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President Janet L. Yellen presented similar remarks to the California Independent Bankers 16th Annual Convention in Laguna Beach, California on October 9, 2006.

Prospects for the U.S. Economy

Association of Northern California today. In my remarks, I plan to give you my sense of where the U.S. economy and inflation are headed and to draw out the implications for monetary policy. Though I do not plan to discuss the economies of Hong Kong or Asia in general in this context, I do want to assure you that they remain very much a focus of the Bank's attention. In our Economic Research Department, we have the long-established Center for Pacific Basin Studies, and in our Supervision and Regulation Division, we have the Country Analysis Unit. Both groups produce publications, programs, and conferences focused on Asia. In fact, we recently launched a website that coordinates the information on their activities. For those who'd like to follow up, I've brought along a description of the site as well as a couple of other publications.

Because of our location, it makes sense, of course, for the San Francisco Fed to have a special interest in Asia and to bring our perspectives on that region of the world to bear on both U.S. monetary policy and regulatory policy. I should add that Asia is not only an area that we study, it's also an area I have the pleasure to visit. Each year, I join the Federal Reserve Governor responsible for liaison with Asia on a "fact-finding" trip to the region. These trips advance the Bank's broad objectives of serving as a repository of expertise on economic, banking, and financial issues relating to the Pacific Basin and of building ties with policymakers and economic officials there. This year—in fact, next

month—I will spend a week in China with Federal Reserve Governor Kevin Warsh, who joined the Board last February. We will visit Beijing, Chengdu, and Shanghai, and, as always I'm very excited about the trip. I also feel especially fortunate to be able to meet with you beforehand to get your views on developments in the region. So I look forward to a lively and informative question and answer session following my remarks on the U.S. economic outlook. Before I begin, let me note that my comments represent my own views and not necessarily those of my colleagues in the Federal Reserve System.

One of the main things I want to focus on is what this outlook implies for monetary policy, and, in particular, I'll discuss the decision at the last meeting of the Federal Open Market Committee. As you know, that was the second consecutive time that the Committee decided to hold the federal funds rate at 5½ percent, after having raised it by one-quarter percentage point at each of the prior seventeen meetings. So my plan is to go into some of my reasoning for supporting the approach underlying that decision.

To do that, I need to step back a little in time, because where the economy is now and where I think it is headed have a lot to do with how we got here in the first place. Let me take you back to mid-2004, when the Fed first began to raise the federal funds rate. This move followed a long period—about a year and a half—of holding the rate at a very low 1 to 1¼ percent to provide the stimulus needed to reduce the risk of outright deflation. Eventually, that stimulus, together with the general resilience of our economic system, did help the economy pick up steam. By June of 2004, the threat of deflation had passed, and it was time to start removing monetary stimulus. And, as I said, that's what the Committee did, one quarter-percentage-point step at a time. In fact, if you chart the

path of the funds rate since then, it looks a lot like a staircase, or, as some have dubbed it, an escalator. Over the course of much of this time, the economy averaged solid growth—or even *better* than solid growth; in fact, the economy was growing at a pace that was noticeably higher than estimates of the rate it can sustain in the long run.

With this strong performance, we also have seen the slack in labor and product markets dwindle. For example, the civilian unemployment rate dropped by 1 percentage point to 4.6 percent in September. This rate is a bit lower than conventional estimates of so-called "full employment" and, therefore, suggests that by now labor markets may even have moved a bit to the tight side.

At the same time, inflation rose, and it has been higher for some time now than I like to see it—not only headline inflation, but also the core measure, which excludes the volatile food and energy components. The particular inflation measure the Committee focuses on in its Monetary Policy Report to Congress is the core personal consumption expenditures price index. Over the past year, it rose at nearly a 2½ percent rate.

Although I'm somewhat encouraged that various measures of core inflation have edged down recently, it's clear that more progress is needed.

At the August meeting, it seemed that the signs of a slowdown in economic activity were starting to show up, at least in part because of the Fed's previous efforts to remove monetary accommodation. Inflationary pressures also seemed reasonably likely to gradually abate. So, at that time, the Committee decided to pause—to "step off the escalator" and wait a while to see how the previous funds rate increases and other influences on the economy were playing out. Since then, there have been further signs of

slowing, and at the September meeting, the Committee again decided in favor of a pause—to "stay on the landing," so to speak, leaving the funds rate at 51/4 percent.

Prospects for Economic Activity

Now that I've covered how we got here, the questions are, where are we exactly, and what is the likely outlook for economic activity and inflation?

First, the economy. As I mentioned, the data we've been seeing in recent months point to a noticeable slowdown for this half of the year, with growth running at only a modest pace and clearly below the rate that is sustainable in the long run. Naturally, there are forces both supporting growth and restraining it, so let me enumerate some of them here.

The factors working to support growth include ongoing strength in business demand, fueling relatively rapid growth in spending on business investment in equipment and software, including the important high-tech industries. Moreover, spending for the construction of nonresidential structures has advanced smartly so far this year, and promises to remain strong for a while longer. For example, outlays on drilling and mining structures have continued to increase in response to oil prices that are still high and expected to remain so. Furthermore, fundamentals in commercial real estate markets continued to improve this year, increasing demand for commercial space from office parks to warehouses. Going forward, even at a more moderate pace of economic expansion, private forecasters expect the positive trends in commercial real estate in both California and the nation to continue but to moderate next year as capacity comes online. I should note, however, that the Bay Area is a bit of an exception. Vacancy rates in San Francisco and San Jose still remain above their median for the past ten-year period,

although they are vastly better than during the days of the dot-com bust. On a positive note, gross rents have risen in San Francisco, Oakland, San Jose, and Sacramento.

Now for the factors that are likely to restrain the nation's economic growth. One obvious factor, of course, is energy prices. It is quite likely that the surge in the price of oil over the past couple of years has taken a bite out of consumer spending, even if other factors, like growth of jobs, wages, and wealth, have kept consumption moving up overall.

Needless to say, it has been something of a relief to see that oil prices have receded quite a bit in recent months, probably because threats to supply from the Middle East conflict and from the Gulf Coast hurricane season have eased. At this point, futures markets expect them to stabilize around the current lower levels, and if they do, the restraint we've felt this year should evaporate over 2007; in fact, more stable oil prices would actually contribute to a pickup in growth next year. Of course, given the well-known volatility of energy markets, that's a very big "if," so they remain a wild card in the outlook as usual.

The high price of oil is also hitting the auto industry, in particular, U.S. auto production, and that is another factor working to slow our economy. People aren't just groaning every time they pump gas and watch the numbers roll up and up, they're also looking for more fuel-efficient vehicles. That's good news for some of the foreign automakers, but not such good news for some U.S. producers, for whom SUVs and trucks have been a key source of strength. As the demand for these vehicles has dropped pretty sharply, producers find themselves holding unsustainably high inventories. So it's little wonder that we should have read recently about Ford or GM offering buyouts to their

employees as they move to ramp down production. These production cuts will likely slow overall real GDP growth in the U.S. until the adjustment to a lower level is reached, most likely next year.

Another factor restraining growth is the rise in interest rates over the past couple of years as the Fed has removed monetary policy accommodation. Since this process began in mid-2004, short- and intermediate-term interest rates are up substantially. Long-term rates present a more mixed picture, with some—such as conventional mortgage rates—essentially the same and others actually lower than before. Nonetheless, the overall effect of these rate changes should be to reduce demand, particularly in interest-sensitive sectors.

Of course, housing is a particularly interest-sensitive sector, and, as we know, it already has shown clear signs of cooling. Frankly, the pace of it has been a little surprising. Nationally, housing permits are down noticeably—by more than 20 percent—from a year ago. In addition, inventories of unsold houses are up significantly, sales of new and existing homes are off their peaks, and surveys of homebuyers and builders are showing much more pessimistic attitudes.

The national data on residential investment reflect all of these developments and enter directly into the calculation of real GDP growth. After adjusting for inflation, (real) residential investment dropped at an 11 percent annual rate in the second quarter following two small declines in the prior two quarters.

The California data, not surprisingly, show even more softening in the housing market. For the first half of this year, quarterly average home sales in California are down nearly four times as much as they are nationwide, and new housing activity also

has slowed more dramatically in the state and in the Bay Area. The local exception is the San Jose-Santa Clara area, where the decline in new single-family housing permits this year has been more moderate, presumably because of the relative strength of the Silicon Valley's tech firms.

According to some of our contacts elsewhere in this Federal Reserve District, data like these are actually "behind the curve," and they're willing to bet that things will get worse before they get better. For example, a major home builder has told me that the share of unsold homes has topped 80 percent in some of the new subdivisions around Phoenix and Las Vegas, which he labeled the new "ghost towns" of the West. Though the situation isn't that bad everywhere, a significant buildup of home inventory implies that permits and starts may continue to fall and the market may not recover for several years. While builders remain hesitant to cut prices so far, and instead offer sales incentives, price cuts at some point in the future seem almost inevitable.

Indeed, we have already seen that the pace of house-price appreciation has clearly moderated, and there are signs that it may continue. For example, one indicator we have been following is the Case-Shiller house price index, which is based on house price data in ten large urban markets—three of which are in California, by the way. Beginning in May of this year, futures contracts on this price index began trading, and they show house prices falling at about a 6 percent annual rate by the end of this year. Though this is still a very new and pretty thin market, the results are interesting and suggestive.

Significant movements in house prices can be an issue for economic activity. Just as the run-up in house prices provided some support for consumer spending, slower increases, and especially outright decreases, could weaken that support. For example,

back when house prices were rising so fast, people saw that more and more equity was being built up in their houses, and they might well have felt that they could afford to spend pretty freely. In economic terms, this is called the "wealth effect." In addition, with instruments like home equity loans, refinancing, and so on, households have found it much easier to pull money out of their rising house values to support their spending. Now, with the pace of house-price appreciation slowing, of course, their equity is not rising so fast anymore, which may weaken the growth in consumer spending. In California, the impact of a vanishing wealth effect might be quite significant because over the past year the state has seen a more rapid deceleration in housing prices than the nation. In fact, two northern California metropolitan areas, San Mateo and Sacramento even reported declines in house prices over the past year.

Prospects for Inflation

Now let me turn to the outlook for inflation. As I've indicated, core consumer inflation has been uncomfortably high recently. Therefore, in keeping with the Committee's responsibilities for promoting price stability for the nation, I believe it is critical that inflation trend in a downward direction over the medium term. Indeed, my expectation is that this is the most likely outcome for several reasons.

First, as I've explained, the economy appears to have entered a period of belowtrend growth. If this continues for a time, as I think is likely, the tightness we have seen in labor and product markets would ease somewhat, tending gradually to reverse any underlying inflationary pressures.

A second reason to expect inflationary pressures to lessen has to do with the impact of stabilizing, or even falling, oil prices on core inflation. As I mentioned, core

inflation, by definition, excludes energy prices, but energy prices may affect core inflation to the extent that they affect the prices of other goods and services. For example, transport companies might raise their prices to pass along the higher costs of filling their trucks' gas tanks. This is known as "passthrough," and it is likely that it has played at least some role in recent core inflation movements. Now that energy prices have fallen a fair bit from recent highs and are expected by futures markets to remain at those lower levels, this upward pressure on core inflation is likely to dissipate and could even turn into modest downward pressure at some point.

But let me note that we shouldn't exaggerate the importance of this point. Recent analysis suggests that the extent of passthrough for any given rise in energy prices has been lower in the past twenty-five years than it was back in the 1970s. For a specific example, consider airfares, which have increased markedly over the past year. Considering that jet fuel accounts for one-eighth to one-fourth of airlines' operating costs, it would make sense to think they have passed through higher fuel prices into airfare increases. However, some simple calculations show that the cost increases from rising jet fuel are likely insufficient to explain more than a portion of the airfare increases, and that higher load factors are likely to be part of the explanation.

The final reason to be optimistic about inflation moving lower is that inflation expectations appear to have been well anchored over the past ten years or so as the Fed has established its credibility with the public about both its commitment to and its competence in keeping inflation at low and stable rates. For example, in the face of the large oil price increases we've seen in recent years, this credibility shows up in the

¹ Mark Hooker, "Are Oil Shocks Inflationary? Asymmetric and Nonlinear Specifications versus Changes in Regime," *Journal of Money, Credit, and Banking*, May 2002.

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stability of survey and market measures of inflation expectations looking ten years ahead.2

Statistical analysis of the behavior of core inflation over time also lends some support to the view that inflation expectations are well anchored. In such statistical analyses, the inflation data historically have exhibited persistence. This basically means that, when you're forecasting inflation, it works pretty well to assume that the rate in the future will be the same as it is today. The implication of persistence is frankly worrisome: Since inflation is too high today, persistence implies it could stay too high for an extended period.

However, research suggests that if a central bank's commitment to price stability has gained credibility with the public, then the persistence observed in the inflation data will tend to be dampened. And as it turns out, recent research at the Federal Reserve Bank of San Francisco finds less evidence of persistence during the past ten years.³ That is, rather than sticking at a certain rate, core inflation has tended to revert to its long-run average, which, over that period, is between 1-1/2 to 2 percent. Admittedly, the past ten years constitute a relatively small sample from which to draw definitive conclusions. Nonetheless, this evidence is important because, if it holds up, it implies that inflation may move down from its elevated level faster than many forecasters expect.

I would like to stress that a finding of low persistence in inflation is no reason for the Fed to rest on its laurels of credibility. Rather, credibility is something that neither

² Bharat Trehan with Jason Tjosvold, "Inflation Targets and Inflation Expectations: Some Evidence from the Recent Oil Shocks," FRBSF Economic Letter, number 2006-22, September 1, 2006. http://www.frbsf.org/publications/economics/letter/2006/el2006-22.html

³ John C. Williams, "The Phillips Curve in an Era of Well-Anchored Inflation Expectations," unpublished paper, http://www.frbsf.org/economics/economists/staff.php?jwilliams. A less technical version with the same title is forthcoming as FRBSF Economic Letter 2006-27 (October 13, 2006) http://www.frbsf.org/publications/economics/letter/

I—nor my colleagues—take for granted for a moment. We know full well that maintaining credibility requires that we act when necessary to keep inflation under control.

So, in summary, I think there are a number of reasons to expect core inflation to trend gradually lower in the future. However, I am keenly aware that this pattern has yet to show up in the data on any sort of a sustained basis. The inflation outlook remains highly uncertain, and until we actually see inflation begin to slow down, I will be focused on the upside risks in the outlook.

Policy issues

This leads me back to where I began—monetary policy and the Committee's decisions at the last two meetings to pause for a time after 17 quarter-point rate hikes in a row. Why does a pause make sense to me now, while at the same time I say I'm worried that inflation is too high? My answer is that I do want to see inflation move down, but I believe policy may now be well-positioned to foster exactly such an outcome while also giving due consideration to the risks to economic activity.

The stance of policy can be assessed by a variety of metrics. These measures include the forecast I have outlined today, as well as the recommendations from commonly used monetary policy rules. Taken as a whole, such rules—often referred to as Taylor rules—indicate that the funds rate is currently within the moderately restrictive range that appears appropriate,

If policy is now well positioned, it will still take time for inflation to unwind due to lags between policy actions and their impacts on economic activity and inflation.

These lags can be anywhere from several months to a couple of years. This means that

we have yet to see the full effects of the series of 17 funds rate increases—some are probably still in the pipeline.

You will note that I am casting my statements about the stance of policy and the outlook in very conditional terms. I do this because of the great uncertainty that surrounds these issues. Frankly, all approaches to assessing the stance of policy are inherently imprecise. Just as imprecise is our understanding of how long the lags will be between our policy actions and their impacts on the economy and inflation. This uncertainty argues, then, for policy to be responsive to the data as it emerges, especially as we get within range of the desired policy setting. The decision to pause allows us more time to observe the data so that appropriate adjustments can be made over time. For example, with the passage of time, we will gain more information on whether we have done enough to assure that inflation moves gradually lower.

In summary, monetary policymakers again are doing a balancing act, seeking the best way to temper inflationary pressures while not exposing the business cycle expansion to undue risk. Holding the stance of policy steady for a time makes sense to me. First, we appear to be within range of the moderately restrictive policy setting that seems appropriate. Second, pausing gives us time to observe the effects of previous policy actions and other factors to allow for adjustments to the policy setting that will keep us moving toward the desired outcome for inflation, output, and employment.