CHAPTER 7

Mistakes Made and Lessons (Being) Learned

Implications for the Fed's Mandate

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What have we learned about the role of the Federal Reserve over the last five years that might help guide the Fed in the future?

First, before the crisis the Federal Reserve raised interest rates too slowly, given its hands-off approach to supervision. From this we learned that either the Fed needs to "lean against the wind" in managing interest rates or that efforts should be made to constrain excessive credit growth and leverage through supervision and regulation. But to do neither should be unacceptable.

Second, we learned that during a crisis is the wrong time to address moral hazard. The seeds of the 2008 debacles of Bear Stearns and Lehman Brothers were sown in 1999. This is when negotiations leading up to the Gramm-Leach-Bliley Act missed the opportunity to bring major nonbank financial firms inside a stronger supervisory framework. Not addressing the moral hazard of large nonbank financial firms relying on implicit Fed support was the critical mistake. Both supervision and discount window access should have been extended to reflect market realities. However, while we need the Fed to be able to act as an effective lender of last resort in a crisis we also need to be able to limit the exercise of lender-of-last-resort powers so that their use remains exceptional. How to strike this balance is another dilemma for monetary policy.

Third, since the crisis the Fed has vigorously pursued polices aimed at reviving the economy but in doing so is conceiving of its mandate over too short a horizon. The Fed's actions since 2010 have been premised on the reasoning that only present evidence of excessive inflation pressures or of financial instability should limit the use of its monetary policy powers in pursuit of maximum employment. This presumes that there are no other limits on how much aggregate demand monetary policy can or should

borrow from the future in order to fill a perceived deficiency in current demand. This ignores too many potentially perverse consequences that may contribute to a weaker economy and greater deflationary pressures in the future. The Fed's current interpretation of its mandate obscures these longer-term, intertemporal trade-offs.

Each of these lessons poses a dilemma for the conduct of monetary policy. Together, they suggest the need for a fundamental review of the Fed's mandate. How can we incorporate financial stability into the Fed's objectives with more than lip service? How can the Fed be an effective lender of last resort without that becoming a metaphor for all of monetary policy? How can we lengthen and broaden the Fed's horizon so that the important intertemporal trade-offs become a more explicit consideration in the Fed's decisions?

We may not be ready to draft legislation. But surely scholars and citizens should take the occasion of both the fifth anniversary of the crisis and the Fed's own centenary to consider what we have learned that could better guide the Fed in the future.

Address leverage—one way or another

From 2003 to 2006 the Fed was too slow to raise interest rates, given its reluctance to use supervisory tools to address the buildup of debt, leverage, and house prices.

There were, of course, important failings of the private sector that contributed to the financial crisis. But agency problems and misaligned incentives, excessive and poorly designed compensation arrangements, imperfect accounting and disclosure practices that produce incomplete and lagged information, excessive leverage, and liquidity illusions, as well as under-paid and poorly equipped supervisors, are not the novel inventions of the early years of the twenty-first century. These are enduring features of our financial system.

What *was* different this time was that, after 2001, the Fed tried hard to stimulate the economy in general and the housing sector in particular. Then, beginning in 2004, the Fed raised interest rates slowly and predictably while maintaining a hands-off approach to the supervision of financial institutions in general and the mortgage market in particular.

Credit bubbles can be observed when lending takes place against momentum in asset prices rather than income. Bankers and lenders are always and everywhere tempted to chase the apparently wider net-interest

margins on loans to riskier borrowers without properly accounting for the higher probability of default. This reaches an acute stage when lenders ignore the borrowers' ability to repay debt from income and rely, instead, on the expectation of future increases in the value of collateral. The core responsibility of bank supervisors is to ensure that bank managers control these risks, ground their credit judgments in the income of borrowers, and force loans to be valued consistent with a realistic probability of default.

The asset quality of bank balance sheets—and the asset quality of nonbanks whose liabilities come to be accepted as close substitutes for bank liabilities—is of profound concern to monetary policy because this is where most money comes from. Seen in this light, financial stability should be the lens through which we view monetary and price stability.

In 2004, instead of addressing financial stability concerns with supervisory tools, the Fed appears to have taken financial stability as a reason to raise rates slowly. Concerns about a repetition of the bond market sell-off of 1994, when the Fed had last begun to raise rates from low levels, contributed to the Fed's gradual approach. Unfortunately, the risks were more symmetric. While the Fed thought that raising rates slowly might avoid a disruptive deleveraging of the financial system, its seemingly cautious approach encouraged a much greater buildup of leverage which, ultimately, contributed to the severity of the financial crisis.

If we are to continue to use monetary policy to promote good economic outcomes—in employment and consumer prices—then financial assets will necessarily be the shock absorbers we use to stabilize aggregate demand. As long as this is the case, the Fed should not be squeamish about raising rates. In 1994 the Fed was not squeamish; it raised rates deliberately and forcefully. The bond market, Mexico, Orange County, California, and others did not find a "Greenspan put" that year. And the following year, 1995, was the beginning of a period of sustained gains in economic output and employment for the United States.

What have we learned? In the future, the Fed should either temper its use of interest rate tools to place greater emphasis on financial stability *and thus necessarily place less emphasis on its employment and price stability objectives* or it should employ other supervisory tools to avoid a buildup of leverage and to promote financial stability.

Preferably the Fed would do some of both. It would moderate its use of interest rates in managing employment and price stability so as to promote financial stability and it would also be more willing to employ its existing—as well as new—supervisory tools. These might include

higher equity for banks and financial intermediaries as well as two-way margin collateral for all trading exposures. Perhaps they ought even to include minimum and counter-cyclical home equity requirements for home-buyers.

Next time we should not be left on the horns of the dilemma of a Fed that pursues an employment goal and a price stability constraint in the short run and that is unwilling to use either interest rates or supervisory tools to promote financial stability. To be successful, the Fed will need to know when and how to employ supervisory tools or interest rate policies at just the right time. This, in turn, will require getting financial stability inside the Fed's objectives and reaction function.

Address moral hazard before the crisis

The seeds of the 2008 debacles of Bear Stearns and Lehman Brothers, and perhaps others like AIG, were sown in 1999. We recognized then that large, nonbank financial firms lacked effective prudential supervision and regulation and also lacked access to the Fed's routine lending facilities. Leading up to the Gramm-Leach-Bliley Act, the Fed tried to get authority over nonbank firms that were part of bank holding companies. Other countries were eager for the United States to establish stronger prudential supervision over both the major broker-dealers and other nonbank financial firms like AIG and GE Capital. After the rapid growth and increasing prominence of nonbank financial firms in the 1980s and 1990s, this would have been the right time to establish a new supervisory regime and to extend discount window access to these firms in return for Fed supervision—which is where things ended up with the large broker-dealers in 2008 after the crisis. This was a missed opportunity and one that Congress bears some responsibility for.

Think how different the events of 2008 would have been had Bear Stearns and Lehman Brothers already had almost a decade of experience of access to the Fed's discount window, inside a stronger supervisory regime.

The Fed needs to be able to lend to those financial intermediaries whose liabilities are accepted as close substitutes for its own. Ensuring that these firms can remain liquid is a key purpose of central banks and how central bank lending facilities can stabilize the banking system.

Once upon a time, it was only the liabilities of the major clearinghouse commercial banks that were accepted by other financial and commercial

firms as "money good" and substitutes for the Fed's own liabilities. But over the course of the 1990s, with the growth of the repo market of collateralized short-term lending and of the nonbank financial firms themselves, the overnight liabilities of broker-dealers, in particular, came to be accepted as close-enough substitutes for money good. They came to be accepted as a zero-volatility, zero-credit-risk store of value and means of exchange within the financial system and by nonfinancial firms. The Fed could have tried to resist this through supervision and regulation. But once it happened, the Fed needed to assure itself that the balance sheets backing those liabilities were sound and that there were assets of sufficient quantity and quality that could be liquefied if needed.

The creation of the Financial Stability Oversight Council in the Dodd-Frank legislation, together with its power to designate firms as "systemically important financial institutions" and thereby subject them to Fed oversight, is an important improvement in our supervisory process but represents only a half-step toward addressing the lender-of-last-resort problem. This is because access to the Fed's discount window is still restricted to a narrower category of intermediaries.

Inside the perimeter of firms whose liabilities are close substitutes for the Fed's own, the Fed needs to be able to assure itself of the quality of these firms' balance sheets and to provide both routine discount window lending and lender-of-last-resort facilities in a crisis. But the history of banking is the history of new forms of money evolving both on the edges of the commercial banks' balance sheets and on the balance sheets of other firms outside the perimeter of banking. Because of this, the Fed needs to be able to lend "beyond the perimeter" as is recognized in section 13(3) of the Federal Reserve Act.

The Dodd-Frank Act restricts the Fed's 13(3) authority both by requiring certain disclosures when it is used and by requiring that lending cannot be to individual firms but only to participants "in any program or facility with broad-based eligibility."[1] This gets moral hazard exactly backwards.

The new restriction does not preclude the Fed from lending to a particular firm but requires that the Fed be prepared to lend to other similar firms as a cost of lending to a particular firm. This is likely to cause the Fed to delay lending to a particular firm until there is at least some basis

1. Federal Reserve Act, section 13, http://www.federalreserve.gov/aboutthefed/section13.htm.

for thinking the entire class of firms may be at risk. But waiting until the whole class is at risk is to wait too long.

More importantly, moral hazard is *greater* when the Fed lends to a broad class of nonbank firms as opposed to an individual firm. The shareholders and executives of an individual firm *can* face "failure" in the form of losses, censure, and disgrace after the fact. But the shareholders and executives of a broad-based class of firms *will not* all face after-the-fact failure or censure precisely because they are members of a broad class whose individual responsibility will be obscure. As a consequence of the Fed lending to a broad class it will be harder to hold accountable shareholders and executives of even an individual, troubled firm that may have been the initial cause for concern. Once the crisis has been deemed sufficiently systemic to warrant lending to a broad class, it will also be harder, not easier, to hold anyone accountable.

Lending under section 13(3) "beyond the perimeter" of the Fed's normal authorities will always be a judgment call. There will necessarily be uncertainty about whether just liquidity or solvency is at stake. With hindsight, many of us are comfortable sustaining the seemingly contradictory opinions that we *dislike* the fact that the Fed *did* support Bear Stearns in March 2008 and we *dislike* the fact that the Fed *did not* lend to Lehman Brothers that September. This underscores the judgment-call nature of these decisions.

John Taylor is certainly right that the disparate treatment of troubled firms in September 2008 made matters worse by creating uncertainty over how their capital structures would be treated by the authorities.[2] But the greater mistake, in my view, was made in 1999 when Congress failed to get all of the major broker-dealers, as well as other nonbank financial firms, inside a stronger supervisory regime and the Fed's discount window authority.

We should not risk a repetition of the events of September and October 2008. Moral hazard is a bad thing but the loss of employment and output is much worse.

But now the Fed faces the challenge of trying to address moral hazard after having been willing to provide all manner of lender-of-last-resort facilities in 2008 and 2009. There is now a widespread impression that the Fed will always provide the market as a whole with a put option—made

2. See John Taylor's chapter in this volume, Chapter 3, "Causes of the Financial Crisis and the Slow Recovery."

worse by the amendment to section 13(3) which requires broad-based eligibility. How the Fed can both hold the power to be a vigorous lender of last resort in the next crisis and also unwind the expectation that it will insure financial markets against all bad outcomes creates a second dilemma for monetary policy.

Address the long-term, intertemporal trade-offs

Since the end of the financial crisis, the Fed is making the mistake of conceiving of its mandate over too short—and too narrow—a horizon. This permits the Fed to avoid articulating the difficult intertemporal trade-offs that it is making.

Since 2010 the Fed has used its powers to try to stimulate the US economy quickly, pursuing its dual mandate without apology in the short run. The observed benefits of the Fed's extraordinary actions are, at best, mixed. At the same time, the list of potential costs is longer and more worrisome than acknowledged and the Fed has not offered a cost-benefit framework that can assess whether the costs outweigh the benefits. The Fed has given no apparent weight to the risk that its actions might retard the economy's performance or add to deflationary pressures. Yet these are precisely the potential costs that deserve the closest scrutiny.

1. Things changed in 2010. The case for the Fed's extraordinary actions in 2008 and 2009 was a different one. Stabilizing the financial system and avoiding a too-rapid deleveraging of the financial and household sectors required a strong response from the Fed.

But 2010 was supposed to be the year in which the Fed began to normalize monetary policy. While the Fed expected to hold the federal funds rate down for a considerable period, Chairman Bernanke explained in his semi-annual testimony on February 24 that the Fed would be ending its program of balance sheet expansion: "We have been gradually slowing the pace of these purchases in order to promote a smooth transition in markets and anticipate that these transactions will be completed by the end of March."[3] But six months later, at Jackson Hole, the chairman

3. Ben S. Bernanke, testimony accompanying the "Semi-annual Monetary Policy Report to the Congress," February 24, 2010, Committee on Financial Services, US House of Representatives, www.federalreserve.gov/newsevent/testimony/bernanke20100224a.htm.

foreshadowed that the Fed would again start expanding its balance sheet, which was subsequently confirmed at its meeting on November 3.[4]

To solve for the zero-nominal interest rate boundary, the Fed has used forward guidance, balance sheet expansion, and extension of the maturity of its asset holdings. These actions are intended to engineer a lower-for-longer path of short-term rates, a portfolio channel rebalancing of the collective private portfolio into riskier assets, and a compression of the term premium, respectively, so as to increase consumption via a wealth effect, increase consumption and investment via greater credit creation, increase employment and output, and avoid deflation.

2. The observed benefits of the Fed's actions are, at best, mixed. Figure 7.1 depicts percent changes in level terms, from the time of Bernanke's 2010 Jackson Hole speech through the end of June 2013, for three different measures of credit conditions, full-time employment, real gross domestic product, house prices, and equity markets.

The increase in equity values, as represented by the Standard & Poor's 500, dominates the results, rising 53.4 percent over the thirty-four-month period. Nonfinancial business credit outstanding rose 4.7 percent and the S&P/Case-Shiller national house price index rose 7.4 percent. Real GDP grew by 5.7 percent, full-time employment by 3.8 percent, and domestic financial credit and household credit outstanding declined by 3.6 percent and 2.5 percent, respectively.

These results suggest the greatest impact on the wealth effect—in equity and house values—and also a noticeable impact on business credit. But any impact on GDP and employment is hard to see and household credit and financial sector credit outstanding continued to decline. In defense of the Fed's actions, it is argued that as we lack the counterfactual we don't know how much worse things would have been. This is always true with macroeconomic policy and, thus, is not an entirely satisfying justification for such an extraordinary monetary policy experiment.

There is also a less flattering counterfactual. In February 2010 the Fed expected to end its balance sheet expansion in March of that year (while

4. Ben S. Bernanke, "The Economic Outlook and Monetary Policy," remarks delivered at the Federal Reserve Bank of Kansas City, Jackson Hole Economic Symposium on Macroeconomic Challenges: The Decade Ahead, August 27, 2010, http://www.federalreserve.gov/newsevents/speech/bernanke20100827a.htm; and Statement of the Federal Open Market Committee, press release, November 3, 2010, http://www.federalreserve.gov/newsevents/press/monetary/20101103a.htm.

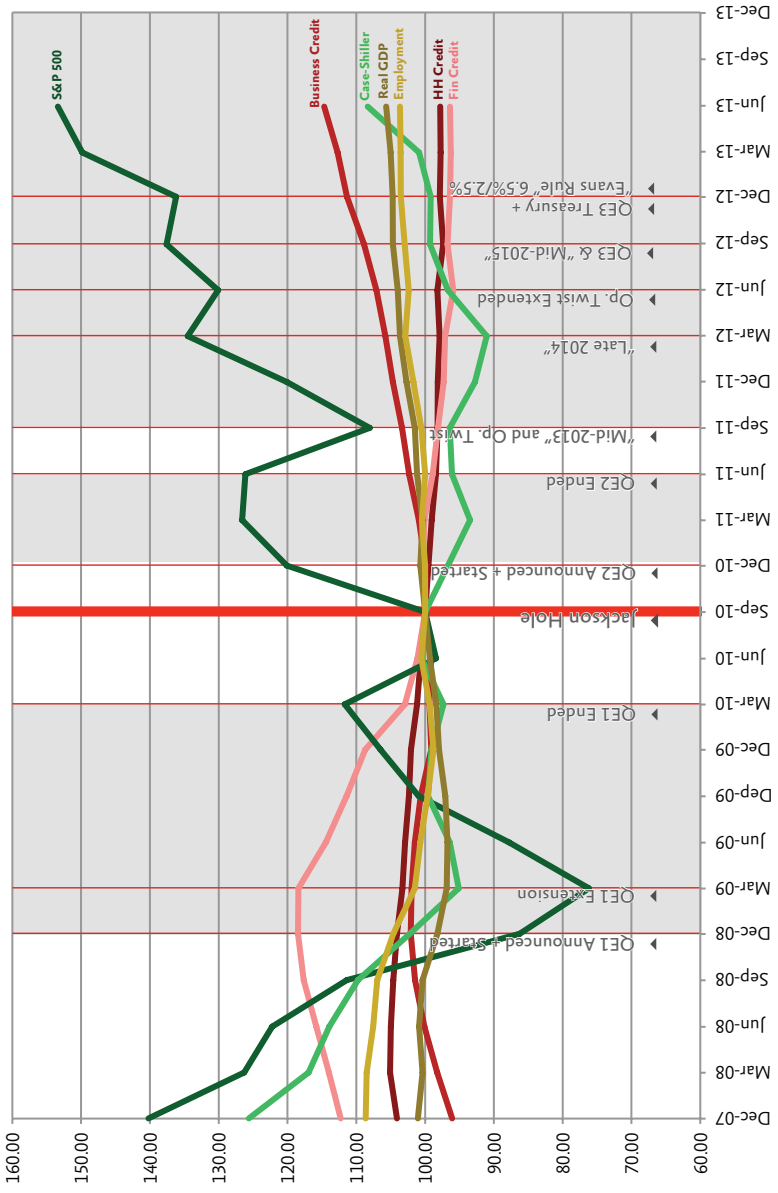

FIGURE 7.1 QE Operations and Market Impact

Source: Federal Reserve, Financial Accounts of the U.S.; Department of Commerce, Bureau of Labor Statistics, Standard & Poors

maintaining low interest rates). The Fed also then projected a central tendency for real growth of GDP of 3.4 to 4.5 percent for 2011 and 3.5 to 4.5 percent for 2012.[5] In the autumn the Fed resumed asset purchases and, with the exception of the one hiatus, continued its purchases through 2011, expanded them in 2012, and continued through 2013. But growth in 2011 and 2012 turned out, in fact, to be appreciably lower than the Fed's 2010 projections, with GDP growth of 1.8 percent in 2011 and 2.8 percent in 2012.[6] So the Fed did much more quantitative easing than it expected to do and the results, in terms of GDP, were much worse than expected.

Of course, this harsh counterfactual does not disprove the benefits of the Fed's policies. There were noticeable "head winds" from the financial crisis in Europe and from the tightening fiscal policy as a consequence of the waning of the original Obama administration stimulus program and the debt ceiling debate and ratings downgrade of Treasury securities in 2011. But the Fed's focus has been on improving the outlook for the labor market. So far there is little evidence that three years of extraordinary actions by the Fed have done anything to improve the labor market—at least not yet to the Fed's own satisfaction.[7]

3. The list of potential costs is longer and more worrisome. In his 2012 Jackson Hole speech, Bernanke acknowledged four potential costs of the Fed's Large Asset Purchase Program. The risks were that:

- The Fed's ongoing purchases and large securities holdings might impair the functioning of securities markets.
- The size of the Fed's balance sheet might reduce confidence in the Fed's ability to exit from these policies and thereby un-anchor inflation expectations.

5. Federal Reserve Monetary Policy Report to the Congress, "Part 4, Summary of Economic Projections," February 24, 2010, http://www.federalreserve.gov/monetarypolicy/mpr_20100224_part4.htm.

6. US Department of Commerce, Bureau of Economic Analysis, NIPA Table 1.1.1, http://www.bea.gov/iTable/iTable.cfm?ReqID=9&step=1#reqid=9&step=3&isuri=1&903=1.

7. Citing "cumulative progress toward maximum employment and the improvement in the outlook for labor market conditions" at its meeting on December 18, 2013, the Federal Open Market Committee decided to "modestly reduce" the pace of its balance sheet expansion, http://www.federalreserve.gov/newsevents/press/monetary/20131218a.htm.

- Financial stability might suffer from an imprudent reach for yield by investors.
- The Fed might incur losses on its large securities holdings if there were an unexpected rise in interest rates.[8]

Bernanke subsequently also mentioned the negative impact on savers from exceptionally low interest rates.[9]

The impaired functioning of securities markets and the negative impact on savers are costs that one could weigh against benefits. However, the chairman gave short shrift to the negative impact on savers, observing that since savers will benefit once the economy recovers there was no need to dwell on the negative consequences for savers who, after all, play other roles.[10] Moreover, the other costs identified by Bernanke are not costs that one would weigh against benefits to decide whether to pursue these policies.

The portfolio balance channel seeks to encourage portfolio investors to buy riskier assets in place of Treasury and mortgage-backed securities that the Fed has purchased. So the Fed is trying to engineer a chase for yield, with rising equity markets and compressing credit spreads viewed as a sign of success. Thus, an imprudent chase for yield would amount to "too much of a good thing" rather than a reason not to pursue such policies.

Similarly, a rise in interest rates sufficiently enduring to generate losses for the Fed implies that there would be a recovery in the economy sufficient to push nominal interest rates higher. This cost would most likely be a consequence of success, rather than an independent bad outcome.

An un-anchoring of inflation expectations is the only cost Chairman Bernanke associated with reduced confidence in the Fed's ability to exit its policies.[11] This seems quite optimistic. There are other risks worth considering. Reduced confidence in the Fed's ability to exit could undermine improvements in the availability of credit and reverse the wealth effect,

8. Ben S. Bernanke, "Monetary Policy since the Onset of the Crisis," remarks at the Federal Reserve Bank of Kansas City, Jackson Hole Economic Policy Symposium: The Changing Policy Landscape, August 31, 2012, http://www.federalreserve.gov/newsevents/speech/bernanke20120831a.htm.

9. Ben S. Bernanke, "Five Questions about the Federal Reserve and Monetary Policy," speech at the Economic Club of Indiana, Indianapolis, October 1, 2012, http://www.federalreserve.gov/newsevents/speech/bernanke20121001a.htm.

10. Ibid.

11. Bernanke, "Monetary Policy since the Onset of the Crisis."

thereby washing out too quickly the expected benefits of balance sheet expansion. Indeed, over the spring and summer of 2013 we observed that the Fed's "taper talk" caused a much greater tightening in financial conditions than the Fed intended or expected.

The list of potential costs is longer and more worrisome. William White has offered a compelling list of unintended consequences of ultra-easy monetary policy which is worthy of attention.[12] The slightly narrower category of perverse consequences that could retard the economy's recovery and increase the risk of deflation should be of particular concern.

First, the Fed's asset purchase program, and particularly its efforts to suppress the term premium, risk accentuating the liquidity trap in which we find ourselves. Some investors with some of their capital may chase yield as the Fed intends. But the risk of a future backup in interest rates also discourages long-term lending as the low returns available do not compensate for the potential future volatility in interest rates. While the Fed sees the compression of the term premium as a way to stimulate credit creation, at extremely low levels, this risks increasing investors' liquidity preferences.

Second, pinning the risk-free rate close to zero may be discouraging business fixed investment. Nonfinancial business leaders and corporate planners view the spread between the risk-free rate (as reflected in short-term interest rates) and their expected hurdle rates of return (less a term premium) as a risk premium for their projects. The wider this spread the riskier their projects appear. While perhaps their hurdle rates are too high, they are reluctant to lower their hurdle rates in part because of perceptions that the Fed is manipulating the term premium.

While the Fed has focused its policies on pushing portfolio investors to rebalance into riskier assets, the extended period of low short-term rates risks dampening business investment. In this way, the Fed may be encouraging corporate share buybacks as the "safer" investment decision, helping propel equity values higher but diminishing business investment and job creation from what it might otherwise have been. Driving up equity values so significantly may also be suppressing the normal forces

12. William R. White, "Ultra Easy Monetary Policy and the Law of Unintended Consequences," Federal Reserve Bank of Dallas, Globalization and Monetary Policy Institute, Working Paper 126, revised September 2012, http://www.dallasfed.org/assets/documents/institute/wpapers/2012/0126.pdf.

of creative destruction in the economy, permitting weak management to hide behind elevated share prices.

Third, there is the risk that what investment does take place reflects a substitution of capital for labor. While the Fed's actions alone are unlikely to be able to cause such an outcome, exceptionally low interest rates for an extended period might support such a substitution. Given the prolonged weakness of the labor market, it seems an oversight not to consider this as a potential cost of the Fed's actions.

Fourth, the Fed's pursuit of a wealth effect—through higher equity values and home prices—is clearly contributing to the inequality of wealth and income. The rebuttal that income inequality is principally a consequence of globalization and technological change overlooks the self-evident consequence of driving asset prices higher as principally benefiting those who hold these assets or who earn their income from changes in those assets' prices—primarily those in financial services and real estate. A higher stock market may increase the propensity to consume of those who own stocks, but this group has a low propensity to consume relative to income—rich people can afford to save, poor people cannot. The reality of stagnant median incomes and rising wealth for the few is unlikely to contribute to an increased propensity to consume among the broader population who do not hold financial assets.

Fifth, the extended period of extraordinary monetary policy has had the effect of increasing capital flows into developing economies (just as the threat of "tapering" in mid-2013 partially reversed these flows). By providing a greater impetus for capital to flow into these countries, the Fed's extraordinary policies have likely contributed to higher levels of investment than might otherwise have occurred. This, in turn, could be contributing to the downward pressure on wages in the United States and other developed economies. It could also contribute to future deflation pressures when this additional productive capacity comes back to haunt us in the next downturn.

4. What might Keynes have thought? In *The General Theory* Keynes considered the question of whether monetary policy alone could be effective in stimulating economic activity. He saw several limits:

> "If, however, we are tempted to assert that money is the drink which stimulates the system to activity, we must remind ourselves that there may be several slips between the cup and the lip. For

> whilst an increase in the quantity of money may be expected, *cet. par.,* to reduce the rate of interest, this will not happen if the liquidity-preferences of the public are increasing more than the quantity of money; and whilst a decline in the rate of interest may be expected, *cet. par.*, to increase the volume of investment, this will not happen if the schedule of the marginal efficiency of capital is falling more rapidly than the rate of interest; and whilst an increase in the volume of investment may be expected, *cet. par.*, to increase employment, this may not happen if the propensity to consume is falling off."[13]

Keynes's concern was that increases in liquidity preferences and decreases in the efficiency of capital and the propensity to consume would limit the effectiveness of efforts to hold down the rate of interest as a means of stimulating economic activity. But it also seems appropriate to ask whether the effort to solve the zero-rate boundary with ultra-low interest rates might contribute to the very conditions that Keynes thought would limit the impact of monetary policy.

For example, to the extent that extraordinary efforts to pull down the term premium create the conditions of a liquidity trap, this would tend to increase the public's liquidity preferences from what they otherwise would be, offsetting the beneficial impact of any increase in the quantity of money.

While there is some evidence of a recent decline in the efficiency of capital,[14] whether this is a consequence of the Fed's polices or simply an exogenous phenomenon is hard to discern. But one purpose of easy monetary policy is to stimulate investment that would otherwise have appeared uneconomic. Thus, we should not be surprised if a prolonged period of extraordinarily low interest rates was followed by an increase in the ratio of capital to output (or capital to labor, for that matter). Keynes's observation that lower interest rates will not increase investment if the efficiency of capital is falling more rapidly would then come into play.

Finally, the propensity to consume might be falling off for demographic reasons and this would limit the effectiveness of monetary policy.

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13. John Maynard Keynes, *The General Theory of Employment, Interest, and Money* (Cambridge, UK: Macmillan Cambridge University Press, 1936), chapter 13, section III.

14. Andrew Smithers, *The Road to Recovery: How and Why Economic Policy Must Change* (Chichester, UK: John Wiley & Sons, 2013), 221–224.

However, if the low interest rates for savers caused by the Fed's actions were discouraging the animal spirits of consumers, and increasing their propensity to save, then the Fed's actions would be accentuating the demographic factors holding down the propensity to consume. In this way, extraordinary policies could be contributing to a "falling off" of the propensity to consume and, thereby, reducing the likelihood that increased investment would lead to an increase in employment.

Thus, Keynes's skepticism that monetary policy alone can stimulate the system to activity also suggests several ways of explaining the apparently diminishing impact of the Fed's extraordinary actions.

5. The intertemporal trade-offs are not obviously beneficial. To stimulate economic activity, monetary policy can really only do two things: it can take aggregate demand from foreigners or it can borrow aggregate demand from the future. To take demand from foreigners a central bank can try to engineer a weaker currency. But many factors influence exchange rates, particularly trade policies and capital flows and the economic performance and policies of the nations on the other side of the exchange rates. To borrow aggregate demand from the future a central bank can engineer lower interest rates to stimulate current consumption and investment at the expense of future consumption and investment.

How much should we attempt to borrow from the future? Putting aside financial stability concerns for the moment, is the risk of *higher* inflation and inflation expectations the only limit? What if the risks are more symmetric? What about the risk that borrowing too much demand from the future might engender deflationary conditions?

With hindsight, wouldn't we accept somewhat less employment and output from 2003 to 2007 in order to avoid so much lost from 2008 to 2013? Might we have borrowed too much demand for housing from the future? Could the excess or mal-investment in housing in those earlier years, apart from the effects of the financial crisis, be part of what is weighing on current conditions? It matters what trend we think we are on.

If we think we are on a trend of rising propensities to consume and to borrow and monetary policy borrows a little consumption and investment from the future and successfully nudges us back to higher growth, without more inflation, then the intertemporal trade-off will appear successful. When we get to the future we will be glad.

If we borrow too much demand from the future, and we push up against other constraints in the economy, the additional demand brought

into the present can generate inflationary pressures—or asset bubbles and financial instability. In these cases, the intertemporal trade-offs are less favorable.

But what if we are on a trend of declining propensities to consume and to borrow? If we then borrow demand and savings from the future, we might find that when we get to the future it is diminished. Having brought consumption and investment into the present, we will have less consumption and more debt in the future but also more output—exactly a prescription for deflationary pressures.

While the goal of the Fed's extraordinary actions—or that of any stimulative policy—may be to push the economy off a low growth path and onto a higher one in the future, good intentions do not assure good outcomes.

Lowering the reward for savings and the cost of borrowing *might* stimulate current consumption and output in such a way as to put future output on a higher path, even accounting for higher private debt levels. (Similarly, it is possible that a fiscal policy of a debt-financed increase in government spending—particularly if directed to investment rather than to consumption—*might* raise both current and future output.) But this "just right" outcome is not guaranteed and certainly involves an intertemporal trade-off in reducing future net saving. The debt burden stimulated by highly accommodative monetary policy might not generate much additional current demand and might also restrain future consumption and investment, providing a lower future growth path and a "deflationary" outcome—similar to the path we appear to have been on over the last decade.

More attention has been focused on the potential for a "demand-induced" inflationary outcome in which highly accommodative monetary policy stimulates too much credit and too much demand—with the Fed noting the lack of inflationary pressures and critics anticipating an eventual rise in inflation, even as many measures of inflation have gradually declined. But there is also the risk of a "diminished capacity" inflationary outcome in which demand does not accelerate but a decline in the economy's productive potential eventually leads to capacity constraints and inflationary pressures on a lower future growth path.

Whatever macroeconomic theories one may wish to apply, a thorough cost-benefit analysis would consider a much wider range of potential costs than the Fed has enumerated and at least assess the risks of all four of these potential outcomes and the intertemporal trade-offs they involve.

The Fed, however, has imagined a world in which it need only focus on the risks of either too little growth and employment or too much demand and inflation. By ignoring the risks of other outcomes the Fed has narrowed both its horizon and its vision of its mandate.

We should have a fundamental review of the Fed's mandate

What seems at first to be a debate about the means of conducting monetary policy turns out to be a debate about the appropriate ends of monetary policy. It turns out to be about what we think monetary policy can or should accomplish.

The Fed's current mandate and modus operandi don't incorporate financial stability concerns, don't provide guidance on how to use and to limit lender-of-last-resort authority, and don't include a framework for addressing all of the important intertemporal trade-offs nor the time horizon over which they should be considered. But these are critical challenges the Fed will face.

Section 2A of the Federal Reserve Act states that the Fed ". . . shall maintain long run growth of the monetary and credit aggregates commensurate with the economy's long run potential to increase production, so as to promote effectively the goals of maximum employment, stable prices, and moderate long-term interest rates."[15]

The current dual mandate interpretation of these words is not the only reasonable interpretation. For a number of years, Fed officials thought the most reasonable interpretation was to strive for stable prices, defined as a rate of inflation sufficiently low so as not to influence household and business decisions, as a precondition for achieving maximum employment. The current dual mandate interpretation reverses this, seeking maximum employment subject to a constraint of stable prices. The Fed has decided that the meaning of stable prices is 2 percent inflation but has interpreted maximum employment to be too difficult to specify and to vary across time.

I would not want to see the Fed's mandate reduced only to price stability because this would likely make it harder to incorporate financial stability concerns, to articulate how to act as a lender of last resort, or to consider the longer-term trade-offs.

15. Federal Reserve Act, Section 2A, http://www.federalreserve.gov/aboutthefed/section2a.htm.

While we have had much criticism of Congress and recent presidents for fiscal policy that borrows too much, the Federal Reserve also needs to ponder how much we can or should borrow from the future.

Putting aside politics and the dysfunction of our national legislature, Section 2A does not appear to be the best statement of a central bank mandate that we can imagine. Now would be a good time to consider how to articulate the Federal Reserve's objectives and constraints in light of what we have learned.