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San Diego, CA  
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## **The Outlook for the Economy and Monetary Policy<sup>1</sup>**

Thank you, William. It's very nice to see a familiar face and to receive such a gracious introduction. And it's a pleasure to be here with you in beautiful San Diego. This morning, I will try to cover a lot of ground. I'll survey the economic landscape, and give you my reading of the outlook for the national economy. I'll also discuss the situation in San Diego and finish with some comments about monetary policy. In particular, I want to go over a matter that's on the minds of many people right now: the Federal Reserve's strategy for winding down the extraordinary measures taken during the financial and economic crisis of the past few years. My comments reflect my own views, and not necessarily those of my Federal Reserve colleagues.

Given the dismal economic news we faced for so long, it's a great relief for me to report that the tide appears to have turned. We are seeing convincing evidence that an economic recovery is well under way. Still, as I'll explain in greater detail in a few minutes, the fact that the economy is growing again doesn't mean we're where we ought to be. Far from it. In particular, the unemployment rate is unacceptably high, creating real hardship for millions of Americans. But, at least we're heading in the right direction.

Let me start with the good news. Real gross domestic product, or GDP, the broadest measure of a country's total output, has turned around impressively. It rose at a robust 5.7 percent annual rate in the fourth quarter of 2009. That's a very welcome change from the huge

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<sup>1</sup> I would like to thank Rob Valletta, John Williams, and Sam Zuckerman for assistance in preparing these remarks.

declines we saw during the recession. In fact, it's the best gain in GDP we've seen in six years. If we were able to sustain growth like this, we would experience a vibrant V-shaped upswing like those that occurred following past severe recessions.

Unfortunately, I'm not at all convinced that a V-shaped recovery is in the cards. That fourth-quarter leap in GDP overstates the underlying momentum of the economy. Much of it was due to a slowdown in the pace at which businesses were drawing down inventory stocks compared with earlier in the year. Less than half of the fourth-quarter growth reflected higher sales to customers. Those sales did grow, but at a lackluster 2.2 percent. It appears that businesses are getting their inventories closer in line with sales, which is a good thing. But such inventory adjustments can be a potent source of growth only for a few quarters. I'd feel much more confident about the prospect for a sustained robust recovery if I saw evidence of more vigorous growth in actual sales.

On that front, the most recent data show consumers releasing somewhat their tight grips on their wallets. But that doesn't mean that people have thrown caution to the wind and returned to their spendthrift ways. Indeed, my business contacts tell me the consumer mindset is still in a fragile state. Clearly, the big weight hanging over everyone's heads is jobs. The current high level of unemployment is severely restraining income and undermining confidence as people worry whether they will have a paycheck in the months ahead. Even those with secure jobs may worry about their finances since debt burdens were near historic highs at the onset of the financial crisis and, since then, equity and house prices have declined sharply. At this point, households are actually paying down debt, a development that partly reflects the reluctance of banks to lend to households with battered balance sheets.

The housing sector appears to have stabilized, but here too I don't see any signs of a sharp turnaround. New home sales and construction finally stopped falling last year and have been reasonably stable, albeit at very low levels, for several months. Existing home sales surged late last year in response to the homebuyer tax credit. But, the credit expires this spring, so this source of support won't be around much longer. The housing sector has also been benefiting from the Fed's policy of buying mortgage-backed securities. These purchases appear to have helped keep home finance rates low. But, the Fed is now in the process of tapering off these purchases and plans to stop them at the end of March. As support from Federal Reserve and other government programs phases out, there is a risk that the housing market could weaken again.

If the consumer and housing sectors aren't up to the task of delivering a V-shaped recovery, can business investment spending do it? It's true that, in past recoveries, business investment typically grew rapidly once the economy turned the corner. And, in the current recession, businesses sharply curtailed capital expenditures, so they will eventually need to rebuild capacity and replace old equipment. In fact, we have already seen a rebound in business spending on equipment and software, and recent indicators for this type of spending point to solid growth.

Arguing against too much optimism, however, is that businesses remain very nervous and exceedingly cost conscious. One of my contacts referred to a "scarring effect" in the wake of the recession that has left businesses focused on survival and leery of investing. Many businesspeople say they are concentrating instead on process improvements, keeping supply chains lean, waiting for purchase orders before they produce, and meeting increases in demand

with higher productivity from their existing workforces. True, they are beginning to plan with greater confidence. But the watchword remains caution.

Even for those businesses ready to expand—especially smaller ones—financing remains an impediment. Credit is becoming more available, but terms such as collateral requirements can be onerous. What’s more, the crisis made businesses keenly aware that they can’t count on being able to get credit. Some of my contacts say they plan to keep more cash on hand, rather than investing it, as protection against a renewed credit crunch.

Meanwhile, commercial real estate remains a bleak spot and investment in nonresidential structures is likely to stay depressed for some time. The recession drove up vacancy rates for office, retail, warehouse, and other income-producing properties, severely reducing demand for new buildings. In addition, credit is tight. Lenders and investors are demanding extra compensation for risk, driving up commercial real estate financing rates compared with pre-recession levels. And the market for commercial mortgage-backed securities remains distressed, despite support from the Fed’s Term Asset-Backed Securities Loan Facility, or TALF. So, I just don’t see this sector contributing to growth for quite some time.<sup>2</sup>

Put it all together and you have a recipe for a moderate rate of economic growth, well below the spritely pace set in the fourth quarter. The current quarter appears on course to post growth of around 3 percent. I see the economy gradually picking up steam over the remainder of this year as households and businesses regain confidence, financial conditions improve, and banks increase the supply of credit. I expect growth of about 3½ percent for the year as a whole,

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<sup>2</sup> See Yellen 2009 for an in-depth discussion of commercial real estate.

picking up to about 4½ percent next year, with private demand coming on line to pick up the slack as government stimulus programs fade away.

In addition to some of the weak spots I already mentioned, a number of other factors are holding back recovery. First, even though the banking and financial systems are gaining strength, they still bear wounds from the financial crisis, and these will take a long time to fully heal. Second, losses on mortgages, commercial real estate credits, and other loans continue to mount, and the full weight of foreclosures and bank failures on the economy has yet to be felt. Finally, the Fed, as well as central banks in other countries, has faced limits in the amount of monetary stimulus we have been able to generate. That's because we can't push interest rates below the near-zero level where they've been for more than a year. To be sure, we've developed many innovative programs to make credit cheaper and more readily available. But, all in all, monetary policy can't give the same kick to the economy that it delivered in past recoveries.

Earlier I noted that, even though the recession appears to be over, it does not mean that we are where we want to be. Even with my moderate growth forecast, the economy will be operating well below its potential for several years. Economists think in terms of what we call the "output gap," which measures the difference between the actual level of GDP and the level where GDP would be if the economy were operating at full employment. The output gap was around negative 6 percent in the fourth quarter of 2009, based on Congressional Budget Office estimates. That's a very big number and it means the U.S. economy was producing 6 percent less than it could have had we been at full employment. That's equivalent to more than \$900 billion of lost output per year, or roughly \$3,000 per person.

I'm afraid that the economy will continue to operate well below its potential throughout this year and next. Let me do a little math for you. The San Francisco Fed estimates that the potential level of output is increasing roughly 2½ percent a year due to growth in the labor force and increases in productivity. Hence, over the next two years, potential output will increase by about 5 percent. My forecast is that real GDP will increase about 8 percent during that period, or 3 percentage points more than potential output. This implies that the output gap will shrink from its current level of negative 6 percent to around negative 3 percent by the end of 2011. In fact, I don't expect the output gap to completely vanish until sometime in 2013.

This brings us to a subject that is of paramount concern to all of us—the job situation. This recession has been very severe, indeed. The U.S. economy has shed 8.4 million jobs since December 2007. That's more than a 6 percent drop in payrolls, the largest percentage point decline since the demobilization following World War II. The unemployment rate, which was 5 percent at the start of the recession, rose to around 10 percent in late 2009. The rates of job openings and hiring are also stuck at very low levels. These statistics represent a tragedy for our country, our communities, and each of the families and individuals who have had to cope with a loss of livelihood.

There is a glimmer of good news on the employment front. The pace of job losses has slowed dramatically and some indicators, such as gains in temporary jobs, suggest that we may be close to a turnaround in the labor market. I was encouraged to see the unemployment rate drop from 10 percent to 9.7 percent in January. Nonetheless, given my forecast of moderate growth and a shrinking, but still sizable, output gap, I expect unemployment to remain painfully high for years. The rate should edge down from its current level to about 9¼ percent by the end of this year and still be about 8 percent by the end of 2011, a far cry from full employment.

I should warn that there is a great deal of uncertainty surrounding this forecast. In the past, a given level of economic growth produced a more-or-less predictable change in the unemployment rate. Historically, a pattern emerged in which unemployment declined by half as much as the difference in the growth rates of actual and potential GDP. This is commonly referred to as “Okun’s law” after the economist Arthur Okun, who first described this relationship back in the 1960s.

Let me sketch out how this should work. In my forecast, GDP growth exceeds the growth rate of potential GDP by 1 percentage point this year and 2 percentage points next year. According to Okun’s law, the unemployment rate should fall by about one-half percentage point by the end of this year and a full percentage point during 2011. These figures are in line with my unemployment forecast.

However, Okun’s law let us down big-time in 2009. Given that GDP was stagnant last year, the unemployment rate should have gone up by about 1¼ percentage points, according to Okun’s law. In fact, it shot up 3 percentage points. Understanding what happened last year has important implications for what unemployment does in the future.

Economists have come up with a number of possible explanations for why the unemployment rate rose so much last year. The first explanation for the failure of Okun’s law is that special factors not directly related to output growth may be pushing up the unemployment rate. One possibility is that the severe recession is fundamentally altering the labor market, shifting jobs away from such sectors as manufacturing, real estate, and finance to other sectors. This reallocation takes time. Until it is complete, we will see higher levels of unemployment. A second possibility is that extended unemployment benefits are artificially boosting reported

unemployment rates because workers who collect unemployment checks may be saying they are looking for work even if they have given up. In the past, such people might not have said they were searching for jobs and would no longer have been considered part of the labor force and counted in the official unemployment statistics.

Still, there is little evidence that structural shifts in the labor market or extended unemployment benefits have had large effects on the unemployment rate. Take the unemployment benefits explanation. If true, we would expect to see a large increase in the labor force participation rate, that is, the percentage of people who are working or saying they are looking for work. In fact, currently, the labor force participation rate does not appear to be unusually high.

A second possible explanation is that last year's enormous decline in employment was somehow an aberration. GDP was basically unchanged over the four quarters of 2009. But payroll employment fell by 4 percent over the same period. In other words, the economy produced roughly the same quantity of goods and services with 4 percent fewer workers, which translates into a 4 percent increase in output per worker. That's a huge rate of productivity growth, well above estimates of the long-term trend in productivity gains that stem from such factors as improved technology. So, if we ask where Okun's law went astray, we can see the fingerprints of this unusual pattern of employment and productivity last year. But that's not the end of the mystery. What would cause employment to dive and productivity to soar during such a severe recession? And is it a temporary or permanent phenomenon?

Those who believe it's temporary point to the unusual nature of this terrible financial crisis and recession. Its severity made employers believe that it would be a long time, if ever,



before they would need as many workers as they previously had. The credit crunch may also have caused some to fear that they wouldn't be able to borrow in order to meet their payrolls. These factors prompted employers to break from the normal cyclical pattern in which workers are laid off relatively slowly and some are kept in reserve in case demand picks up. In this scenario, workforces have been cut to the bone and perhaps beyond. Businesses were able to continue to produce the same level of output despite big cuts in their workforces by working their employees harder. But that can only go so far. If demand continues to increase and businesses become more confident, they will eventually begin hiring again. If so, productivity growth will slow and the unemployment rate will fall faster than usual, reversing its unusual rise last year.

There is an alternative explanation regarding the events of last year though that bodes poorly for rapid employment gains going forward. According to this view, last year's large increase in productivity is here to stay. In that case, we won't see a quick drop in unemployment and may be in for a jobless recovery akin to those in the early 1990s and early 2000s. This is closer to my view and broadly consistent with my forecast.

According to this perspective, the recession has forced businesses to reexamine just about everything they do with an eye toward restraining costs and boosting efficiency. Strapped by tight credit and plummeting sales, businesses have overhauled the way they manage supply chains, inventory, production practices, and staffing. Stores don't order merchandise unless they think they can sell it right away. Manufacturers and builders don't produce unless they have buyers lined up. My business contacts describe this as a paradigm shift and they believe it's permanent. This process of implementing new efficiency gains may have only begun and we

may be in store for further efficiency improvements and high productivity growth for some time. If so, the rate of job creation will be frustratingly slow.

I'd like to bring this discussion home now by talking a little about San Diego. Obviously, the area economy was hit hard during the recession, but it does seem to have weathered the storm better than many areas of California. And, significantly, the San Diego area has shown signs of a job market turnaround in recent months. Employment grew notably in October and the gains were largely maintained in November and December. To be sure, San Diego still has far to go. The unemployment rate was significantly above the national average in December, the most recent data we have.

San Diego is among the nation's leading biotechnology centers and this industry has been a bright spot. Biotech accounts for about two-and-a-half times as great a share of employment and income here as it does nationwide. Biotech wasn't entirely immune—if I may use that word—to the recession. But demand for medical services continued to expand and that supported the industry. It appears that local biotech employment has largely held up during the past two years. Makers of pharmaceuticals, medical equipment manufacturers, and providers of research and development services even registered significant employment gains. Moreover, growth should continue. After bottoming out in early 2009, venture capital spending has risen substantially, with an important share going to biotech.

The local housing market appears to be improving as well. Fortunately, San Diego never saw as big a subprime mortgage boom as Nevada, Arizona, and some other places in California. Nevertheless, home foreclosures have surged in the San Diego area, rising from under 1 percent in the fall of 2007 to slightly over 3 percent of existing mortgages in December of last year. The

trend, though, may be heading in the right direction. Foreclosures declined slightly in San Diego in December, even as they continued to rise nationwide.

Overall, the San Diego economy will likely recover along with the national economy. At the same time, I would not be too surprised to see the recovery take hold here with a bit more vigor than in the nation as a whole for the reasons I mentioned a moment ago.

Let me move on to the outlook for inflation nationwide. You can get into quite a debate on this topic. Some people worry that sustained federal budget deficits and the huge increase in the Federal Reserve's lending and stimulus programs could eventually lead to high inflation. Others take the opposite view, arguing that economic slack and downward pressure on wages and prices are pushing inflation down. I would put myself squarely in the second camp.

I'm no fan of persistently large budget deficits. I've warned against them throughout my career. But the real danger I see from them is not inflation. Rather, they may be harmful once the economy recovers because they are apt to boost interest rates and absorb private savings that would otherwise finance productive investments. This is potentially a serious problem in the long term that could reduce investment and lower living standards, although, in the short run, federal deficits have cushioned the blow from the financial crisis and recession. As far as inflation is concerned, there's no evidence that big government deficits cause high inflation in advanced economies with independent central banks, such as the Fed. Japan is a case in point. Japan has run enormous fiscal deficits for many years and its government debt has risen to very high levels. Yet it has suffered from persistent deflation, not inflation.

I believe that the more worrisome challenge for price stability over the next few years stems primarily from the sizable amount of slack in the economy. Whether measured by the output gap, the unemployment rate, the manufacturing capacity utilization rate, or whichever measure you like, the economy is running well below its potential. As a result, inflation is already very low and trending downward. Over the past 12 months, the personal consumption price index, excluding volatile food and energy prices, rose a modest 1.5 percent. This increase in core inflation was below the 2 percent rate that I and most of my fellow Fed policymakers on the Federal Open Market Committee (FOMC) consider an appropriate long-term price stability objective. And, with slack likely to persist for years and wages barely rising, it seems quite possible that core inflation will move even lower this year and next.

So where does all this leave Federal Reserve policy? Traditionally, the main tool of Fed monetary policy is the federal funds rate, which is what banks charge each other for overnight loans. The Fed controls that rate by varying the amount of reserves it supplies to the banking system and we have pushed that rate to zero for all practical purposes. This is as low as it can go. Such accommodative policy is appropriate, in my view, because the economy is operating well below its potential and inflation is undesirably low. I believe this is not the time to be removing monetary stimulus. Consistent with that view, the FOMC has repeatedly stated that it expects low interest rates to continue for an extended period.

Of course, in response to financial and economic emergency, the Fed has done a lot more than simply lower the federal funds rate. It has provided secured loans to banks and other financial institutions to make sure key credit markets were functioning. It is also in the last stages of purchasing \$1.25 trillion dollars of mortgage-backed securities guaranteed by agencies such as Fannie Mae and Freddie Mac, and \$175 billion of the direct debt of these agencies.

These programs were vital in preventing a complete financial breakdown, which would have done immeasurable damage to our society.

As financial and economic conditions improve, the need for such extraordinary support diminishes. Accordingly, the Fed has begun to phase out its emergency lending programs. Special lending programs for primary dealers in the Treasury securities market, for money market mutual funds, and for corporate short-term debt have already been ended. So too have we shut down special arrangements to make dollars available to foreign central banks. The Term Auction Facility (TAF) and the TALF, which respectively supported financial institutions and credit markets, will be largely closed next month.<sup>3</sup> Finally, the Federal Reserve has readjusted the terms of its loans to banks and thrifts—so-called discount window lending. During the financial crisis, we encouraged depository institutions to borrow from us when they needed cash to meet essential obligations. Now that financial markets are functioning more normally, banks can meet their usual funding needs by tapping private markets.

As we carried out our emergency lending programs and eased monetary policy in response to the recession, our balance sheet swelled from roughly \$800 billion to its current level of over \$2.2 trillion. Despite the reduction in our lending programs, our balance sheet remains, for want of a better word, enormous, owing to our holdings of mortgage-backed securities and agency debt. Now I just said this is not the time to be tightening monetary policy. But eventually the economy will gain enough momentum and won't need today's extraordinarily low interest rates. When that time comes, we will begin to tighten policy and remove monetary stimulus. And when we start doing so, we will face some technical issues due to the size of the

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<sup>3</sup> The TALF for loans backed by new-issue commercial mortgage-backed securities will remain open until June 30.

balance sheet, as Chairman Bernanke noted in recent Congressional testimony.<sup>4</sup> Let me briefly outline our strategy.

In normal times, the Fed raises interest rates by reducing the size of its balance sheet, say by selling Treasury securities to the public. This draws in cash from the economy, or, as we say, reduces the supply of bank reserves, which in turn causes the price of those reserves, that is, the federal funds rate, to go up. Since the fed funds rate is the benchmark for banks' cost of money, other short-term market interest rates tend to follow suit. Higher interest rates in turn help slow the economy and reduce inflationary pressures.

But these aren't normal times. Our securities purchases have caused the quantity of reserves in the banking system to swell to something like \$1 trillion—far above the pre-crisis level of around \$50 billion. If we were to follow our standard approach of selling securities to raise interest rates, we would have to sell off many hundreds of billions of dollars of securities to reduce the supply of reserves enough to have any chance of pushing rates higher.

The problem with doing that is that such massive sales of mortgage-related and Treasury securities could be disruptive to markets and cause mortgage interest rates and other long-term rates to shoot up when we are still in the early stages of the recovery and the financial system, although improving, is still not at full health.

There is an alternative. To push up short-term interest rates without selling off our securities holdings, we can instead raise the interest rate that we pay on reserves held at the Fed. Because banks would have the opportunity to collect a higher reward for keeping funds on deposit at the Fed, they would demand commensurately higher returns on the overnight loans

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<sup>4</sup> See Bernanke 2010.

that they make in the federal funds market. So an increase in the interest rate paid on reserves would raise the fed funds rate and tighten financial conditions more generally. The ability to pay interest on the excess reserves that banks deposit with the Fed is an important new tool that Congress gave us just over a year ago. It will play a lead role when the time ultimately comes to tighten monetary policy. And, to make sure this works smoothly, we have developed some technical tools that can help keep the federal funds rate near our preferred target.<sup>5</sup> Eventually, after economic conditions have improved and a policy tightening has begun, we may then start a gradual process of selling securities in order to help return the Fed's balance sheet to its pre-crisis levels.

The bottom line is that we are already unwinding the emergency programs we set up during the financial crisis. When the day comes to start raising rates again, we have tools at the ready. But, for the time being, the economy still needs the support of extraordinarily low rates. Thank you very much.

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<sup>5</sup> See Bernanke 2010 for a discussion of reverse repurchase operations and the term deposit facility.

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