

SPEECH

The Recovery and Monetary Policy

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Good morning. It is a pleasure to have the opportunity to speak at this NABE (National Association for Business Economics) conference today. Having spent more than 20 years as a business economist working in the private sector before joining the Federal Reserve Bank of New York in 2007, I feel right at home here today.

My remarks will focus on the economic outlook. I do this with some trepidation, of course. In the private sector there are two adages about forecasting that underscore the need to be humble in this endeavor: First, forecast often. Second, specify a level or a time horizon, but never specify both, together.

But more seriously, despite the difficulties in making accurate forecasts, we still need to understand as best we can why the economy is performing the way it is, what that implies about the economic outlook, and, how policymakers can respond to generate better outcomes. We live in a highly complex and uncertain world, but we need to make as much sense out of it as possible. As always, what I have to say reflects my own views and not necessarily those of the FOMC (Federal Open Market Committee) or the Federal Reserve System.

My attention today will be on three important questions:

- Why has the U.S. recovery been so sluggish and consistently weaker than expected?
- What should we, as monetary policymakers, do it about it?
- What other policy actions are needed to help ensure a timely transition to strong and sustainable growth?

The disappointing recovery

Turning to the first question, U.S. economic growth has been quite sluggish in recent years. For example, annualized real GDP (gross domestic product) growth has averaged only about 2.2 percent since the end of the recession in 2009. As a consequence, we have seen only modest improvement in the U.S. labor market.

Not only has growth been slow, it has also been disappointing relative to the forecasters' expectations. For example, the Blue Chip Consensus have been persistently too optimistic in recent years. This is illustrated in [Exhibit 1](#) which shows how private sector forecasts for 2008 through 2013 have evolved over time.

Two aspects of this exhibit are noteworthy. First, forecasters have consistently expected the U.S. economy to gather momentum over time. Second, with only one exception, the growth forecasts for each year have been revised downward over time, as the expected strengthening did not materialize.

In contrast, as shown in [Exhibit 2](#), there has been no notable pattern of forecast misses for inflation. Sometimes, inflation has been a bit higher than expected, other times a bit lower. On balance, inflation has been very close to our 2 percent longer-run objective.

Although I have focused on the private forecasting record here, the FOMC participants' forecasts show a similar pattern. It is on the growth side where there have been chronic, systematic misses.

In my view, the primary reason for the poor performance of the U.S. economy over this period has been inadequate aggregate demand. There are several explanations for this. Although some were well-known earlier, others have only become more obvious as the recovery has unfolded.

One reason is the nature of economic recoveries following financial crises. On that basis, the poor performance of the U.S. economy is not unusual—historical experience shows clearly that recoveries following financial crises typically are very slow and difficult.¹

During the credit boom, finance is available on easy terms and the economy builds up excesses in terms of leverage and risk-taking. When the bust arrives, credit availability drops sharply and financial deleveraging occurs. Wealth falls sharply, precautionary liquidity demands increase, desired leverage drops further. In the U.S. case, there were some idiosyncratic

elements, such as subprime lending and collateralized debt obligations. But, in the end, the U.S. experience included the major elements of most booms: Too much leverage, too little understanding of risk, too easy credit terms, and then a very sharp reversal.

When the bust arrives, over-indebted households and businesses want to increase their saving and liquidity buffers, and financial intermediaries want to raise credit standards. Both responses restrain demand and make a cyclical rebound more difficult. In the U.S. case, because the bust was concentrated in housing, the scope for a strong cyclical recovery was particularly constrained because the interest-rate sensitive sector that would typically lead such a rebound could not recover until the overhang of unsold homes and the impairment of housing finances was corrected.

The U.S. recovery has also been subpar because it has been taking place in the context of a weak global economy. Historically, after a country experienced a financial crisis, growing foreign demand and currency depreciation have often led to a sharp improvement in the trade account that has put a floor under economic activity. In such circumstances, rising exports substitute for domestic consumption in supporting aggregate demand. This demand, in turn, encourages businesses to hire and invest. In contrast, this time the shock generated by the U.S. housing bust had global consequences, exposing economic vulnerabilities outside of the United States, especially in Europe. Under these circumstances, the scope for trade as a support for U.S. growth, while positive, has been very limited.

These two factors—the dynamics following financial crises and the weakness of foreign demand—help explain why U.S. growth has been weak, but I don't think these factors explain why it has been consistently weaker than expected.

After all, on the other side of the ledger, the policy response following the crisis has been much more aggressive than is typical. On the monetary policy side, the Federal Reserve cut short-term interest rates close to zero, communicated that short-term rates were likely to stay exceptionally low far into the future, and undertook a series of large-scale asset purchases in order to ease financial conditions further.

On the fiscal side, in 2009 the Congress and Administration enacted the largest fiscal stimulus program in history and some of these fiscal actions were renewed (e.g., extended unemployment compensation benefits) and new initiatives undertaken (e.g., the payroll tax holiday) once it became clear that the recovery was faltering. Also, there were significant policy actions taken to strengthen the banking system, including forcing banks to recapitalize so that they would have the capacity to sustain their lending.

So why has the recovery disappointed?

One possibility is that the negative dynamics of a post-bubble environment are even more potent than had been appreciated. Feedback loops may be more powerful and frictions may be larger. In the U.S. case, this is particularly germane with respect to housing and mortgage finance. For example, we have found significant shortcomings in those institutional structures available to support the workout of the overhang of mortgage debt in an efficient and timely manner.

A second reason may be the series of additional negative shocks experienced since the initial phase of the financial crisis. The largest of these relate to the crisis in the eurozone. But one could also add the periodic commodity price shocks, the disruptive impact of the tragic Japanese earthquake and tsunami on global trade and production, and the effect of the uncertainties around the impending fiscal cliff on hiring and investing.

That said, the shocks since the acute phase of the crisis in the United States were not uniformly negative. Take, for example, the sharp increase in U.S. oil and natural gas production stemming, in part, from the innovations in drilling and extraction technologies. Not only does this rising production directly boost real GDP, but also the large drop in natural gas prices has significantly improved the industrial competitiveness of U.S.-based businesses.

A third reason for the weaker than expected recovery likely lies in the interplay between secular and cyclical factors. In particular, I believe that demographic factors have played a role in restraining the recovery. The developed world's populations are aging rapidly. In the United States, for example, the baby boom generation, which is a particularly large cohort, is now beginning to retire. As the population ages, this has two consequences. First, the spending decisions of the older age cohorts are less likely to be easily stimulated by monetary policy. That is because such age groups tend to spend less of their incomes on consumer durables and housing. Second, as the population ages and the number of retirees climbs, the costs associated with Social Security, government pensions, and healthcare retirement benefits increase. This creates budgetary pressure and leads to a choice of raising revenue to fund these costs, cutting other government programs, or cutting benefits.

Now if this all had been fully anticipated by retirees and near-retirees, then this would already be factored into their spending and saving decisions. But, I doubt that this has been the case. I suspect that many have been surprised by the swift change in economic circumstances as the housing boom went bust. I doubt that many fully anticipated the budget crunch and the prospect that their future retiree and healthcare benefits would likely be curbed or their taxes would have to rise in the future. When households begin to anticipate this, they reduce their assessment of their sustainable living standards. This downward reassessment then feeds back to current spending and saving decisions.

A fourth reason why the recovery has been slower than expected may be that we overestimated the capacity for fiscal policy to

continue to provide support to growth until a vigorous recovery was achieved. On the fiscal side, the authorities can cut taxes or increase spending to support income and demand during the deleveraging phase that follows the financial crisis. But the ability of such stimulus to continue to support economic activity ultimately encounters budgetary limits. For example, the need to keep the long-term fiscal trajectory on a sustainable path limits the size and duration of federal fiscal stimulus measures. For state and local governments, the statutory requirements for balanced budgets meant that fiscal policies turned restrictive relatively quickly once budget surpluses and rainy day funds were exhausted, and this was only temporarily mitigated by federal transfers to the states as part of the initial fiscal stimulus program. Fiscal policy is now a drag rather than a support to growth in the United States, and this will likely continue.

Monetary policy

I would give each of these four explanations some weight for why the recovery has been consistently weaker than expected. But I would add a fifth, monetary policy, while highly accommodative by historic standards, may still not have been sufficiently accommodative given the economic circumstances.

Now let me be clear. I believe the evidence overwhelmingly indicates that our monetary policy has been effective in easing financial conditions and supporting economic activity. After reducing the traditional policy tool, the target for the overnight federal funds rate, to close to zero, the Fed has aggressively employed two complementary types of non-traditional tools—asset purchases and forward guidance on the policy rate—to provide additional stimulus through their effects on long term rates and various risk premia.

Effective forward guidance on interest rates causes market participants to lower their expectations and uncertainty about future path of interest rates and to anticipate that easier financial conditions will persist well in to the future. This pushes down the yield curve and leads to easier financial conditions.

Federal Reserve asset purchases also make financial conditions more accommodative. Such purchases, by taking duration out of private hands, push down term premia and lead to lower long-term rates than would otherwise be the case for any given economic outlook. Agency MBS (mortgage-backed securities) purchases absorb prepayment risk and reduce secondary and primary mortgage rates, stimulating demand for housing and increasing purchasing power through refinancing. Lower long-term rates support the prices of equities and housing, boosting wealth and easing balance sheet constraints, while an accommodative monetary policy stance reduces downside risks for the economy and this leads to lower default risk premia on corporate debt.

Our two tools work in a complementary manner. Asset purchases strengthen the credibility of the forward guidance on interest rates, while forward guidance provides information about how long the FOMC is likely to hold on to the assets it purchases.

My conclusion is that the easing of financial conditions resulting from non-traditional policy actions has had a material effect on both nominal and real growth and has demonstrably reduced the risk of particularly adverse outcomes. Nevertheless, I also conclude that, with the benefit of hindsight, monetary policy needed to be still more aggressive. Consequently, it was appropriate to recalibrate our policy stance, which is what happened at the last FOMC meeting.

As I argued in a recent speech, simple policy rules, including the most popular versions of the Taylor Rule, understate the degree of monetary support that may be required to achieve a given set of economic objectives in a post-financial crisis world. That is because such rules typically do not adjust for factors such as a time-varying neutral real interest rate, elevated risk spreads, or impaired transmission channels that can undercut the power of monetary policy.²

One reason that monetary policy may have been less powerful than normal is that one of the primary channels through which monetary policy influences the real economy—housing finance—has been partially impaired. This has both quantity and price dimensions. Credit availability to households with lower-rated credit scores remains limited and households with homes that have fallen sharply in value have lost most or all of their home equity and this makes it very difficult for them to refinance these mortgages.

Federal Reserve MBS purchases have succeeded in driving down mortgage rates to historically low levels. But these purchases would have had still more effect on the economy if pass-through rates from the secondary market to the primary market had been higher. As can be seen in [Exhibit 3](#), the Federal Reserve's purchases significantly narrowed the spread between agency MBS and Treasury yields, with the latest round of purchases notably effective in this regard. But, as shown in [Exhibit 4](#) the spread between primary mortgage rates and agency MBS yields³ has widened and this has limited the drop in primary mortgage rates.

The incomplete pass-through from agency MBS yields into primary mortgage rates is due to several factors—including a concentration of mortgage origination volumes at a few key financial institutions and mortgage rep and warranty requirements that discourage lending for home purchases and make financial institutions reluctant to refinance mortgages that have been originated elsewhere. On a related note, higher guarantee fees charges by Fannie Mae and Freddie Mac have increased the fixed cost of originating loans and this has also increased the spread between primary and secondary mortgage rates. Factors limiting pass-through warrant ongoing attention from policymakers.

Another reason why monetary policy has become less effective in stimulating the economy is because the impetus from a given

level of monetary accommodation likely has become attenuated—that is, less powerful—over time. Historically, attenuation has not been important because monetary policy typically has not stayed exceptionally easy for long periods of time. But this time is different and that difference may be important.

So how might the monetary policy impulse on economic activity have become attenuated over time? I would suggest two potential channels.

The first channel is that monetary policy works, in part, by changing the timing of purchase decisions. If interest rates decline, the drop in financing costs may induce some households to buy a motor vehicle or purchase a home now rather than in the future. Of course, if the car or home is purchased today, this will borrow at least a portion of those sales from the future. There is a limit to how many cars and homes most people will want to buy, given their budget constraints. In this case, as the stimulus from the policy stays in place, the impulse on economic growth will gradually "wear off" as there are fewer and fewer households who can be induced to pull their future planned purchases forward to the present. The same argument applies to mortgage refinancing activity. The stimulus comes from the refinancing activity, which increases the amount of income that borrowers have available for other expenditures. The impetus to growth wears off unless mortgage rates keep dropping, stimulating additional rounds of refinancing activity.

The second channel is that low interest rates will gradually reduce the interest income of savers and this could eventually affect their consumption. Household interest income has fallen considerably over the past few years.

This effect is likely to work quite slowly. The fact that interest rates are low for six months or a year probably does not have much impact on households' expectations of their long-term interest income and thus, does not have much of an impact on consumer spending. But, as low interest rates are sustained, this could eventually lead to a downward adjustment in households' assessments of their interest income over time and influence their spending.

One way to look at this is through the prism of forward real interest rates. If interest rate expectations many years forward have fallen, then expectations about the permanent level of interest income should have declined as well. As shown in [Exhibit 5](#), forward real rates five years ahead have declined notably over the past few years. This could be a reasonable proxy for savers' expectations. Note that the decline in [Exhibit 5](#) has not been precipitous, it has occurred very gradually over time.

However, policymaking is about making choices between available alternatives. In the long run, even savers would be better off in a world in which aggressive monetary policy generates a strengthening recovery that eventually permits the normalization of interest rates, than they would be compared to a circumstance in which the United States allowed itself to fall into a Japan-style trap of low growth and low rates for decades. So I do not view the effect of low rates on savers as a reason to be less accommodative.

Rather, in my view, the potential for the monetary policy impulse to be attenuated over time, is an additional reason to be aggressive in terms of the policy response. A more front-loaded program would avoid greater attenuation compared with a policy that started out less aggressive but added stimulus gradually over time. This has two benefits. First, it would likely be more successful in generating the desired recovery more quickly. Second, relative to a more back-loaded program, less would ultimately need to be done to achieve the desired set of outcomes.

The fact that there are asymmetric payoffs from an economy that is weaker than expected versus one that is stronger than expected, given that we are at the zero lower bound reinforces this conclusion. In particular, if the economy were to continue to underperform, and experienced a severe shock, there would be some risk of getting stuck in a deflationary situation in which monetary policy would be even less effective.

At the present time there is no conflict between our employment objective and our inflation objective, as I expect inflation to be at or below our 2 percent longer-run objective over the coming years. But shouldn't we also consider the costs associated with a more aggressive monetary policy of the kind adopted at the last FOMC meeting, especially when we are using non-traditional monetary policy tools?

Absolutely. We have carefully evaluated three potential sets of costs and will continue to review them.

The first set of costs stems from the risk that the current monetary policy regime could distort asset allocations and lead to renewed financial asset bubbles. We look at this issue on an ongoing basis. To date, there is little evidence of problems or excesses, but this could change as the recovery proceeds. If these costs were to rise, we would need to examine what steps could be taken on the macro-prudential front in response. Also, such developments would need to be incorporated into the monetary policy decision-making process.

The second set of costs stems from the risk that exit from this regime could prove difficult. In particular, some observers worry that the expansion of the Federal Reserve's balance sheet could ultimately prove inflationary. If that were the case, then I would regard the costs as exceptionally high.

Fortunately, I am confident that such fears are misplaced. That is because we now have the ability to pay interest on excess

reserves (IOER). This means we can keep inflation in check regardless the size of our balance sheet. If the recovery got underway in earnest and credit demand surged, we could slow down the rate of credit creation by raising the interest rate we pay on excess reserves. Banks wouldn't lend out funds at lower rates than what they can earn from holding reserves with us. As a result, a hike in the IOER would raise the level of interest rates throughout the economy and this would dampen any expansion of credit. Our ability to pay interest on excess reserves is an essential tool that we can use to avoid future inflation problems.⁴

We are mindful of the fact that there could still be confusion about how exit will take place. This could increase financial market volatility. To reduce this risk, the FOMC has published a set of exit principles. These principles lay out a roadmap about how exit is likely to occur: First, the end of reinvestment of maturing securities; second, an increase in short-term interest rates, and, third, the gradual sale of mortgage backed securities to shrink the magnitude of excess reserves in the system and ultimately to restore the Fed's balance sheet to a predominately all-Treasury portfolio.

A degree of humility is appropriate given the lack of experience as to how markets will respond when economic conditions eventually cause investors to anticipate exit. When asset purchases are anticipated to end or when asset sales begin to be anticipated, this will affect term premia in ways that cannot be precisely predicted in advance. That said, I do expect the repricing will prove manageable. We will seek to communicate so as to avoid generating sharp shifts in term premia and in long-term interest rates. Also, we will play close attention to ensure that financial institutions are managing their interest rate risks appropriately.

The third set of costs is the impact of higher short-term rates on the Federal Reserve's earnings and balance sheet when exit occurs. When we ultimately raise short-term interest rates, this will squeeze the Fed's net interest margin. Also, when the Fed sells long-term assets, there is some prospect for losses on these sales depending on the level of long-term interest rates at the time when such sales occur. This means that the Fed's earning could fall sharply or even turn negative in a given year. We look at this issue very closely to understand the risks here. The good news is that a very large proportion of our liabilities—those associated with currency outstanding—has no interest cost. This mitigates the risk of a sharp net interest margin squeeze. Moreover, our analysis shows that the cumulative income generated over the period in which the balance sheet has been unusually large is likely to exceed normal levels under a wide range of scenarios.

In my view, while the costs are real and need to be carefully evaluated, they pale relative to the costs of not achieving a sustainable economic recovery. A failure in that regard would lead to widespread chronic unemployment. Not only would that be tragic for millions of people, but it also would generate chronic shortfalls in the nation's potential output and fiscal capacity. Relative to the costs outlined above, the benefits from avoiding such an outcome seem overwhelming.

Cyclical and structural policy

Although I favor an aggressive monetary policy in the current situation, I also recognize that monetary policy is not a panacea. We all know that in the long run money is neutral—that is, that while monetary policy can help the economy return to full employment following a shock, the full employment level of output, employment and real income depends on factors outside of monetary policy. Also, we must recognize that the strength of the current cyclical recovery will depend importantly on non-monetary policy choices.

Other steps are needed to secure the best available economic outcome. In particular, attention should be paid to what could be done to capitalize on the recent stabilization in house prices to improve access to mortgage credit and to foster competition in mortgage origination to ensure a more complete pass-through of low secondary mortgage rates to households. Indeed, if balance sheet dynamics are more important and frictions around housing more powerful than we initially understood, then there should be strong payoff to policies that ease them.

At the same time, Congress and the White House should take steps that reduce the short-term and long-term uncertainty over fiscal policy. Currently, households and businesses face elevated short-term uncertainty as to what will happen to tax and spending policies in 2013 and how this will affect the economic outlook. I believe this is restraining hiring and investment today.

But families and businesses also face long-term uncertainty about how the country's fiscal challenges will be addressed. Providing greater clarity about the scope and terms of Social Security and Medicare must be helpful, especially in correcting those expectations that are unduly pessimistic. On this score, Social Security is particularly noteworthy. According to a 2011 Pew Research Center poll, more than 40 percent of people aged 18 to 30 believe they will receive no retirement income from Social Security, even though Social Security receipts are estimated to equal about 75 percent of benefits on a sustainable basis under the current regime.⁵

Congress and the White House should enact a fiscal program that starts with mild restraint, but credibly builds that restraint over time so as to put the nation's debt burden on a clearly sustainable course. Ideally, the program would have broad bipartisan support and provide clarity not just on the near-term outlook, but also about how the major entitlement programs would be adjusted.

Also, steps could be taken to increase the productive capacity of the economy over time. Such actions are desirable because a more productive economy will generate higher living standards and have greater fiscal capacity.

Let me briefly mention a few steps that could be taken to increase the economy's potential over time—immigration policies that attract workers with scarce skills to the United States; education policies and job retraining programs that build and replenish human capital; spending on infrastructure to remove bottlenecks; tax simplification and the elimination of tax policies that distort investment and saving decisions; regulatory policies that are attentive to costs and benefits and that emphasize getting the incentives right.

Counter-cyclical policies and structural policies are not substitutes, they are complements. We need both. The strength of demand today is importantly influenced by expectations about future living standards. The lower the expected path of national income, the less favorable the distribution of that income is expected to be, and the greater the uncertainty over the mix of tax rates and benefits a person or business expects to pay and receive, the less they will spend or invest today. Thus, policies that improve the long-run outlook make a cyclical recovery easier to achieve today.

Conversely, a monetary policy that promotes a cyclical recovery supports the economy's long-run prospects. Left for too long, long term unemployment will eventually lead to permanent atrophy of skills that will restrain the economy's growth potential. This is also true for the cohort of young workers who are stuck in jobs for which they are overqualified and who are having trouble securing the professional experience that would make them increasingly productive over time.

Although the outlook for the U.S. economy remains somewhat cloudy as we look into 2013, I remain a long-run optimist about where we are headed. The long term prospects of the U.S. economy are excellent. The United States leads the world in higher education, technology and innovation and has recently acquired new comparative advantages in energy. We have an exceptionally dynamic labor market, high rates of entrepreneurialism, competitive product markets, and a well-capitalized financial system that relentlessly reallocates capital from one sector to the next in search of higher returns.

Even over the next few years, while there are significant downside risks relating to the fiscal cliff and the eurozone, it is possible that the recovery could turn out stronger than expected. The underlying process of balance sheet repair is considerably advanced, housing is recovering and, as that occurs, our newly recalibrated monetary policy could gain additional traction. Thus, if uncertainties about the U.S. fiscal path and the future of the eurozone were resolved in a constructive manner, growth could pick up more vigorously than anticipated.

This would be a wonderful outcome. The September FOMC statement noted: the Committee expects "that a highly accommodative stance of monetary policy will remain appropriate for a considerable time after the recovery strengthens." Consistent with this, if we were to see some good news on growth I would not expect us to respond in a hasty manner. Only as we became confident that the recovery was securely established, would I expect our monetary policy stance to evolve to ensure that it remained appropriate to achievement of our objective: maximum sustainable employment in the context of price stability.

Thank you for your kind attention. I would welcome a few questions.

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¹ These lessons are evident in surveys of past financial crises and are examined in detail by Carmen Reinhart and Ken Rogoff in their superlative book, *This Time is Different: Eight Centuries of Financial Folly*.

² See Dudley (2012).

³ Primary mortgage rates are the rates paid by conforming borrowers; MBS yields are the rates received by investors.

⁴ In technical terms, we will be operating a floor-based system for implementing monetary policy rather than the traditional corridor-based system for a period.

⁵ Pew Research Center (2011). "Generations and Entitlements," November 3. <http://www.people-press.org/2011/11/03/section-6-generations-and-entitlements/>

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