Comments

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1. Do central bank actions during times of financial-system stress, either through rate reductions or by changing terms under which reserves are injected, encourage excessive risk-taking?

The short answer is: perhaps sometimes, but not this time around.

To elaborate, obviously, one can construct scenarios in which central bank action does create moral hazard or encourage *excessive* risk taking, but I see at least several reasons why moral hazard is not an issue this time around.

First, central banks have at least an implicit mandate to ensure stability of the financial system. No central bank has the option to allow a financial crisis to get out of hand. By getting out of hand, I mean, for example, allowing what Rick Mishkin and others on the FOMC have referred to recently as an "adverse feedback loop," or to quote the most recent FOMC minutes, "a situation in which a tightening of credit conditions could depress investment and consumer spending, which, in turn, could feed back to a further tightening of credit conditions." Such an event could well induce a deflationary spiral that would clearly run counter to the price stability objectives of even the most ardent inflation-targeting central bank. The probability of such an outcome may not be large, but the risks associated with it are great enough that our monetary authorities do not have the luxury of holding back needed policy measures at this juncture simply because of concerns about moral hazard.

Second, central bank intervention to stabilize the financial system does not mean that the "transgressors" in a financial crisis will go unpunished and fail to learn a lesson. During the current crisis, losses incurred by financial institutions have been large, certainly large enough to make a major impression on the firms and individual players involved, many of whom have either gone out of business or scaled back operations substantially, or are fundamentally rethinking their current business models. The paper prepared for this conference estimates the financial losses at $400 billion (half of which has been incurred by leveraged financial institutions). This is roughly consistent with the Street consensus. Indeed, the drop in the market capitalization for the S&P financial stocks from its peak a year ago has been double that amount at $800 billion, or in percentage terms, a 30% decline, setting these stocks back to their levels of 10 years ago on average. Yes, some "wrong-doers" will undoubtedly get off free and may fail to learn a needed lesson. But then, what useful lesson would the much more numerous innocent bystanders learn when they lose their jobs and/or a big chunk of their life savings because the economy has been allowed to tank to ensure that all of the transgressors have learned their lesson?

Third, monetary authorities generally are appropriately wary of lending to or aiding troubled financial institutions, at least those that do not pose a systemic risk. Indeed, the U.S. Federal Deposit Insurance Corporation Act of 1991 placed limits on the extent to which the Federal Reserve can lend to troubled depository institutions: The Act specifically limits discount window loans to undercapitalized banks. The ECB is similarly prohibited by its statute from bailing-out insolvent banks. These limits can be overridden in exigent circumstances.

Finally, the prevention of excessive risk-taking must be dealt with through adequate supervision and regulation. When major crises have occurred, they have often been exacerbated by a *failure* of existing regulations to cover sufficiently or to be enforced sufficiently to deal with excessive risk-taking. In the current crisis, to cite several examples, (1) Northern Rock Bank in the UK failed because of the combination of a flawed business model that was tolerated by the regulators and a defective deposit insurance system; (2) German public banks appear to have failed because of inadequate supervision of institutions that were being managed by active and retired government officials; (3) U.S. mono-line insurers got into trouble when insurance supervisors failed to blow the whistle as these companies expanded into non-traditional business; (4) More fundamentally, subprime lending excesses and deficiencies arose initially under lax state-level supervision and regulation mortgage brokers, and (5) There was apparently wide-spread ignorance among regulators about the "shadow banking system" of SIVs, conduits, and so on. My point is that, to the extent that key driving events in the current crisis can be attributed to faulty supervision and regulation as opposed to excessive risk-taking by investors, moral hazard would not seem to be a relevant issue. If a failure of government helped create the mess, it is appropriate for government action to help clean it up. So, the varying government actions that have been taken in these cases seem justified, including nationalization of Northern Rock, capital injections for German public sector banks, official encouragement of a private solution for the mono-lines, and easing liquidity conditions in the banking sector when they seized up last summer.

Undoubtedly, action will be taken (indeed is being taken) to shore up the flaws in existing supervision and regulations. Indeed, there is always pressure to shore up supervision and regulation in the wake of financial crises in a hurry, and we need to be mindful that such enhancements be done wisely and judiciously, so as not to discourage that fundamental ingredient of growth, risk-taking.

2. Can central banks provide greater liquidity to markets without signaling an easing in monetary policy? Is it possible for policymakers to separate their financial stability and macroeconomic stabilization objectives when interacting with financial institutions?

The short answer is, yes, up to a point, but it helps to have the right tools.

To simplify things, I'll define "providing greater liquidity" as accommodating increases in the demand for reserves at an unchanged policy rate, as well as accommodating an increasing preference for term funding over overnight funding, and doing so by accepting a wider set of collateral than normal in open market operations. And I'll define changing monetary policy as altering the level of the policy rate target.

As the current credit crisis unfolded last summer, the Fed clearly acted fairly promptly on the liquidity front by increasing the provision of overnight funding to banks to limit upward pressure on the fed funds rate as the demand for reserves shot up in the money market. The Fed also opened the discount window more widely by cutting the discount rate (and penalty) by 50 basis points and actively encouraging banks to "come to the window." This second set of moves was almost totally ineffective because of the strong stigma attached to going to the window. Banks were very sensitive about how they were viewed by their peers, especially under unsettled money market conditions, and any hint that they had gone to the window would be viewed as a sign of weakness and cause for an immediate increase in the premium on

their funding costs in the market. The failure of the discount window to provide relief was important. Banks had ample overnight funding, but were increasingly short on term funding. Interbank lending at maturities of two weeks to three months had all but dried up in the private market. Banks were increasingly reluctant to lend at term either because of concerns about counterparty risk or because of uncertainty about how much liquidity they would need for themselves to fund assets they might well be forced to take onto their balance sheets (SIVs, etc). The absence of term funding and growing balance sheet uncertainties caused large banks, at least, to grow much more cautious about expanding their business voluntarily. This increasing caution sowed the seeds of the credit crunch that followed with the substantial tightening of bank lending standards and reduced availability of credit to households and firms.

With the Discount window still effectively closed, things could have gotten much worse early on if the Fed had not blurred the lines between the provision of liquidity and changing monetary policy. It did so by aiming low (or avoiding errors to the high side) in its efforts to hit the fed funds target during this period. Over the month between the onset of the crisis in mid-August and the first official policy easing in mid-September, the fed funds' effective rate averaged more than 25bps below target, the largest such "miss" on a sustained basis in more than two decades. Whether the miss was fully intended or not, the increased provision of liquidity associated with it was most welcome to the money markets and, in the minds of many money market traders, helped to avert a significant worsening of the crisis at the time.

With the introduction of the Term Auction Facility, the Fed did effectively open the discount window, and it gave itself the tool it needed to provide term liquidity while also accepting a much wider range of collateral than it accepts in open market operations. This introduction of the TAF was welcomed immediately in the money market, and helped ease the liquidity situation by reducing the spread between LIBOR, the cost of interbank loans, and the average level of the fed funds rate expected to prevail over the same term. This de facto opening of the discount window now allows the Fed to provide liquidity more effectively without having to ease policy.

[A word on the European Central Bank, which has been maligned of late in some quarters for being behind the curve on monetary policy. The ECB's reserve auction facility was set up much better to provide liquidity without changing monetary policy, and it did do so by providing more liquidity earlier in its reserve maintenance periods and by substantially increasing the average term or maturity of its lending. The ECB's actions, along with the Fed's undershooting the fed funds target and substantial FHLB advances did much to ease the initial funding crunch on the money market, or at least to keep things from getting much worse than they did.]

Finally, I find the distinction between changes in liquidity and changes in monetary policy somewhat artificial. There is a considerable grey area between the two. If the fed cuts rates simply to offset a sustained 50 bp widening of the spread between LIBOR and the expected fed funds rate that has resulted from a tightening of liquidity conditions in the market, that action could arguably be viewed as either a liquidity enhancement to offset the closing of a key channel of transmission of monetary policy, or a change in monetary policy, or both.

3. Do central banks need additional instruments to address credit booms?

In short, probably not; they just need to utilize the ones they now have more effectively.

I take this to be a variant of the question of should central banks factor asset price movements directly into their monetary policy decisions — i.e., should they tighten when they see a bubble inflating in order to limit potential damage caused when the bubble eventually does burst. Academic papers in this area contain very stylized assumptions about asset prices being driven by purely exogenous factors and not by central bank policy or flaws in regulation. Also, I think too much is made of the notion that bubbles cannot be identified ex ante, only ex post. I'm not going to try to recommend that central banks should endeavor to prick bubbles via monetary tightening. But I will suggest that the appearance of froth in financial markets can be used more effectively as a warning sign that something is amiss somewhere in the area of supervision and regulation. Investors naturally seek ways to legally circumvent regulations, especially where there are deficiencies or shortcomings in the drafting and/or enforcement of regulations. This is not necessarily an admonition to tighten regulations whenever markets are looking unusually buoyant — risk taking is a key ingredient of economic growth and innovation, and we certainly want to do as little as possible to discourage it. Rather, it is a suggestion to be more on the lookout for something amiss. The U.S. housing market was looking bubbly as early as 2005. Had this froth been taken as a hint to look carefully at the trends and practices in the mortgage market that were driving it, the inadequacy of mortgage origination guidelines and the absence of state-level enforcement of those guidelines may have come to light sooner and helped to avoid some of the worst of the excesses that we are now paying for. Central banks may not have all the supervisory authority they would like, and perhaps more can be done in that area, but they certainly have ample scope to jawbone when they see something amiss.

One other thought in response to this question of whether more instruments are needed to deal with credit booms and busts, the Fed has at its disposal in exigent circumstances considerable power to create liquidity and distribute it widely through the Discount Window or special facilities if needed, as it has done on occasion in the past.

4. Does successful monetary stabilization policy encourage excessive risk-taking that leads to financial instability?

In short, maybe, but if so, the associated costs fall well shy of the benefits of successful monetary stabilization policy.

One conclusion of the paper that was prepared for this conference last year was that successful monetary stabilization policy has indeed been the key factor underlying the great moderation of variability in growth and inflation in recent decades. The associated reduction in "macroeconomic risk" no doubt also has contributed to the willingness of risk-takers to place larger bets in the current economic environment than they would have in decades past. It is noteworthy that the decline in volatility of growth and inflation has not been matched by declines in the volatility of prices in financial markets. But has this continued volatility in financial markets been a problem? Not judging from the longer-term trend in overall macroeconomic performance. The ten-year moving average of the so called misery index in the U.S., the simple sum of unemployment and CPI inflation has declined steadily since the early 1980s and now stands at its lowest point in more than four decades. This suggests that if some excessive risk-taking has been induced along the way, so far at least, its costs in terms of macroeconomic performance has not been substantial.

Comments

William Poole, President and CEO, Federal Reserve Bank of St. Louis

Balancing Financial Stability, Price Stability, and Macroeconomic Stability: How Important is Moral Hazard?

There are two ways to view the question that comprises the title for this panel discussion. One concerns the *potential* for moral hazard issues to decrease stability. The other is the extent to which, currently, the issue in *actuality* has decreased stability or raised a problem for the Federal Reserve. The potential is clearly enormous. However, I believe that in the macroeconomic policy sphere, actual moral hazard problems today are relatively minor, with the exception of a small number of large financial institutions whose managements and investors believe they can count on government assistance should these firms find themselves in deep trouble.

Before continuing, and although I have attended my last FOMC meeting, I need to emphasize that the views I express here are mine and do not necessarily reflect official positions of the Federal Reserve System. I thank my colleagues at the Federal Reserve Bank of St. Louis for their comments, but I retain full responsibility for errors.

Moral Hazard in Monetary Policy

I addressed moral hazard in monetary policy in a speech at the Cato Institute last November, "Market Bailouts and the 'Fed Put.'"[49] Let me repeat the gist of that argument.

The concept of moral hazard is most easily explained in the context of insurance. The very existence of insurance may change the behavior of the insured person, who becomes less careful in taking care of insured property than he otherwise would if the property were uninsured. Being less careful with others' property than your own is not moral behavior and is a hazard to the insurance company.

Some claim that Federal Reserve policy responses to financial market developments should be regarded as "bailing out" market participants and creating moral hazard by doing so. In my view, this argument is incorrect because there is a benefit rather than a hazard to sound monetary policy that stabilizes the economy.

Consider a monetary policy that maintains low and stable inflation. If market participants have confidence in continued success of that policy, then they need not structure their activities to be robust against a serious outbreak of inflation. Monetary policy does change behavior, but it is not a hazard to the economy that firms and households make their plans on the assumption of continuing price stability. Indeed, one of the arguments for price-level stability is *precisely* that markets will work better and private decisions will be more efficient than in an environment of price-level instability. Outcomes are more efficient because behavior changes in response to the environment of price-level stability.

The same argument holds for monetary policy actions that serve to stabilize financial markets in the face of market turmoil of the sort that broke out last August. A monetary policy response to market turmoil is an application to modern financial markets of the traditional function of the central bank as a lender of last resort to the banking system. A belief that Federal Reserve policy actions will serve to stabilize the financial system will affect behavior, but not on the whole in a hazardous way. The validity of this assertion is less obvious than in the case for price-level stability; I will argue the case.

[49] Federal Reserve Bank of St. Louis *Review* 90 (March/April 2008), 65-73 [http://research.stlouisfed.org/publications/review/08/03/Poole.pdf]

When financial markets are generally stable, many firms will decide that they can get along with less capital. All else being equal, higher leverage obviously increases risk. Should there be a shock, a firm with less capital is more likely to have difficulty. However, in the more stable financial environment, shocks are less common and less severe when they do occur. If that were not the case, we would not describe the situation as being "a more stable financial environment."

However, whatever the degree of financial stability, nothing protects an individual firm from its mistakes. The Fed's actions in recent months have not prevented many financial firms from having to write down the value of billions of dollars' worth of assets. Fed actions have been successful in helping to protect the financial *system* without protecting any particular firm. A number of hedge funds and mortgage brokers have gone under without a finger of public support being lifted to save them. That is as it should be.

Lenders have foreclosed on thousands of homeowners in default on their mortgages and have forced the former owners to leave their homes. So far, we have not seen significant government funds being supplied to prevent foreclosures, although proposals for such support are common. The public debate on this issue seems pretty healthy to me. People understand the anguish of foreclosure but also the potential moral hazard from bailing out homeowners who took out mortgages they could not afford or from bailing out investors who made loans they should not have made. There is also a widespread belief among homeowners who are meeting their financial obligations that it would be unfair for the government to bail out "irresponsible" borrowers when responsible ones, perhaps with considerable struggle, are meeting their obligations.

As an aside, it seems to me that most of those advocating some sort of government action are supporting relatively narrowly drawn proposals that do not apply to investor-owned houses and to properties already in foreclosure. Whether or not a sound proposal can be enacted that avoids creating moral hazard remains to be seen, but current public debate is sensitive to the issue.

Too Big to Fail

In the context of macroeconomic stability, the main moral hazard issue arises in the context of "too big to fail." I believe that it was Alan Greenspan who put the issue this way: No firm should be too big to fail, but some may be too big to liquidate quickly. Suppose a large firm gets into trouble and the potential adverse consequences for stability are so great that intervention is unavoidable. In that situation, any intervention ought to take a form such that the costs to shareholders and management are so large that no firm in the future will want to allow itself to fall into such a situation. Lest I be regarded as a soft touch when I say that a situation could arise that could make intervention "inevitable," I would set a very high bar to any intervention. Here is what I think is sound advice: "Experience suggests that the path of wisdom is to use monetary policy explicitly to offset other disturbances only when they offer a 'clear and present danger.'" Some may be surprised to learn that the author of this sentence was Milton Friedman in his presidential address to the American Economic Association in 1967.[50]

In recent months, some boards of directors have forced out their CEOs, and companies have raised new capital, diluting the ownership position of existing shareholders. I am sure that these costs will not be lost on future managements, but it remains to be seen how long recent pain remains in managers' memories. In any event, we are fortunate that in the current episode, so far anyway,

[50] *The American Economic Review* 58 (March 1968), p. 14

no large financial firms have been so weakened by large losses that they were unable to raise new capital.

We have known for many years that moral hazard is a potentially serious issue. If a firm believes that it will be bailed out if it gets into trouble, that expectation encourages excessive risk-taking and increases the probability of trouble. There are two complementary ways to deal with moral hazard. First, firms in trouble ought not to be bailed out, unless the bailout takes a form that imposes heavy costs on managers and shareholders. Second, firms subject to government regulation ought to be compelled to maintain adequate capital to reduce the probability of failure. U.S. banks entered the period of turmoil last year pretty well capitalized and have been able to withstand large losses.

I am more skeptical of the financial strength of the GSEs and believe that we could see substantial problems in that sector. According to the S&P Case-Shiller home value data released earlier this week, as of December 2007 average prices had declined by 15 percent or more over the past 12 months in Phoenix, San Diego, Miami, and Las Vegas. We can add Detroit to the danger list, as the home price index for that city is down by almost 19 percent over the 24 months ending December 2007. With house prices falling significantly in a number of large markets, many prime mortgages issued a few years ago with a loan-to-value ratio of 80 percent may now have relatively little homeowner equity, which increases the probability of default and amount of loss in event of default.

As I emphasized some time ago, GSE losses will depend on the variance as well as the mean of changes in national home prices. Losses in markets with home prices falling more than the national average will not be offset by gains in markets with price changes above the national average. I do not have a new message here; we have known for a long time that advance preparation and a strong balance sheet are the keys to riding out a financial storm. As I have emphasized before, the Federal Reserve can deal with liquidity pressures but cannot deal with solvency issues. I do not have any information on the GSEs that the market does not also have. Nevertheless, in assessing the risk of further credit disruptions this year, I would put the GSEs at the top of my list of sources of potential serious problems. If those problems were realized, they would be a direct result of moral hazard inherent in the current structure of the GSEs.

Moral Hazard Risks to Economic Stability

The title of this session starts with the word "balancing." Monetary policy is a balancing act, with dangers of recession and inflation both very real. My view, oft stated, is that the FOMC should give primacy to the inflation objective because, if inflation develops while the FOMC is concentrating on avoiding recession, the consequence will be to delay recession but not to avoid it. And, most likely, the delayed recession in an environment of rising inflation and rising inflation-expectations will be worse than the mild recession avoided in the immediate future.

The FOMC's "prime concern," though, must not be confused with "exclusive concern. " The FOMC has good reason to respond to employment problems, and doing so need not be inconsistent with maintaining an environment of price stability. Of course, different observers have different views as to whether the FOMC is striking the right balance, but the need to strike the balance ought not to be at issue.

The traditional monetary policy problem of balancing inflation and employment risks is seriously complicated when an event raising a moral hazard problem intervenes. When

an event occurs risking extreme financial instability, the best course of action is probably for policymakers to keep the ship afloat and worry about the compass course later. However, when bailing out a firm to keep the ship afloat, the aim should be to allow as much pain as possible to flow through to managements and investors to discourage future risky behavior. To avoid a future inflation problem, monetary policy accommodation, which may be a part of the policy response, should be reversed promptly when the markets settle down.

Since World War II, the number of financial upsets is so few that we do not have a large sample from which we can draw lessons as to better and worse ways of handling the aftermath of financial turmoil. With the benefit of hindsight — and the importance of the word "hindsight" should be emphasized — it is not hard to argue that the FOMC was too slow to raise the federal funds target after taking the target down to 1 percent in 2003. I also believe that, with hindsight, the FOMC was too slow to start raising the fed funds target in 1999 after dropping it by 75 basis points to deal with the turmoil created by Long-Term Capital Management. The problem in these episodes, however, was not related to moral hazard but to policy judgments of the usual sort of trying to strike the right balance between inflation and unemployment concerns.

The Current Episode of Financial Turmoil

We are currently living through an episode that will provide considerable evidence on several important questions. In five years or so, we will see whether the FOMC withdrew cuts in the fed funds rate target on an appropriate schedule.

The current episode will also provide evidence on a vexing issue of causation. As Greenlaw, et al., emphasize in their very interesting paper, the relation of finance to the real economy has long been a puzzle because of the difficulty of sorting out cause and effect. There is a large literature on this issue. One tradition flows from Friedman-Schwartz, and before them the work of Irving Fisher, relating fluctuations in money growth to the business cycle. Greenlaw, et al., report evidence on the relation of growth in domestic non-financial debt to growth in real GDP.

Although there have been a number of interesting efforts, no one has come up with a really convincing model of why fluctuations in nominal magnitudes should cause fluctuations in real magnitudes. A contrary view, also with an extensive literature, flows from work on real business cycles. From this perspective, the business cycle is a real phenomenon, and nominal magnitudes are along for the ride. In the real business cycle model, causation runs from the business cycle to nominal financial magnitudes.

My own work has been within the Friedman-Schwartz tradition. I do not have any doubt that monetary policy mistakes can create recession. In trying to sort out the causality between money and output, Friedman emphasized the importance of evidence from natural experiments. I think it useful to think about that same approach in analyzing the current situation in the credit markets. We are dealing with something close to a natural experiment because the turmoil spreading from the subprime mortgage market was clearly unanticipated and, for the economy outside housing, basically exogenous and not closely related to changes in monetary policy. We are living through an episode that is as close as we have seen to a pure credit disturbance without an accompanying monetary disturbance.

Let me develop this theme a bit more carefully. The FOMC did, of course, raise the target federal funds rate from 1 percent in mid

2004 to 5.25 percent in mid 2006. The effect of rising interest rates in slowing mortgage finance was not a surprise, nor was a slowing in home price appreciation a surprise. In the quarters before August 2007, we did not observe a marked decline in money growth or any of the other usual symptoms of a monetary disturbance.

The growing scale of defaults of subprime mortgages in the spring and summer of 2007 was a surprise. I think it reasonable to regard the effects of these defaults on credit markets beyond the mortgage market as an exogenous credit disturbance — perhaps as exogenous as we get in our discipline. The issue at hand is whether this disturbance will cause a significant contraction in economic activity outside housing.

I focus on activity outside housing because it is obvious that this particular sector is overbuilt. The U.S. economy has experienced problems in particular sectors before, such as steel and agriculture in early 1980s. Those problems lingered after recovery from the 1981-82 recession began but did not prevent the recovery.

Weakness in investment in residential structures has been holding down GDP growth in a significant manner since the second quarter of 2006 but, through the last quarter of 2007, was not sufficient to push growth of GDP excluding housing below 1.5 percent. The issue is whether the credit market problems will have a significant adverse impact outside housing. By way of comparison, the shock of 9-11 had a quick and large impact; firms shed one million jobs in October, November, and December of 2001. We have not yet seen an effect of credit turmoil on real activity of this magnitude.

Concluding Remarks

I suspect that the origin of this panel topic was the view that a central bank response to market turmoil creates moral hazard. A generalized monetary policy response, in the form of the FOMC cutting the target federal funds rate, is completely unlike the effects of government flood insurance on homeowners. Flood insurance will compensate the homeowner, period. A monetary policy response may or may not occur at a time when a financial firm gets into trouble and may or may not be adequate to prevent a firm from failing.

Moreover, a financial firm cannot expect targeted aid for just the firms in trouble. An exception to this general statement is that, unfortunately, the GSEs probably can expect targeted aid. Thus, putting the GSEs aside because they might get assistance directly from Congress, expectation of a monetary policy response to financial turmoil is completely unlike the situation faced by the homeowner with underpriced flood insurance. Many homeowners do build houses in areas where they would not build if they were totally responsible for losses, or had to buy insurance in a competitive market. Financial firms, on the other hand, cannot expect aid if they build on the financial flood plan. And that is as it should be.