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Financial Conditions and the Economic Outlook
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The beginning of a new calendar year is a popular occasion for discussing the outlook for future economic conditions. Recent trends to some extent have dampened enthusiasm for this annual exercise. On the other hand, uncertainty about the economic outlook looms particularly large now, and the economic policy challenges we face are particularly profound, so perhaps the returns to such a discussion are above average this year, even if our zeal for the topic is a bit below average.

The basis for dampened enthusiasm regarding this year's economic outlook is fairly clear. The U.S. economy has been in a recession for a year now, and the pace of the contraction in economic activity appeared to increase markedly around the end of September. In my remarks today, I will discuss the factors I see affecting the outlook for the U.S. economy and monetary policy. As always, the views I express will be my own, and may not coincide exactly with the views of all of my Federal Reserve System colleagues.[1] I will devote special attention to recent financial market conditions, because the financial market turbulence that has been so striking over the last year-and-a-half looms large in any discussion of the economy and economic policy these days.

The proximate cause of the financial market turbulence, of course, is the home mortgages made from late 2005 through early 2007, near the end of long U.S. housing boom that began in 1995. Since the peak in activity in 2005, housing investment has fallen by more than 40 percent. Average housing prices, as measured by the FHFA repeat sales index, have fallen nearly 9 percent since their peak in April 2007. The resulting erosion in home equity for many borrowers has meant that mortgages made near the peak of the boom, especially the subprime and non-traditional categories, are experiencing much larger losses than expected.

It will take years of research to untangle the quantitative contribution of various causal factors to the decade-long housing boom, the accompanying rise in subprime mortgage lending, and the subsequent increase in mortgage losses. A definitive assessment is too much to ask at this point, but a list of the most plausible suspects can easily be discerned. One candidate that is often overlooked is the significant increase in productivity growth, and thus growth in real household income, which began around 1995 and lasted until some time earlier in this decade. To the extent

that households came to see the increase in trend real income growth as likely to continue, one would expect to see a sustained rise in the demand for housing. Moreover, current data suggest a decline in trend productivity growth in the middle of this decade, around the time housing demand peaked and began falling.

Another plausible contributing factor was the wave of technological innovation in retail credit delivery, which allowed lenders to make finer distinctions between potential borrowers. This facilitated lower interest rates for some borrowers and an expansion of lending to borrowers formerly viewed as unqualified for credit. As in any industry undergoing an innovation-driven structural shift (the telecommunications industry in the late 1990s, for example), the natural evolution of the industry can involve overshooting and retrenchment. Subprime lending with high loan-to-value ratios was profitable while home prices were rapidly rising, but profitability fell sharply when price trends reversed. Home price trends are hard to predict with any confidence, and lenders who found past subprime mortgage lending profitable in 2004, 2005 and 2006 may have underestimated the probability of a broad and sustained decline in home prices.

The regulatory and supervisory regime surrounding U.S. housing finance also seems likely to have contributed to the boom in housing and housing finance. Here, several factors deserve mention. Supervisory agencies, like borrowers, lenders and investors, assigned a low probability to the possibility of an adverse housing demand shift of the magnitude and geographic extent that we have seen. In addition, private sector incentives to foresee and protect against such shocks were to some extent dampened by the presence of the federal financial safety net – that is, deposit insurance and the access of commercial banking organizations to Federal Reserve lending. Market participants may have inferred that a housing market shock that was large enough to afflict a broad swath of the financial system would elicit significant official support, particularly for institutions perceived as "too big to fail."[ii] Past instances of government intervention to prevent large financial institutions from failing – from Continental Illinois to Long Term Capital Management – have encouraged such inferences. The federal safety net probably also played a role in banks' involvement in the securitization process at the heart of housing finance, particularly among institutions perceived as too big to fail. The use of off-balance sheet arrangements and the provision of back-up lines of credit created contingent exposures for the banking system that by design were most likely to be realized in generally bad states of the world, when the safety-net protection of the formal banking sector would be most valuable. In addition to these incentive problems, the inferred prospect of support for the government-sponsored housing finance enterprises, Fannie Mae and Freddie Mac, lowered their borrowing costs and contributed to their demand for mortgage-backed securities. Legislative incentives for such enterprises to extend credit to low-income borrowers also would have stimulated their demand for securities backed by subprime and nontraditional mortgages.

Another key causal suspect is the relatively low path of interest rates after the recession earlier this decade, especially in 2003 and 2004. Some economists have argued, with the benefit of hindsight, that tighter monetary policy during that period would have led to better outcomes by preventing core inflation from rising, thus limiting the housing boom and mitigating the subsequent bust.[iii] This view strikes me as quite plausible, but again, further research will be required to substantiate this hypothesis.

That's all prologue, however, to the turmoil that has plagued financial markets since the middle of last year, when the potential scale of the home mortgage problem became more widely appreciated. The turmoil intensified in mid-September of this year, and volatility has been

elevated since. Financial market participants have faced three major categories of uncertainty. The first concerns the aggregate amount of losses on mortgage lending. For mortgages made in 2006 and early 2007 – the vintages in which losses are concentrated – significant uncertainty still remains regarding total losses.

Second, financial market participants have faced uncertainty about where the losses will turn up. Mortgage risks were split up and spread widely, both within the United States and abroad, through securitization and use of the insurance capabilities provided by credit derivative contracts. As a result, financial market participants are understandably apprehensive about whether a particular counterparty's mortgage-related losses will erode their capital buffer enough to threaten their viability.

Third, market participants have at times faced uncertainty about prospective public sector intervention.[iv] The disparate responses to potential failures at several high-profile organizations this year may have made it difficult for market participants to forecast whether official support would be forthcoming for a given counterparty. Shifts in expectations regarding official intervention may have added volatility to financial asset markets that already were roiled by an increasingly uncertain growth outlook. And uncertainty about the form of government support – asset purchases versus dilutive capital purchases, for example – may have hindered the provision of fresh equity capital.

Most of what has been observed in financial market since the summer of 2007 is fairly intelligible in light of these sources of uncertainty facing market participants. Apprehension about potential losses caused lenders to demand higher risk premia in interbank credit markets for institutions with at least some presumed mortgage-related exposure. Market participants became especially concerned about the heightened risk associated with lending at longer maturities, and so risk premia became especially elevated for term lending. Some borrowers were unwilling to pay higher premia for term loans, and shortened the tenor of their funding. Others were willing to pay the unusually high premia in order to "lock in" funding and protect themselves against an erosion in counterparties' perception of their creditworthiness. More broadly, the proliferation of intermediation channels in recent years has meant that for many borrowers, the next best financing option may not be much more costly. For example, many commercial paper issuers have back-up lines of credit with banks that they can draw on in the event they are unsatisfied with market pricing. Thus observing that a given intermediation channel is "frozen," "clogged," or "dried up" may not indicate dysfunction, per se, but may indicate instead just a portfolio reallocation in response to a shift in risk assessments.

The striking feature of central bank lending and other government financial support during the recent turmoil is the extent to which it has extended well beyond the boundaries that previously were understood to constrain such lending, both in the range of institutions and the contractual terms on which credit has been provided. Intervention has been driven by a desire to prevent damaging disruptions to financial markets, and thus reduce the overall costs of the turmoil. While this objective is clearly understandable, central bank lending can create the expectation that similar support will be forthcoming when market disruptions occur in the future. Such expectations can themselves be very costly, because they can distort the incentives faced by, and as a result, the choices made by private-sector participants. For example, in the past year, expectation of official support may have induced some firms to take the risk of turning down capital infusions or merger offers in hopes of finding better terms in the future. Prospective equity investors may have demanded stiffer terms to compensate for the possibility of dilutive

government intervention. Clearly, these recent examples of the moral hazard effects of official intervention are detrimental to broader public policy objectives, and place a significant burden on the supervisors of financial institutions to constrain such risk-taking.

The critical policy question of our time is where to establish the boundaries around the public-sector safety net provided to financial market participants, now that the old boundaries are gone. In doing so, the prime directive should be that the extent of regulatory and supervisory oversight should match the extent of access to central bank credit in order to contain moral hazard effectively. The dramatic recent expansion in Federal Reserve lending, and government support more broadly, has extended public sector support beyond existing supervisory reach, and thus could destabilize the financial system, if no corrective action is taken. Restoring consistency between the scope of government support and the scope of government supervision is essential to a healthy and sustainable financial system. One option is simply to adapt our regulatory and supervisory regime to the new wider implied reach of government lending support. This strikes me as an unattractive option, if for no other reason than the current uncertainty about the outer bounds of that support. Constraining moral hazard in such a regime would be an immense and daunting task. I take it as given, therefore, that the scope of financial safety net ultimately must be rolled back.

Note that it will not be sufficient simply to roll back the current lending programs when the economy begins recovering. The precedents that have been set during this episode will influence how market participants expect policymakers to react during the next episode of financial market turmoil. Establishing a coherent and stable financial regulatory regime will require rolling back expectations about how the policymakers will respond to the next financial market disturbance or the next recession. Doing so will be difficult. But rolling back those expectations will be impossible if moral hazard concerns are always set aside in the exigencies of a crisis.[v]

Assessing the effects of the financial market turmoil on real economic growth is not as straightforward as it might seem. One popular notion is that the credit market disruptions we've seen over the last year or so impede the financial sector's ability and willingness to extend credit to households and business firms, thereby creating an additional drag on spending. The widely observed correlations between economic activity and measures of bank credit extension lend support to this theory. But causation can flow in the opposite direction as well. When overall economic activity seems poised to contract, the outlook for household income and business revenues deteriorates as well, and borrowers become less creditworthy, all else constant. My reading of current conditions is that bank lending is constrained more now by the supply of creditworthy borrowers than by the supply of bank capital. This may explain why recent programs aimed at reducing credit spreads in particular financial sectors seem to have had such limited effects; if credit market stress is a symptom rather than a cause of the economic slowdown, then intervention in particular credit markets may not be an effective demand management tool.

The decline in residential construction activity since early 2006 has affected not only credit markets – it has had a significant impact on broader economic activity as well. For a time, the weakness was isolated in the housing market and the rest of the economy continued to expand at a relatively healthy rate. But in late 2007, consumer spending began to slow. Household net worth has declined as home prices have fallen virtually nationwide over the last year-and-a-half, and, more recently, equity prices have slumped. Increases in energy prices up through the middle of last year took a substantial bite out of real incomes. Moreover, payroll employment peaked at the

end of 2007, and has since declined by about 2 million jobs. As the labor market has weakened, wage growth has tapered off. Except for the temporary bulge due to the stimulus payments last year (which did not, in the end, leave much trace on household spending), real personal income has steadily decelerated, and is now below where it was a year ago. Given this catalog of adverse developments for U.S. households, it should be no surprise that consumer spending was sluggish in the first half of last year and has fallen significantly since then.

When household spending slows substantially, investment is usually not far behind. Business spending on equipment and software fell in each of the first three quarters of 2008, and the near-term outlook is not favorable. Many firms are facing dimmer sales prospects, higher funding costs, and more restrictive borrowing terms. Thus, further softening in this segment of business investment appears quite likely. Indeed, new orders for capital goods are off sharply since the summer. The other segment of business fixed investment, spending on new structures, has been flourishing for some time now. Over the three years leading up to the third quarter of 2008, real nonresidential fixed investment – a segment that includes office buildings, hotels, malls and the like – grew at a 12 ¼ percent annual rate. That category seems to have slowed significantly in the second half of last year, although not as much as I had expected. Anecdotal reports indicate that the flow of new projects has diminished considerably, and it seems clear that nonresidential investment will decline over the course of this year, with only the magnitude of slowing remaining uncertain.

Foreign trade was adding significantly to GDP growth until recently; net exports added over 1 ½ percentage points to real GDP growth for the first three quarters of 2008. Since then, the trade contribution to U.S. growth has been declining in response to diminishing world growth prospects and the recent strength in the dollar. As a result, we can't count on the foreign sector to offset weak domestic demand for goods and services going forward.

Last month, the National Bureau of Economic Research officially confirmed what virtually all economists already knew – namely, that a recession began in December of 2007 when payroll employment peaked. For a time, the decline was fairly mild – in fact, milder than the last two recessions, both of which were themselves mild by historic standards. But conditions began deteriorating much more rapidly after the extraordinary deliberations in Congress in the second half of September. Since then, according to reports, many households and firms are taking a "wait and see" attitude, reducing or postponing nonessential outlays in response to a general sense of uncertainty about the potential meaning of these dramatic events for their own economic circumstances. Economic indicators have weakened markedly across a wide array of sectors since then, and the current contraction in economic activity now appears to be on par with the recessions of 1974-75 and 1981-82.

Looking ahead, housing market conditions will be critical to the outlook for overall economic growth. The housing market is by no means healthy right now; inventories of unsold, vacant homes are still large in many areas of the country, and, as a result, average home prices still are declining at a rapid pace. Having said that, I find it hard to believe new home construction has too much farther to fall, and that would imply that residential investment will soon exert much less of a drag on GDP.

Consumer spending will be another key determinant of the growth outlook. Because households tend to base their consumption plans on their income prospects, any improvement in consumer spending growth likely will depend on a shift to a more optimistic assessment of those prospects.

Once households become convinced they can see an end to the deterioration in labor market conditions and the fall in equity and home prices, consumer spending growth will be based on improving longer-run income prospects and is likely to pickup substantially. It's too soon to tell just when and how rapidly that shift will occur, however.

But all told, it strikes me as reasonable to expect the U.S. economy to regain positive momentum sometime in 2009, for several reasons. First, monetary policy is now quite stimulative and real interest rates are quite low. Second, the energy and commodity price shocks that dampened economic activity earlier this year have subsided already or are in the process of doing so. And third, as I said, the drag from declining residential investment seems likely to diminish significantly in the next year. In fact, I would be surprised if we don't see a bottom in housing construction sometime in 2009.

While the downturn in real economic activity is going to pose challenges for monetary policy in the period ahead, it's essential that we not let inflation drift from view. Since 2004, overall inflation has trended upward, and has been higher than I would like over the last few years. Much of the acceleration we saw earlier this year reflected energy prices, however, and with oil prices down, we have seen overall inflation subside in recent months. Moreover, many economists are forecasting relatively low inflation in the months ahead, on the grounds that widening economic slack is generally associated with declining price pressures. I would be cautious about relying on this correlation as a causal relationship, however, even though it is detectable in many datasets.[vi] There have been times in the past when inflation declined only temporarily when activity slowed, and re-accelerated when the recovery began. And while it may seem premature to be worrying about how inflation behaves after the recession is over, we need to be sure our policy remains consistent with a strategy that does not allow inflation to ratchet up over the business cycle.

As I noted earlier, monetary policy is now quite accommodative. As growth prospects deteriorated after August 2007, the Federal Open Market Committee has brought the federal funds rate down from 5 ¼ percent to near zero. The fact that banks can always hold idle balances earning no interest will prevent further reductions in the funds rate from here. But even though it is common to think of policy in terms of the central bank's interest rate target, monetary policy fundamentally is always about the amount of monetary liabilities issued by the central bank – also known as the "monetary base." After all, hitting an interest rate target requires varying the quantity of central bank money, reducing the supply to raise rates and increasing the supply to reduce rates. Even when the policy rate has been driven down to zero, central banks can still dictate the supply of central bank money.

When interest rates approach zero, one often hears concerns about deflation, that is, a falling price level. I do not believe that deflation is major risk right now. But deflation can be dangerous because for any given interest rate, it increases the corresponding real (or inflation-adjusted) interest rate, and thus stifles growth. For a sustained deflation to emerge, people have to believe that the money supply will fall along with the price level. That's what happened during the first three years of the 1930s, at the beginning of the Great Depression, when the U.S. consumer price index fell by 27 percent, and the monetary base shrank by 28 percent.[vii] Central banks can prevent deflation by credibly committing to keep the money supply from contracting. Such a commitment is a natural byproduct of a credible commitment to price stability, but for a central bank that has not yet formally adopted an inflation objective, preventing deflation can present additional challenges. This is why some central banks increase the quantity of their monetary liabilities

dramatically when interest rates are at zero – to convince the public they will not let the money supply contract in the future.

The monetary liabilities of the Federal Reserve Banks have more than doubled over the last several months, from around $840 billion the week ending September 11, to around $1.7 trillion the week ending December 31. Virtually all of this increase was in the form of bank reserves – the deposit balances that banks hold at their Federal Reserve Banks – which went from $8 billion to $848 billion over that period. (The rest of the monetary base consists of paper currency.) This increase in the Fed's money supply was a consequence of the collection of credit programs initiated last fall. Prior to October, the Fed was able to "sterilize" new lending through offsetting asset sales that soaked up the additional bank reserves, which otherwise would have increased the monetary base. After October, the cumulative amount lent became too large to sterilize, and further lending added to the monetary base. Luckily, the implementation of these large credit programs coincided with a time in which additional monetary stimulus was warranted.

But monetary policy and credit programs do two different things. Monetary policy stabilizes the purchasing power of money over time by keeping the price level stable and relatively predictable, and by doing so, contributes to maximum sustainable economic growth. Credit policy is also aimed at promoting growth, but it is more a form of fiscal policy in that it uses the public sector's balance sheet to alter the allocation of resources. In this instance, credit market interventions have been financed to some degree by the issue of new monetary liabilities, but they could just as well be financed with non-monetary liabilities, such as U.S. Treasury securities.

Mixing monetary and fiscal policy is fraught with risks. Many historical instances of monetary instability have been the result of central banks being prevailed upon to use their balance sheets for fiscal ends in ways that impeded their ability to keep inflation under control. That is why in recent decades, countries around the world have provided a measure of independence to their central banks, within frameworks that ensure accountability, in order to explicitly insulate them from short-run political exigencies that might diminish the credibility of their commitment to control inflation. The cornerstone of that framework in the United States dates back to 1951, when the Treasury-Fed Accord formally gave the Federal Reserve independent control of its balance sheet.[viii]

Both the short-term benefits and the long-term costs of central bank credit have been and will no doubt continue to be debated for some time to come.[ix] But no matter how one assesses the overall merits of such programs, it is important to recognize that these are fiscal measures that are distinct from monetary policy. While at the present time, credit programs do not conflict with our monetary policy strategy, there could well come a time at which monetary stimulus needs to be withdrawn to prevent a resurgence of inflation, even though credit markets are not deemed fully healed. At that time, containing inflation may require closing down credit programs, or finding an alternative, non-monetary financing arrangement for them. Price stability, after all, is the vital first ingredient in financial market stability.

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[i] I am grateful to Roy Webb and John Weinberg for assistance in preparing this address.

[ii] Gary H. Stern and Ron J. Feldman, *Too Big to Fail: The Hazards of Bank Bailouts.* The Brookings Institution Press, 2004. *[add link to theirTBTF website?]*

[iii] John B. Taylor, "Housing and Monetary Policy," Federal Reserve Bank of Kansas City Symposium, 2007.
[iv] Jeffrey M. Lacker, "Financial Stability and Central Banks," Speech to European Economics and Financial Centre, London, June 5, 2008. *[add link?]*
[v] Marvin Goodfriend and Jeffrey M. Lacker, "Limited Commitment and Central Bank Lending," Federal Reserve Bank of Richmond *Economic Quarterly*, Fall 1999, vol. 85, no. 4, pp. 1-27. *[add link?]*
[vi] Jeffrey M. Lacker and John A. Weinberg, "Inflation and Unemployment: A Layperson's Guide to the Phillips Curve," Federal Reserve Bank of Richmond 2006 Annual Report. *[add link?]*
[vii] Robert L. Hetzel, *The Monetary Policy of the Federal Reserve: A History*. Cambridge: Cambridge University Press, 2008.
[viii] The Accord was necessitated by the conflict between the Treasury's desire for low borrowing costs conflicted and the FOMC's need to keep inflation from rising with the onset of the Korean War. See Robert L. Hetzel and Ralph F. Leach, "The Treasury-Fed Accord: A New Narrative Account," Federal Reserve Bank of Richmond *Economic Quarterly*, Winter 2001, vol. 87, no. 1, pp. 33-55. *[Add link to website.]*
[ix] Jeffrey M. Lacker, "Financial Stability and Central Banks," Speech to European Economics and Financial Centre, London, June 5, 2008; and Jeffrey M. Lacker, "What Lessons Can We Learn From the Boom and Turmoil?" Speech to the Cato Institute 26th Annual Monetary Conference, November 19, 2008. *[add links?]*