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Minsky Moments and Financial Regulatory Reform

Recent examinations of the leaders of Wall Street and big banks by the Congress and the Financial Crisis Inquiry Commission bring to mind a quip reputedly made by Napoleon Bonaparte: "Never ascribe to malice that which is adequately explained by incompetence."

As a prominent investor from Omaha once remarked, it is indeed amazing what is revealed when the financial tide goes out: Many who were presumably cloaked with unique insight and thought to be worthy of enormous fees and compensation packages were revealed as having nothing on. This is not because they were bad people but because they were unawares. They either failed to read history or believed they were exceptional and could avoid repeating it. Little did they know they were, in fact, *un*exceptional. They were simply swimming with the flow of history—unwittingly leading the financial system and the economy onto the shoals, only to be revealed as "incompetent" when the storm subsided, the tide withdrew and Congress and journalists and analysts began to sift through the wreckage.

Charles Mackay documented much of what we have just experienced in his classic 1841 tome, *Memoirs of Extraordinary Popular Delusions*.[1] Washington Irving wrote of it in *The Crayon Papers* of 1890, describing the Mississippi Bubble of 1719.[2] If you wish to read the CliffsNotes version of these historical antecedents, find yourself a copy of John Kenneth Galbraith's *A Short History of Financial Euphoria*, written in 1990, and mark these words:

> "The circumstances that induce the recurrent lapses into financial dementia have not changed in any truly operative fashion since the Tulipomania of [1636]. Individuals and institutions are captured by the wondrous satisfaction from accruing wealth. The associated illusion of insight is protected, in turn, by the oft-noted public impression that intelligence … marches in close step with the possession of money. Out of that belief … comes action, the bidding up of values, whether in land, securities, or … art. The upward movement confirms the

> commitment to personal and group wisdom. And so on to the moment of mass disillusion and the crash. This last [development] … never comes gently. It is always accompanied by a desperate and largely unsuccessful effort to get out.”[3]

The fact is that in the world of financial panics, nothing is new under the sun. Financial dementia is a recurring theme throughout history, and excessive leverage is always its causal agent. Levered asset prices always overshoot during booms and overcorrect during busts. Those hailed as financial mavens during speculative bubbles are transmogrified into hapless mortals when those bubbles pop. As financial commentator John Cassidy recently observed as the first lesson from the demise of Bear Stearns, “Leverage kills.”[4]

At some time between Mackay and Irving—and well before Galbraith—John Stuart Mill pointed out the obvious: “Panics,” he wrote, “do not destroy capital. They merely reveal the extent to which it has previously been destroyed by its betrayal into hopelessly unproductive works.”[5]

The patron saint of this assemblage, Hyman Minsky, understood the cycle of financial “revelation” documented by Mackay and Irving and Mill and countless other predecessors of Galbraith and, more recently, Michael Lewis.[6] Minsky assigned it a taxonomy: His classifications for leverage encompassed “hedge borrowers,” “speculative borrowers” and “Ponzi borrowers.”

Minsky understood the progression toward the Ponzi side of the equation that ensues as the game continues and the market accommodates the “betrayal” of capital into “hopelessly unproductive works.” The Ponzi borrower works under the assumption that price appreciation will hide cash flows that cannot cover credit obligations (less erudite observers refer to this as the bigger-fool theory). Minsky warned of the denouement of this complex evolution of levered speculation: The domino effect goes into reverse, infecting even the most sound of investments and leading to a financial crisis and economic contraction.

During the Russian financial crisis of 1998, Paul McCulley of PIMCO coined the term Minsky Moment—which he used to describe the moment of epiphany when the lightbulb goes on and the market recognizes the jig is up for Ponzi borrowers. I call it a Wodehouse Moment. For it was P. G. Wodehouse—by no means an economist and someone who wouldn't have known a PIMCO from a Pimm's Cup—who effectively summed it all up when he observed: "… just when a [fellow] is feeling particularly … braced with things in general … Fate sneaks up behind him with a bit of lead piping."[7]

Today, as we meet to address the theme of this conference—planning a new financial structure after the crisis—I would like to address some matters you might consider to mitigate the destruction that the lead pipe of Fate inevitably metes out in financial cycles.[8]

Even as we accept that markets and market operators are given to volatility and panic, we also know from repeated experience that market failures that roil the financial system can have disastrous repercussions—setting off an adverse feedback loop of contracting credit flows, declining economic activity, and sustained, high unemployment. This reminds us of the vital role money and well-deployed credit play in maintaining a healthy economy. I liken it to the cardiovascular system. In an economy, the central bank is the heart, money is the lifeblood, and financial markets are the arteries and capillaries that provide critical sustenance to the muscles that are the makers of goods and services and the creators of employment. A properly functioning cardiovascular system fosters healthy growth; if that system fails, the body breaks down and the muscles atrophy.

That is what happened in the most recent crisis. Elaborate statistical models and complex securitization products created the illusion of control over credit and liquidity risk in the banking and credit system. They proved to be shills for Minsky's Ponzi borrowers. Misperceptions of risk and misplaced incentives led to misguided actions. As market participants uncovered the truth and the Minsky/Wodehouse Moment came—as it always does, however late—confidence quickly gave way to fear and doubt. With uncertainty in full fever, cash was hoarded; counterparties, already complicit in financing or insuring "unproductive works," viewed each other with suspicion; no business, productive or otherwise, appeared worthy of financing. Galbraith's "moment of mass disillusion" struck. A full-blown seizure occurred. The economy, starved of the lifeblood of capital, shut down.

By now, I suspect many share my conviction regarding the need for improved financial regulation, including those who only a few years ago proclaimed the transcendent efficiency of financial markets—what I refer to as "the elaborate conceit of efficient market theory"—where today's prices are always right, markets are self-correcting and regulation is best kept to a bare minimum.

In theory, the Fed's monetary policy and regulatory functions are separate. In practice, they are anything but—rather, it is a symbiotic relationship. The past two years have highlighted the interconnections of monetary and regulatory policy: Monetary policy depends upon regulation that ensures the soundness of financial institutions.

Changes in the federal funds rate and other methods employed to implement monetary policy get transmitted to the economy through the arteries of the financial sector, affecting the rate at which businesses produce and grow employment, the exchange rate of the dollar and, by extension, international trade and capital flows. The process works most efficiently when those arteries are open and healthy and strong. Sick banks cannot lend and properly act as intermediators. When they cannot lend or are otherwise hampered, monetary policy actions lose their capacity to influence the economy with accustomed efficiency.

Here is the message for those who would peel away regulatory policy from the Fed: We depend on our regulatory arm to provide in-depth, hands-on assessments to guide us as we perform our duty as the lender of last resort. We can't properly operate a discount window or perform the functions of lender of last resort if we don't have firsthand knowledge of our borrowers' financial health. We cannot implement monetary policy effectively without staying abreast of developments in the banking and financial system through the eyes and ears and constant contact of the 12 Banks in our System that observe up close and personal the activities of banks of all sizes—from the roughly $1.7 trillion in assets of the 844 state member banks we regulate to the roughly $16.8 trillion in assets of the nearly 5,000 bank holding companies we regulate (which include but are not exclusively large financial institutions, or LFIs).[9]

During a crisis, you need the ability to make the proper decisions quickly. It is simply impossible to properly evaluate the health of a potentially troubled borrower with information generated by another agency. This was one of the harsh lessons learned from examining the entrails of Washington Mutual and Lehman and AIG, over whom we had no regulatory oversight at the time they went into cardiac arrest.

Current proposals being discussed in Congress would shrink the Fed's regulatory and supervisory responsibilities by placing all state-chartered banks under the Federal Deposit Insurance Corp. and all nationally chartered banks and their holding companies under some new regulatory agency, leaving us either with no regulatory oversight or solely with regulatory oversight of LFIs. In my view, these proposals are misguided. In keeping with my cardiovascular theme, I have argued that removing the Fed from supervision and regulation of banks of all sizes and complexity—from community banks to the most complex LFIs—would be the equivalent of ripping out the patient's heart, noting that it would surely prevent another heart attack but would likely have serious consequences for the patient. Our job is to keep the patient healthy and prevent another attack—something you cannot do without the ability to monitor the patient's health. The best way to do that is to keep the Fed in banking and financial supervision.

I mentioned LFIs. A truly effective restructuring of our regulatory system will have to neutralize what I consider to be the greatest threat to our financial system's stability. You discussed this topic this morning—I refer to institutions that are considered "too big to fail."

In the past two decades, the biggest banks have grown significantly bigger. The average size of U.S. banks relative to gross domestic product has risen threefold. The share of industry assets for the 10 largest banks climbed from almost 25 percent in 1990 to almost 60 percent in 2009.

Existing rules and oversight are not up to the acute regulatory challenge imposed by the biggest banks. First, these large institutions are sprawling and complex—so vast that their own management teams may not fully understand their own risk exposures, providing fertile ground for unintended "incompetence" to take root and grow. It would be futile to expect that their regulators and creditors could untangle all the threads, especially under rapidly changing market conditions. Second, big banks may believe they can act recklessly without fear of paying the ultimate penalty. They and many of their creditors assume the Fed and other government agencies will cushion the fall and assume some of the damages, even if their troubles stem from negligence or trickery. They have only to look to recent experience to take some comfort in that assumption.

Some argue that bigness is not bad, per se. Many ask how the U.S. can keep its competitive edge on the global stage if we cede LFI territory to other nations—an argument I consider hollow given the experience of the Japanese and others who came to regret seeking the distinction of having the world's biggest financial institutions. I know this much: Big banks interact with the economy and financial markets in a multitude of ways, creating connections that transcend the limits of industry and geography. Because of their deep and wide connections to other banks and financial institutions, a few really big banks can send tidal waves of trouble through the financial system if they falter, leading to a downward spiral of bad loans and contracting credit that destroys many jobs and many businesses, creating enormous social costs. This collateral damage is all the more regrettable because it is avoidable.

These costs are rarely delineated by analysts. To get one sense of their dimension, I commend to you a thought-provoking paper recently written by Andrew Haldane, executive director for financial stability at the Bank of England.[10]

Haldane pulls no punches. He considers systemic risk to be "a noxious by-product" or a "pollutant" of an overconcentrated banking industry that "risks endangering innocent bystanders within the wider economy." He points out that the fiscal transfers made in rescuing or bailing out too-big-to-fail (TBTF) institutions—whether they are repaid at a profit or not—are insufficient metrics for costing out both the damage of their mismanagement and their subsequent rescues. Like me, he puts things in the perspective of the entire cardiovascular system and the body of the economy. He concludes: "These direct fiscal costs are almost certainly an underestimate of the damage to the wider economy which has resulted from the crisis."

Haldane points to the shrinkage in global output compared with what output would have been in the absence of the crisis that metastasized within the TBTF institutions, arguing that "evidence from past crises suggests that crisis-induced output losses are permanent, or at least persistent, in their impact on the level of output." He calculates that, in money terms, the persistent world economic output lost relative to what would have obtained in the absence of the recent crisis might be $60 trillion or more. That's $60 trillion with a *T*—more than four years' worth of American economic output.

To be fair, the author acknowledges that computed output losses may significantly overstate the real social costs of TBTF—that it may not be fair to take a kitchen-sink approach to the costs incurred by letting these institutions lumber on and then be rescued. Regardless, the message is clear: The existence of institutions considered TBTF exacerbated a crisis that has cost the world a substantial amount of potential output and a whole lot of employment.

Haldane also looks at other social costs—among them the funding advantage associated with TBTF institutions, which has widened during the crisis and, according to one reputable study he cites, amounts to $34 billion a year for the 18 largest U.S. banks.[11]

I will let you read Haldane's study and form your own conclusions. For me, it simply adds grist to the mill of my conviction, based on my experience at the Fed, that the marginal costs of TBTF financial institutions easily dwarf their purported social and macroeconomic benefits. The risk posed by coddling TBTF banks is simply too great.

To be sure, having a clearly articulated "resolution regime" would represent a step forward, though I fear it might provide false comfort: Creditors may view favorably a special-resolution treatment for large firms, continuing the government-sponsored advantage bestowed upon them. Given the danger these institutions pose to spreading debilitating viruses throughout the financial world, my preference is for a more prophylactic approach: an international accord to break up these institutions into ones of more manageable size—more manageable for both the executives of these institutions and their regulatory supervisors.

It would obviously take some work to determine where to draw the line. Haldane's paper suggests that "economies of scale appear to operate among banks with assets less, perhaps much less, than $100 billion," above which "there is evidence … of *dis*economies of scale."[12] And if you subscribe to the emerging wisdom that "too big to fail" is synonymous with "too complex to manage," you might agree with me that another term should be added to the banking lexicon—*diseconomies of dysfunctionality*.

The point is there are limits to size and to scope beyond which global authorities should muster the courage to draw a very bright, red line. I align myself closer to former Fed Chairman Paul Volcker in this argument and would say that if we have to do this unilaterally, we should. I know that will hardly endear me to an audience in New York, but that's how I see it. Winston Churchill said that "in finance, everything that is agreeable is unsound and everything that is sound is disagreeable." I think the disagreeable but sound thing to do regarding institutions that are TBTF is to dismantle them over time into institutions that can be prudently managed and regulated across borders. And this should be done before the next financial crisis, because we now know it surely cannot be done in the middle of a crisis.

While my views on TBTF may be slightly radical (if eminently sensible), my perspective on the importance of central bank independence is, I believe, very much mainstream. So I will conclude these musings on that more pleasant subject.

Central banks must take a long-term view of the economy and craft appropriate policy responses. We must have the leeway to raise interest rates when others want cheap credit and rein in risky financial practices when others want easy profits. A Fed committed to wringing out the economy's excesses and keeping banks on the straight and narrow is not going to win popularity contests. Some of those displeased by Fed decisions will seek to satisfy their desires by resorting to political pressure.

Independent does not mean unaccountable. We have always been subject to oversight, but since Ben Bernanke took the chair, we have ramped up our efforts to be as transparent as is prudent in the conduct of monetary policy. For example, the Fed is the only business in America that I know of that provides a public accounting of its balance sheet every week—it is called the H.4.1 release, and it is available on the Internet. We now release more fulsome economic projections and minutes of our meetings. At the twice-yearly reporting and testimony before Congress required under the Humphrey–Hawkins legislation, the chairman responds directly and distinctly to questions from members of the key oversight committees. And we have responded to those suggestions we feel further our mission. For example, in the recent Humphrey–Hawkins sessions, the chairman made clear that we are willing to go the extra mile of letting the Government Accountability Office (GAO) peek behind the curtain of the special credit and liquidity facilities we created—even unto identifying the firms that participated in them "after an appropriate delay" so as to allow those firms to conform to their own reporting obligations.

I think it safe to say we have significantly improved transparency. There are limits, however. Some advocate making the monetary policy deliberations held by my colleagues and me at the Federal Open Market Committee (FOMC) subject to GAO audits, for example. Were this to come to pass, I believe it would lead to the politicization of the FOMC process, injecting Congress at whim into monetary policy and, if so, eventually putting us on the on-ramp to a road that could lead the United States directly to the fate suffered by once-great economies that allowed monetary policy to become the handmaiden of fiscal policy.

A politicized central bank is a crippled central bank. Only a Fed insulated from short-term, political impulses can focus on crafting the right mix of policies for the economy in the long term. It needs enough space to make the tough calls—most notably, when interest rates have to be pushed upward to slow the economy. Fed independence does not just matter for monetary policy. A central bank insulated from politics and the accompanying lobbying can also be a tougher regulator, insisting on strict adherence to capital and leverage requirements as well as prudent management and lending practices.

We see in the current debacle in Greece a significant example of one of the great virtues of an independent central bank. Historically, profligate fiscal leaders in that country have turned to the monetary authority to print their way out of the corner they painted themselves into, debasing their debts through inflation and currency depreciation. That is no longer possible in Europe. The burden of correcting for fiscal malfeasance now rests squarely on the shoulders of fiscal authorities. As was reported just this week, governments across the euro zone have cobbled together a potential €30 billion in aid at below-current market rates, should Greece's debt woes compound and donor countries agree to activate the credit line. It matters not, as was intimated in yesterday's *Wall Street Journal*, whether the European Central Bank played a role in crafting that package.[13] The good news and bottom line is this: The monetary authority is off-limits as an escape hatch. And that is the way it should be—be that authority European or American.

I started out by noting that booms propelled by greed, and busts born of fear, are as old as time itself. This quirk of human nature will always ignite the euphoria that fuels the ups and exacerbates the downs. Nonetheless, we need a monetary policy that leans against that propensity. We need regulatory and supervisory powers that lead to policy that ensures a sound financial system given less to the "betrayal" of capital into "hopelessly unproductive works" and more toward efficiently channeling monetary policy actions to the real economy. We need to keep monetary and regulatory authority united so we can work together in the interest of the entire financial system—not just in the interests of the largest institutions and those too big to fail where there is a greater tendency for the preconditions for Minsky/Wodehouse Moments to metastasize. And we need to ensure that this authority is free from and uncompromised by political pressures, leaving fiscal authorities to fulfill their obligations to the American people—just as we at the Fed must fulfill ours.

Notes

The views expressed by the author do not necessarily reflect official positions of the Federal Reserve System.

1. *Memoirs of Extraordinary Popular Delusions*, by Charles Mackay, London: Richard Bentley, 1841.
2. "A Time of Unexampled Prosperity," by Washington Irving, in *The Crayon Papers*, 1890.
3. *A Short History of Financial Euphoria*, by John Kenneth Galbraith, New York: Penguin Group, 1990, p. 106.
4. "Lessons from the Collapse of Bear Sterns," by John Cassidy, *Financial Times*, March 14, 2010.

5. “On Credit Cycles and the Origin of Commercial Panics,” by John Mills [sic], in *Transactions of the Manchester Statistical Society, Session 1867–68*, Manchester, England: J. Roberts, Printer, 1868, p. 18.v.

6. Lewis’ latest works include: *The Big Short: Inside the Doomsday Machine* and *Panic: The Story of Modern Financial Insanity*, a particularly good read.

7. “Jeeves and the Unbidden Guest,” by P. G. Wodehouse, *Saturday Evening Post*, 1916.

8. For a more detailed treatment of these themes, please refer to the following: the essay by President Richard W. Fisher in the Federal Reserve Bank of Dallas’s 2009 annual report, and “Regulatory and Monetary Policies Meet ‘Too Big to Fail,’” by Harvey Rosenblum, Jessica Renier, and Richard Alm, Federal Reserve Bank of Dallas *Economic Letter* (both forthcoming).

9. Most recently available figures, per Call Reports (state member banks) and financial statements (bank holding companies).

10. “The $100 Billion Question,” speech by Andrew G. Haldane, executive director, financial stability, Bank of England, March 30, 2010.

11. “The Value of the ‘Too Big to Fail’ Bank Subsidy,” by Dean Baker and Travis McArthur, Center for Economic and Policy Research, September 2009.

12. See note 10. Per Haldane (p. 19): “In 2008, 145 banks globally had assets above $100 billion, most of them universal banks combining multiple business activities.”

13. “Trichet’s Voice Is Drowned Out in Rescue Effort,” by Brian Blackstone, *Wall Street Journal*, April 13, 2010, p. A9.

Q&A

RF: Thank you. Now, I would be very happy to avoid answering any questions you have. *[laughter]*

Q: Thank you very much for being with us today. I want to commend your comments about the dangers of leverage. However, we have an Internal Revenue Code in this country that essentially incents leverage by providing that, for both businesses and individuals with regard to home mortgages, their interest expense is tax deductible. At the same time, we don't have any incentives for individuals to save money. And, of course, corporations are subject to double taxation with regard to dividends they pay. With those thoughts in mind, is the United States at a point in time when it needs to alter the Internal Revenue Code to basically at least level the playing field from the standpoint of the tax treatment of debt capital relative to equity capital so that there's less of a tax code incentive to leverage?

RF: Forgive me, but I sense a statement hidden within that question. *[laughter]* And I'm very strict about sticking to what I know and what I'm paid to do. That's a fiscal issue. We elect people to make those decisions called the United States Congress, and I don't think it's appropriate for a monetary authority official to comment, if you'll forgive me.

Q: I have a mike here. I can ask you a question … can I?

RF: Remember, we have a long-term vision at the Fed. I couldn't see you. You're sitting too close. *[laughter]*

Q: I was interested that you focused on the long-term nature of your obligations, and so forth. One of the things that's bothered me as an observer is that the people that are managing the banks become eligible for bonuses annually, so they can bet the store and create a huge bonus that is paid out. We all know from the last couple of years that some of these people got bonuses that were on fictitious profits. They were on trades that they'd accrued profits on, but when the trade was actually closed out, there was no profit.… It seems to me that if you went to a quinquennial bonus structure, that you take a lot of the management risk out of the equation. I don't know how you do it, but if it were a quinquennial bonus award rather than an annual thing, as these guys accumulate bonuses, they're automatically going to become more conservative in their bets in the marketplace, don't you think?

RF: I have mixed feelings about this subject because I went to Brown Brothers in 1975, and my first bonus consisted of being called into the partners' room and being given an envelope with a $50 bill in it. I'll never forget that. I went home and my wife broke down in tears—big guy on Wall Street getting $50 for a bonus. *[laughter]* But, by the way, that's why that bank is so profitable.

I'll just make a general statement here. This is a personal opinion. I'm not speaking on behalf of my colleagues at the Fed or even as a Federal Reserve official in this case. It just strikes me that we have moved more to be income statement driven than balance sheet protective. Banks provide a social service. There is a utility role provided by banks. We provide through taxpayer subsidies protections to the depositors and to the structures of banks. And I think the trick here is to somehow get the right balance between immediate income-statement-drive behavior and preserving balance sheet integrity over the longer term…. I can't say the word *quinquennial*—or maybe it should be sesquiquintennial, every 150 years—but I do think that this is a change in culture that's certainly taken place since I arrived on Wall Street in 1975. And I'm not sure it's a healthy one.

I told you I would do my best to avoid answering all the questions, in the interest of transparency. *[laughter]*

Q: You made a compelling argument for why a number of these firms, like Lehmann, were outside your purview. When everything started to break down, this wasn't within your regulatory purview. But … the wholesale financial institutions were the first to melt down because the security prices adapt in real time. The coming wave in commercial real estate, the sort of ongoing but far from over construction development loans, the home equity loans that are just on vanilla bank balance sheets—these are held by the most vanilla of regulated banking institutions across the country. So what have the Fed and the other parts of the regulatory apparatus learned from all of this when the Minsky Moment happened totally within the vanilla parts of the system as well, it's just taking longer for that to play out? That makes us as a public feel that if you had all of this power the first time, you would have utilized it.

RF: That's a very good question, and I'm sure that President Pianalto, Sandy Pianalto, may have been addressing some of these issues this morning. We think about them constantly, and my answer is the following:

First of all, we are not blameless as an entity, the Federal Reserve. I think to be successful in this business you have to have what I call peripheral vision. You have to have it. It helps to have as much formal ability to gain insight as possible, which is why I am not in favor of taking away, obviously, what we currently regulate but then at the same time giving us greater systemic responsibilities, or the ability to have and develop that peripheral vision.

We have taken significant initiatives internally under the leadership of now outgoing Vice Chairman Don Cohen and under the leadership of Chairman Bernanke in terms of the way we look at financial institutions—not in their own individual silos, but with horizontal studies. The chairman has talked somewhat about this in his testimony before Congress. I would advise you to take a look at that.

But the point is that we have learned from our mistakes. I think that's what people do. First of all, people do make mistakes, and you learn from them. And I think it is very important not to add to the complexity of that process. I believe we have comported ourselves rather well. Let me give you an example—indirect, but I think it illustrates the way we operate:

I don't know of any government entity in my lifetime that has said, "We're going to do *X* on a temporary basis, and we're going to close it down." We ramped up to over—Sandy, correct me if I'm wrong—a trillion and a half in emergency liquidity facilities. The commercial paper market stopped. We stepped in and had to make that market. The asset-backed security market melted down. We had to step in and make that market. You remember the first money market mutual fund established in the United States broke the buck. We had to provide underpinnings for that. We've unwound every single one of those programs. Didn't cost the taxpayer a penny. We did what we said we were going to do. We're done. It's over.

So I think we deserve a little bit of respect in terms of the way we acted. I hope you will give us the benefit of the doubt for having learned from what we didn't do well before, and having taken the kind of initiatives we now have under the chairman, with the outgoing vice chairman, with Dan Turillo now having more direct responsibility over supervision and regulation, and the enormous input from the very active 12 bank presidents who, by the way, are the ones that lend money. We run the discount windows; we operate the emergency facilities through New York and other facilities.

So, having been put in that position, we've asked ourselves, "What can we do better?" And these horizontal reviews and this way of not just thinking [vertically] is a very good step forward. Time will tell if it's satisfactory to analysts such as yourself and observers, whether or not we've done a good job. But I think layering on and changing the actors would probably add particularly to the confusion of the vast majority of banks that are not here on Wall Street. They're on Main Street, and they're already suffering under significant duress. What we want to make sure is that we're good regulators, that we don't just keep changing the deck chairs but rather implement what we are assigned to do and are duty bound to do, and do it in a better fashion.

Short answer: we've taken significant initiatives internally to change our ways.

Q: Where did the Fed get the $1.5 trillion that it lent to the markets? I know the answer is that you just changed the numbers in balance sheets—that's how the Fed works. I'm not saying that's a problem, but the question is, why can't the U.S. Treasury do the same? What technically prevents the Fed, say, from crediting the U.S. Treasury account as much as is necessary to spend enough to have zero unemployment, for example? There's not going to be inflation, because inflation is due to too much spending, and we won't have too much spending unless we have full employment. So what prevents the Fed from doing that? I'm talking about institutional arrangements….

RF: I'm not sure I understand your question, but, first of all, we are the central bank. We're the lender of last resort. Our duty is to maintain the integrity of the financial system. We have an assigned duty. We perform that duty. And we perform much of it in cooperation with the Treasury.

Q: You're also the assurer of currency. Sorry: the *monopoly* assurer of U.S. dollars.

RF: That's correct. And let me add further, it's a faith-based currency, right?

Q: No, it's based on the fact that Americans have to pay taxes in U.S. dollars. That's what creates demand for U.S. dollars.

RF: Let's not confuse the fiscal side with the monetary side. Both of us have the responsibility to provide the underpinnings for a bankable, reliable, productive, and progressive society. We have a division of duties. We perform a central banker's function. I would urge you to go back and read Walter Bagehot, which I'm sure you've done, and you know the history of central banking perhaps better than I do. And maybe offline we could have a conversation of how we've divided things up with the Treasury. But remember: we're the central bank. The Treasury's part of a fiscal authority. The fiscal authority ultimately is the Congress of the United States, and we have a division of duties.

And you're right about the tax and spending side of it; but again, that's the fiscal responsibility of those who are elected to perform that duty. But I'd be happy to explain the specific details to you at some point if you'd like—actually, I'd be happy to have Jim Bullard do it this afternoon. *[laughter]*

Q: You mentioned that euphoria is an age-old condition. How do you keep the regulators from becoming euphoric?

RF: Or, how do you keep it from infecting the regulators? The answer is, you have as civil-minded regulator[s] as you possibly can, who have in-depth experience in the field, who've been around a long time, who've seen these cycles before. I'll give you an example.

My colleagues will kick me later, but one of my great pleasures is to have at the Federal Reserve Bank of Dallas a man named Bob Hankins, who's head of supervision and regulation. I don't want to give away Bob's age, but he's been at it a long time, and he played a significant role in closing down over 400 banks during the last crisis. It's very hard to get him euphoric about anything, and he's been a very wise adviser, not only to me but also to our system as we've gone through this. I think there's no substitute for experience. There's also no substitute for understanding what a central bank does, and how it's responded in previous instances. And to get back to the earlier question, if you really want to understand what we did, if you wanted to anticipate what we did, the playbook was written in the early 1800s by the Bank of England doing what a central banker as a lender of last resort does, even to the point, as Walter Bagehot said, [of] "lending to this man and that man"—opening the floodgates. You want to put yourself in a position where you don't have to do that, and I think the best way to do it is to learn from history and the mistakes that have been made before.

So, again, this gets back to *Where does experience reside?* We're by no means perfect. We're humans. But we've been operating a system for almost a hundred years now. Mistakes have been made. There's an enormous amount of serious, rigorous, academic analysis, as well as real-life interaction out there on Main Street, where … we lend, and where we are active in our communities. And you just have to have that kind of depth of experience, I think, to avoid being infected. But I'm a big believer that you need to realize that history … nothing is new. History has happened, and we can learn a great amount by being good students of history. So it's hard, because we don't insulate ourselves. Obviously, we're out there in the field, the 12 [reserve] bankers in particular, interacting every day. But I think you just have to take a little bit of distant perspective and—very, very important—we have to be free from political pressure. That tends more toward the pandering side; ours should be on the pondering side.

Q: I'd like to know what the difference is between Greece and the United States….

RF: Well, first of all, you are right to be concerned about the spending side and the imbalances that exist in terms of the fiscal equation in the United States. As you know, the Treasury will go to market for perhaps as much $1.4 trillion this year. They did it last year as well. We have a steepening yield curve and nominal terms. I think part of that steepening yield curve has to do with a promise of a more healthy economy. I believe we're on the road to recovery. I think it's a very sort of limpid recovery, but it's occurring nonetheless. But I also believe that the price of debt is being affected by this concern about our fiscal imbalances. Further, I believe that it's not just our operating deficit—our income statement, as it were—but our unfunded liabilities. We at the Dallas Fed, and I in particular, are especially outspoken about the commitments that have been made to the American people that cannot be met. By the way, the smallest one is Social Security. Easily solved: only about $14 trillion in unfunded liability there. The big one is Medicare, which we at the Federal Reserve Bank of Dallas, using an infinite time horizon, calculate as being almost $90 trillion. But other people, like Pete Peterson, calculate it [to be] about $35 trillion unfunded.

Something has to be done. The worst thing that could be done would be for the Federal Reserve to monetize those debts—to float them, like I mentioned earlier, was a previous propensity in countries that got into trouble. So that just means that our fiscal authorities have to dig deep and figure out a way to solve these problems. Until they do, the price at which they borrow will be affected. But there's no question, it's a lot tougher now to be a senator or a congressperson than it is to be a member of the Federal Open Market Committee. And I pray that they get it right.

I have a new grandchild, two weeks old, on the back of an 18-month-old granddaughter, and I keep thinking about their future constantly, and the very deep hole that my selfish generation has dug this country into by consuming too much and saving too little. Well, we have a political class—and, by the way, we're very careful at the Fed to be neither Republican or Democrat, so let me just give you one quick little story, because it's a fun story, but I think it's also true:

Probably the most honored and decorated Republican public servant is George Shultz. I don't know anybody—in fact, I don't know anybody practically in history—that's served in that many cabinet posts as Mr. Shultz did, from director of the OMB to secretary of the Treasury, secretary of state, secretary of labor…. When he was head of OMB, he got very upset—Nixon was president, and there was maybe a billion-dollar deficit or something unimaginably small [like that]. And he called into the office the encyclopedia at the time, who'd known the entire history, [Sam Cohen]. So he called

Sam in and said, "Look, it's the middle of the night, just you and me here in the office. We work for a Republican president, but just tell me, Mr. Cohen, is there really any difference between Republicans and Democrats when it comes to spending money?" And this being a very diligent man, Sam said, "You know, Mr. Shultz, I need to think about that. I'll do my research, and I'll be back."

The next morning when Schultz arrived, bright and early, there was Sam. And he said, "I have an answer for you. There is no difference. The only difference is, Democrats enjoy it more." *[laughter]*

Well, I'm not even sure that's the truth anymore. I think we have to be equal opportunity here in assigning both sides of the aisle, and, whatever else, the fiscal authorities [need to] get their act in order. The chairman spoke about that this morning. He spoke about it in Dallas last week. We all speak about it. But the worst possible outcome would be for us at the Federal Reserve to accommodate that fiscal lack of discipline, because then we really would be in trouble, and you would see rates back up very dramatically, in my view.

Q: You say in the history of manias, panics, and crashes there's nothing new under the sun, and that we have that history to look back to for experience. But there is something new under the sun, because in this particular cycle we've had serial bubbles. And what history has told us is that when we bubbles like the stock market in the 1990s, they crash, they burn people out, and they don't come back. Not only did we have serial bubbles, when they came back, we had myriad bubbles—we had house price bubbles, we had commodity bubbles, we had credit bubbles. So somehow or other there has been something different. And at the peak of all of this, why is it that we could look back at this history, and learn from the experience, and not even identify one bubble, much less this unique series of myriad bubbles?

RF: I'm not sure about your assertion that this hasn't happened before, because I look at the South Sea Island bubble, the Panic of 1825, the tulip mania in 1636, and so on. And if you actually study the history, there were rolling cases. We have had greater economic prosperity for longer periods and in length of business cycle than we used to have, but I still think the phenomenon is likely to occur. So I'm not sure what the answer to your question is, except that we have to be observant, develop as much peripheral vision as we possibly can, and be mindful of what's actually going on in the system. I don't think we can ever completely prevent this human history from repeating itself, but we can mitigate it. And we have to be very careful, at the minimum, not to exacerbate it by bad policy.

Let me take one more question. I'm afraid I have to go.

Q: Could you help some of us who are a little worried about the PR of the Federal Reserve over the last—let's take a longer-term view—30 years? Today, the top 13,400 American households have more yearly income than the bottom 96 million Americans (David Cay Johnston). We have the Gini coefficient of the disparity of wealth growing to be like that of Brazil, Mexico, and Russia. And we are faced with a chairman of the Federal Reserve who kept repeating that the greatest danger with the disparity of wealth going this way was upward wage pressures. Can you reassure me that that's not going to be a position of the entire Federal Reserve,—that they're not going to depress wages as America becomes a more and more divided economy? That's the PR problem right now.

RF: I do not believe Ben Bernanke ever said that.

Q: I'm sorry, Alan Greenspan said it repeatedly—upward wage pressures, upward wage pressures. And this was when wages were stagnant.

RF: One second—right now, that's not our problem, obviously. We have way too much slack in the system. We have dramatic incidence of high unemployment, particularly when you take into account those people who have withdrawn from even applying for jobs—in fact, the chairman referred to that this morning. We all refer to it constantly.

We have a dual mandate at the Fed. Our job is to provide the monetary positions for maximum sustainable employment with price stability. It's very unusual. I believe that you cannot have sustainable employment growth, jobs growth, without having containment of inflation or deflation and having price stability; so I think the two are interrelated.

I think what is going on is the following—in fact, I have a firm conviction on this front. Running up into the middle of 2008, we were seeing significant inflationary pressures. What was coming in the back door of a company that produces goods and services was not able to pass through the front door. Therefore, to preserve their margins, businesses were cutting back on costs and really working technology to the max. The single largest cost in these businesses is personnel, people—what they call "head count" when they depersonalize it. So you were driving margins by reducing costs significantly, and head count was one of the big cost savers.

Then the stick went into the spokes with the financial crisis. The economy went into reverse gear, and you had an exacerbation of that very phenomenon. You couldn't grow your top line only through price increases; you couldn't grow your top line because demand imploded. So if you were a businesswoman or businessman, you worked to preserve your margin so you could pay off your bank debt and do whatever else you wanted to do, and just survive by further clamping down on costs and driving your use of technology to maximum efficiency.

That's where we are now. We're coming back out of that, we hope, with a mild recovery, but at least it's in the positive direction. The objective of recovery, obviously, is to help our economy prosper and our society prosper. You can't do that unless you have more employment—you bring people back onto the payrolls.

So I don't know the specific quote that you're pulling down from former Chairman Greenspan, but I assure you, he's not a heartless individual. I would also assure you that he was probably just talking about the dynamics of inflation and how they occur. But we're far from that presently. In fact I would love, being a hawk, having that problem on our plate again. But that's not where we are. Right now, where we are is in an economy that, in my view, still has enormous excess capacity, particularly among its workforce. And even though I have a reputation of being one of the more hawkish members of the FOMC, I can see the entrails, the data that we do at Dallas … and what President Pianalto's bank does on CPI inflation—some of the lowest inflationary pressure we've seen in 32 years. So this excess capacity is constraining these immediate inflationary pressures.

Having said that, you mentioned … our balance sheet. We have an enormously large balance sheet. We have a lot that could be released into the economy, with a trillion dollars in reserves sitting in the balance sheets of the Federal Reserve banks from our … private banking community. We have to mindful as we release that into the system, [so that] as it goes back into the system and the velocity of money picks back up, we don't create the conditions for inflation longer term. That's an ongoing discussion that we have.

I just wanted to correct what I think is a misimpression: that our duty is not to suppress the success of the worker. Our duty, in fact, is to create the optimal conditions so that they can prosper. And on that happy, felicitous note, thank you for having me here.