to *any* of these root questions.

Are we shooting blind going forward? We shall group our discussion of this difficult issue into three parts: What the advent of Pricing Model Uncertainty in the bond market implies, what the Fed will/should do to exit, and what its impact will be on bond and mortgage yields.

(i) Pricing Model Uncertainty: We already discussed this concept in the context of the bond market in a recent *PROFILE*, so a brief summary will suffice. For many decades, the long Treasury market has had the property of Pricing Model *Certainty*: If any investor was to learn the “news” — the truth about the future growth and inflation rates of the economy — then he would be very confident that the long bond yield would be the algebraic sum of these two rates.

To restate this, he would bet that the *real* bond yield would approximate the *real* growth rate of the economy. So would every other investor bet in this way. Recall that the Efficient Market Theory blithely *assumes* Pricing Model *Certainty*. Why is this point important? It can be proven formally that, in an asset class where all investors know the true “model” that transforms unexpected news about fundamentals into price changes, there will be virtually no price “overshoot/undershoot” at all. *Classically, only the Treasury market satisfied this requirement in reality.*

To the extent that an asset class (junk bonds, tech stocks, real estate) does *not* possess Pricing Model Certainty, then the result will be price overshoot/undershoot.³ The point we made in our recent essay is that the advent of QE has created considerable Pricing Model Uncertainty within the Treasury market.

More specifically, no one has a clue as to the regression weights to attach to news about QE versus news about inflation. As a result of such confusion, the overshoot of bond prices of the kind witnessed between April and September 2013 in the T-bond market may well become commonplace. It is indeed a new world when long bond yields nearly double because of “tapering” gossip despite a fall in inflationary expectations!

This new reality will make it very difficult for the Fed’s own economists, much less the rest of us, to know what the impact on bond yields will be from tapering QE or raising the funds rate — or doing both. And both will eventually have to be done.

(ii) What the Fed Will/Should Do: The Fed (ibid. other central banks) will of course taper down if not eliminate its QE asset purchases.⁴ The outstanding question centers on “when.” And here two very different types of timing arise — types that are rarely distinguished. The normal discussion of timing centers on when tapering of asset purchases should begin. With Janet Yellen as the new Chairwoman of the Fed, it is likely that QE will continue for a good while given her belief that policy should remain unchanged until the unemployment rate drops to 5.5%. There are two arguments as to why she is misguided in tying tapering to the unemployment rate. *First*, the nature of the job market and the very meaning of “unemployed” is changing in such a way that the conventional unemployment rate may not fall back to 5.5% for several years — far too late for the advent of more normal monetary policy. *Second*, the arguments in this paper about the adverse consequences of ultra-easy policy suggest that the time to bring such policy to an end is now, not later.

The second timing issue is one that Professor Ronald McKinnon of Stanford University has recently brought to everyone’s attention: Which should come first? Tapering of QE? Or a higher Fed funds rate? Professor McKinnon has turned conventional wisdom on its head by cogently

³ More formally, the greater the extent of Pricing Model Uncertainty, the greater will be the price overshoot/undershoot and momentum of the asset class. The technical reason why is that, the greater the uncertainty about the pricing map **M**, then the unique subperfect equilibrium point strategy of the trading I-game being played will be for *each* investor to “stay with the trend” *longer* the greater the Pricing Model Uncertainty. As a result of this being rational for *all* investors, overshoot/undershoot momentum becomes greater.

⁴ By extension, the Fed will subsequently reduce its stock of *existing* assets due to past QE purchases. We shall not discuss the timing of this event, or the rate at which it unwinds its balance sheet.

arguing that the latter should come first. In an October 28 *Wall Street Journal* Op-Ed piece, he states:

“There is no doubt that the Fed needs to break out of its near-zero interest rate trap in order to avoid perpetual stagnation where real returns on new investments are also driven to zero...The Fed can start by raising short-term rates, currently near zero, *while leaving QE3 on hold*. Because the overnight policy rate is unambiguously under the Fed’s control, the Fed should announce a schedule of slowly phasing in higher short-term rates...”

He goes on to say that, before restoring its policy rate to a more normal 2% over two years, the Fed could “revisit” the tapering issue. By that stage, the bond market would have been used to dealing with a more normal regime of higher rates, and would be less likely to have a hissy fit when tapering actually commences.

Professor McKinnon’s argument is related to and reinforces our own more formal concept of Pricing Model Uncertainty. The market is comfortable with the impact of higher policy rates (the funds rate) on bond yields. There will be no mass confusion or panic in the bond market due to a higher funds rate — at least compared to what will happen when that unknown variable called “tapering” rears its head. Pricing Model Uncertainty will have been reduced. *The result would be a more orderly upward shift of the entire yield curve over two years to where current economic growth says it should be.*

(iii) Impact on Bond Yields and Mortgage Rates from Ending QE3: How much will these two key yields rise when tapering commences? Until recently, this was anyone’s guess, and “guesstimates” were all over the map. Clarity has just been provided in a paper presented at the August 2013 Jackson Hole Conference organized by the Federal Reserve Bank of Kansas. The paper is entitled “The Ins and Outs of LSAPs” (Large-Scale Asset Purchases), and the authors are Arvind Krishnamurthy of Northwestern University and Annette Vissing-Jorgensen of the University of California at Berkeley. They present a very impressive econometric model that purports to measure the impact of QE to date both in the Treasury market and in the mortgage market. The paper is very detailed and difficult. We shall simply present the main findings. Thereafter, we indicate some limitations of the authors’ analysis.

The principal findings include the fact that the asset market prices that were impacted by QE were primarily the very asset markets in which the Fed made its purchases. More specifically:

“We find little evidence of a broad channel through which purchases on long duration assets, both mortgage-backed securities and long-term Treasury bonds, reduce a duration risk premium (term premium) on *all* long-term fixed income assets. While the Fed has often alluded to this (broad) channel in discussing the beneficial effects of QE, the empirical evidence is more consistent with *narrow* channels.”

In discussing the *quantitative* impact of QE on prices in the markets where the Fed did intervene, the authors attempt to disentangle the “announcement effects” from the “actual effects” of the purchases, as well as the “scarcity constraint” versus the “capital constraint” channels through which asset prices rise/fall. The argument is very complicated and we find the authors’ quantitative results problematic for the reason noted below.

One of the authors’ main quantitative findings is that Fed purchases in the mortgage market had a significantly greater impact on mortgage-backed prices than was the case in the Treasury market. A reason why is that the Fed was a much larger player *within* the mortgage market than in the Treasury market, and thus had a greater impact on prices. In the Treasury market, keep in mind that Fed purchases of \$85 billion a month (generating the so-called “flow effect” on bond prices) are small change compared to decisions of private T-security holders to reallocate the approximately \$12 trillion of T-securities that they own (decisions generating the “stock effect” on prices).

By making some extremely simplifying assumptions, a reduction from today’s purchases of \$85 billion per month to no further purchases of bonds by the Fed stretched over 2 years could end up raising average duration T-bond yields by about 75 basis points.

The *macroeconomic* impact of these higher yields would be small, however, because as stated above, the primary impact of reduced purchases will be on the Treasury market — not on corporate bonds and other long-duration instruments possessing a greater impact on the real economy.

We could not compute from the analysis a comparable estimate for the impact on mortgage-backed yields, but this might lie in the range of 90 – 110 basis points.

Limitations of These Econometric Inferences: The problem bedeviling such analysis is the requirement that “other things be equal.” In the present case, the authors assume that *stock effects* are held constant — by which we mean the shifting psychology and sentiments of those

private bondholders who own \$12 trillion of Treasuries. To see why such stock effects matter a great deal, consider two scenarios.

Case 1: Should tapering commence, *and* be followed by unexpected news of weaker economic growth, *and* then by unexpected news of lower inflation, the putative *increase* in yields due to reduced Fed purchases could be fully offset by a *decrease* in yields reflecting private investors' comfort with a less inflationary future, and consequent willingness to buy bonds at a lower yield.

Case 2: Conversely, were the announced reduction of Fed purchases followed by news first of higher inflation, *and* then of stronger growth, yields could rise not by 75 basis points, but by 150 basis points. Add in the impact of Pricing Model Uncertainty as stressed above, and yields could rise by up to 250 basis points, representing an overshoot of $250 - 150 = 100$ basis points.

What matters here is that the larger economic context in which tapering is implemented can have a very significant impact on asset prices that is independent of what the Fed intended or wished for. This is one further reason why we like Professor McKinnon's strategy: The Fed should commence easing by *predictably* impacting the one variable it *fully* controls, namely, the Fed funds rate (policy rate).

B.4. Impact of Rising Rates on Financial Institutions

This section discusses the impact of monetary tightening that worries us the most. There is little doubt that the entire yield curve will eventually rise by some 200-300 bps. as we slowly emerge from the difficulties generated by the Global Financial Crash. Were this *not* to happen, the dynamics of the economy will have changed in ways that this author cannot fathom and thus will not discuss. The only question is *when* rates will rise.

But what will higher yields imply for a broad array of financial institutions — insurance companies and banks in particular? It is surprising to us that so few people discuss this issue, especially as rising yields could precipitate very adverse unintended consequences of the kind described below. While Bill White acknowledges this issue, he does not discuss it in any length. Fortunately, however, Federal Reserve Board Member Jeremy Stein has recently discussed it,

and we shall draw upon his new paper “Overheating in Credit Markets: Origins, Measurement, and Policy Responses.”⁵

One reason the impact of higher rates on financial institutions is rarely discussed is that there is no one answer to this question. The answer will reflect the old adage that “where you sit depends upon where you stand.” More specifically, a higher yield curve will help some firms, and hurt others, just as lower rates assist private borrowers and hurt private lenders. Analogously a steeper or flatter yield curve will help some, while hurting others. More microscopically, the impact of higher yields on a particular type of firm (e.g., a life insurance company) will depend upon the particular asset/liability-matching strategies that have been utilized by the firm.

Because of these complexities, we shall only address certain *non-obvious ways* in which higher rates will have unintended and adverse impacts on firms’ balance sheets. To illustrate this via a case study of sorts, we consider how an insurance company may run into problems in matching assets and liabilities when interest rates not only start rising, but rise from unprecedented lows. We know that many such firms experienced grave difficulties when yields *fell* unexpectedly during the past six years. These problems were often caused by new and untested “matching strategies” invented to cope with collapsing yields — “reaching-for-yield” strategies in particular.

Will firms experience *symmetrical* difficulties when yields rise? Or new difficulties? In coping with rising yields, what “off-balance-sheet” tricks could firms play in order to meet regulatory requirements? Might latent AIG-type risks arise in this context? Will the regulators be the last to anticipate these?

The reason we have selected this case study is because Fed Board Member Jeremy Stein cites this problem as a serious one, and discusses it in detail.

⁵ Presented at “Restoring Household Financial Stability after the Great Recession,” a Research Symposium sponsored by the Federal Reserve Bank of St. Louis, February 7, 2013. I am indebted to Professor Benjamin Friedman of Harvard University for proposing that we draw upon this excellent paper.

The Insurance Company Case Study

For simplicity, consider the case of a life insurer when ultra-easy monetary policy comes to an end. The standard thinking is: “Well, when rates rise, the value of the firm’s liabilities will fall, reflecting a lower discount rate, and the value of its assets will fall as well. Of course, the degree to which its asset values will fall depends upon its particular mix of assets, and their duration. This being true, matching assets and liabilities should not prove problematic as rates rise.”

But such received wisdom may well be wrong. Stein writes:

“A prolonged period of low interest rates, of the sort we are experiencing today, can create incentives for agents to take on greater duration or credit risks, or to employ additional financial leverage, in an effort to ‘reach-for-yield’. An insurance company that has offered guaranteed minimum rates of return on some of its products might find its solvency threatened by a long stretch of low rates and feel compelled to take on added risk. A similar logic applies to a bank whose net interest margins are under pressure because low rates erode the profitability of its deposit-taking franchise.”

Stein’s research convinces him that we have witnessed a significant reach-for-yield in the financial sector. He believes the price we will pay for this could be very high. This is because of the *systemic risks* (non-firm-specific risks) that arise from a particularly toxic combination — one brought to life during the Global Financial Crisis. This is the combination of excessive reach-for-yield risk-taking along with excessive “maturity transformation” (AKA “collateral transformation”). As he puts it so clearly:

“A badly underwritten subprime loan is one thing, and a badly underwritten subprime loan that serves as the collateral for asset-backed commercial paper (ABCP) held by a money market fund is something else — and way more dangerous.”

Yes indeed — way more dangerous because this toxic combination can generate *systemic* risk and panic. Building upon this observation, Stein calls for a somewhat idealized measurement construct:

“What we’d really like to know, for any given asset class — be it subprime mortgages, junk bonds, or leveraged loans — is this: *What fraction of it is ultimately*

financed by short-term demandable claims held by investors who are likely to pull back quickly when things start to go bad?"

Stein goes on to sketch how to construct such a measure. Given our extensive discussion of “endogenous risk” in these pages during the past decade, all this is music to our ears. For as the global crash taught us, the true risks to be managed by the authorities are not industry-specific exogenous shocks of the kind stressed in financial theory, but rather the endogenous risks that arise within the system and become systemic given excessive leverage.

Collateral Transformation Risk: Of particular concern is the risk that Stein calls “collateral transformation risk.” This concept will be familiar to some readers, but not to many. It could not be more important. Once again, we can do no better than to quote Stein:

“Collateral transformation is best explained with an example. Imagine an insurance company that wants to engage in a derivatives transaction. To do so, it is required to post collateral with a clearing house and, because the clearing house has high standards, the collateral must be ‘pristine’ — that is, it must be in the form of Treasury securities. However, the insurance company doesn’t have any unencumbered Treasury securities available — all it has in unencumbered form are some junk bonds.

Here is where the collateral swap comes in. The insurance company might approach a broker-dealer and engage in what is effectively a two-way repo transaction whereby it gives the dealer its junk bonds as collateral, borrows the Treasury securities, and agrees to unwind the transaction at some point in the future.

Now the insurance company can go ahead and pledge the borrowed Treasury securities as collateral for its derivatives trade... Of course, the dealer himself may not have the spare Treasury securities on hand, and so, to obtain them, he may have to engage in the mirror-image transaction with a third party that does — say a pension fund. Thus the dealer would, in a second leg, use the junk bonds as collateral to borrow Treasury securities from the pension fund.

And why would the pension fund see this transaction as beneficial? Tying back to the theme of reaching-for-yield, perhaps the fund is looking to goose its reported returns without changing the holdings it reports on its balance sheets.”

Would the regulators be the last to detect these transaction chains, much less to understand the latent risks being generated? Stein concludes with two important points about deals such as the one just discussed. *First*, the transactions involved reproduce the same “unwind risks” that would exist had the clearing house lowered its own collateral standards in the first place. “To see this point, observe that if the junk bonds fall in value (which they probably will, as easy monetary policy ends), the insurance company will face a margin call on its collateral swap with the dealer. It will therefore have to scale back this swap, which will force it to partially unwind its derivatives trade — just as would happen if it had posted the junk bonds directly to the clearing house.”

Second, the transactions create additional counterparty exposure — the exposure between the insurance company and the dealer, *and* between the dealer and the pension fund.

Stein concludes that the Fed has very little data on how pervasive these kinds of transactions are today. However, he notes that with the ever tighter requirements for “pristine collateral” ranging from the Basel III Liquidity Coverage Ratio, to centralized clearing, to heightened margin requirements, the demand for such transaction chains could increase sharply. Systemic risks could explode.

This concludes our discussion. Please note the role in this chain of events of the end of ultra-easy monetary policy (underlined just above). *It is higher rates that cause the drop in collateral values that trigger the resulting “unwind panic.”*

B.5. Impact of Higher Future Inflation – If it Occurs

Suppose this essay had been written early in 2010 when the true magnitude of the Fed’s experiment in “printing money” for huge-scale deficit monetization was just sinking in. Suppose further that a clairvoyant revealed to investors that such monetization would become permanent right up through 2013 and possibly beyond. To go back and read the columns being written at the time, as we did, the reaction of stunned investors (already witnessing the gold price marching to \$1800) would be to expect sharply increased inflation as a *logically necessary consequence* of unprecedented money printing.

We at SED went to great pains to point out why there was no money printing proper taking place, since the Fed's funding of asset purchases was not via printing currency but via increased bank reserves. The latter can *potentially* cause inflation via a reserves-based credit explosion resulting in far more dollars chasing the same number of goods. But in today's context, we stressed that **(i)** an ongoing lack of demand for borrowing (as in Japan for 23 years), and **(ii)** the introduction of the Reserve Remuneration Act law of 2008 combined to make any increase in inflation extremely unlikely for many years. We have been proven right to date, and do not expect significant inflation for the next few years.

During the past five years, fearful investors were largely unaware of the reasons we stressed as to why inflation would *not* rear its head. But they did not really need to be aware of these deeper reasons. For the observed failure of inflation to rear its head in *any* countries that were "monetizing debt" sufficed to convince investors over time that "economic growth is simply too depressed for inflation to revive." This logic is specious, of course, since even with negative growth as in Zimbabwe, money printing *proper* (dollar bill printing) can cause an explosion in the price of a cup of coffee from \$1 to \$10,000 *regardless* of recession or growth. And most investors were sure that the Fed was printing money to finance its purchases, which technically it was not doing.

Longer-Run Past: Nonetheless, prospects for future inflation are trickier than might first appear. To begin with, let us ignore for a moment the issue of money printing, and review what caused inflation to drop almost everywhere in the years prior to the Global Financial Crisis. Two forces were at work. *First*, central banks were extremely successful in convincing investors to repeatedly lower their inflation expectation — a strategy that is self-fulfilling when it works. *Second*, a vast *increase* in the global supply of goods and commodities (largely due to expanded production in the emerging markets) would be complemented by a significant *decrease* in global demand as a consequence of the various busts that kept occurring during the 1990s and 2000s. These included the German reunification bust, the Japanese bust starting in 1990, the US tech stock collapse of 2000, and the Southeast Asian bust.

These twin supply/demand developments provided a perfect setting during which inflation could keep falling. Partly because of this, when the global collapse of 2008 occurred, ultra-easy monetary policy proved unencumbered by the *normal* expectations of higher cyclical inflation.

The Future: Looking forward, we may be approaching the bottom of the excess supply trough, due to the depreciation of existing capital stock, due to the lack of significant investment spending, and due to the incipient rise in global demand as a global recovery slowly takes place.

These arguments point to the possibility of higher inflation for reasons of the growth of aggregate demand relative to supply.

But what about the inflationary prospects directly attributable to ultra-easy monetary policy itself? As White emphasizes strongly at the beginning of his paper, we are treading in uncharted waters. It is all very well for us to write about the existence of the Reserve Remuneration Act as a new tool for managing the incentives of banks to extend credit (and thus to prevent credit-explosion inflation). *But this tool has never been tried.* Will it work as advertised? Could there be political difficulties for the Fed if it attempts to raise the “reserve remuneration rate” to a level that Congress felt would stymie proper economic growth via “needless” credit creation constraints?

Going one step further, suppose that the Fed decides not to rein-in credit expansion via its new reserve remuneration rate tool. Suppose instead that it chooses to restrain inflation and to reduce bank reserve accumulation by shrinking its balance sheet? This would be the classical pre-2008 exit strategy: By selling off the assets acquired during the past five years, the Fed would drive longer-term interest rates up via its increased supply of securities to the market. Additionally, in having its primary dealers sell its assets, the Fed would automatically reduce the magnitude of their “excess” bank reserves, thereby preventing credit creation in a more traditional way. But would a politically acceptable rise in rates coincide with the magnitude of the desired reduction in the Fed’s balance sheet, and in reserves? This is uncharted territory.

What about the possibility of deflation? Were the global economy to endure another shock, or were growth remain too slow, we could experience outright deflation. In this case, as Bernanke pointed out in his celebrated “helicopter drop” paper of 2002, the Fed could quite literally print dollar bills and drop them in everyone’s front yard. This kind of money printing would indeed prevent deflation, but it could also result in *hyperinflation* as has often happened in the past.

One final point about the possible impact of inflation — if and when it returns. Were inflation to return, the yield curve would very likely become steeper. This would benefit certain institutions — banks in particular — assuming once again that we avoid any complications arising from derivative bets made during the period of ultra-easy policy. But a steeper yield curve will not benefit all banks, and serious complications could arise in the case of insurance companies depending on the mix of policies they have sold.

B.6. Impact of a Misallocation of Resources

White dedicates many pages to a discussion of how credit booms and busts are of ultimate importance, and he believes that ultra-easy policy exacts a price via the asset market bubbles and busts it creates. His views are a mix of those of the so-called “Austrian School” and those of Keynes.

“The Austrian conclusion was that credit created by the banking system rather than the lending of *genuine* savings would indeed spur lending, but would also create misallocations of real resources (“malinvestments”). These supply-side misallocations would eventually culminate in an economic crisis....The magnitude of the crisis would be closely related to the amount of excess credit created in the previous upswing.”

To the extent that ultra-easy monetary policy may end up generating excessive credit creation, the long-run consequences of such short-term assistance could prove disastrous in the future.

Not the least of White’s concerns is that excess capacity from excessive investment can create deflation, a phenomenon that becomes exponentially worse in proportion to the amount of credit outstanding. In discussing his “misallocation” thesis, White draws upon the earlier work of G. Haberler who distinguished between two different forms of malinvestments: Vertical and Horizontal ones. Vertical malinvestments imply an intertemporal misallocation of resources. This occurs when easy and cheap access to credit causes an excessive shift toward capital investments, particularly those with long lives. But cheap and easy credit also implies reduced savings rates and greater debt. These latter two developments will end up *constraining future spending* at the very time that the new supply of resources comes online.

Horizontal malinvestments are those in specific sectors that lead to excess capacity. The cause can be either cheap credit, or else a sector-specific belief that the sector’s prospects are very bright.

White’s fear is that today’s extremely cheap credit will end up creating malinvestments of both kinds, paving the way for a debt-burst that could exceed that which we just lived through.

C. Conclusion

The purpose of this **PROFILE** has been to examine some of the unintended consequences of the ultra-easy monetary policy we have experienced both here in the US and overseas since 2008. We have seen at least a dozen ways in which today's long period of very easy money and very low yields has distorted the workings of the financial system. This will cause unintended consequences in the near future as QE is ended, and as the funds rate is driven back up from near zero. Many of these will be adverse consequences.

The best note on which to end this paper is to restate what we have stressed repeatedly during recent years — as have many central bankers worldwide: Much too much has been asked of monetary policy in dealing with a very serious macroeconomic breakdown. Via the Tinbergen “controllability theorem” that we often cite, it is not that monetary policy does not help; it clearly does. Rather it is that no matter how “easy” monetary policy has been, it will never suffice to generate a normal recovery on its own. We emphasize that this is a theorem, not merely an opinion. Proper fiscal and regulatory policies are needed to complement the central bank's efforts.

Had all three of these policy knobs on the dashboard been jointly optimized, as is required in the Tinbergen-Arrow-Kurz theory, there would have been no need for monetary policy to have been ULTRA-easy. The Funds rate could have bottomed at 2%, and much less QE would have been required. As a result, many of the future “risks” we have detailed would not exist.

This last point has been perhaps the most central theme of our 2013 **PROFILE** essays: What matters is optimal macroeconomic policy and controllability. Accordingly, the market's obsession with the only game in town (monetary policy) is badly misplaced. What scholars such as William White and Jeremy Stein have done is to warn us that, aside from not serving to generate meaningful recoveries, ultra-easy monetary policy has created myriad new risks of the kind we have described. Historians will one day assess *ex post* whether this unprecedented monetary policy gamble was successful on a “net” basis.