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Monetary Policy Objectives and Tools in a Low-Inflation Environment

Remarks by

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at

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The topic of this conference--the formulation and conduct of monetary policy in a low-inflation environment--is timely indeed. From the late 1960s until a decade or so ago, bringing inflation under control was viewed as the greatest challenge facing central banks around the world. Through the application of improved policy frameworks, involving both greater transparency and increased independence from short-term political influences, as well as through continued focus and persistence, central banks have largely achieved that goal. In turn, the progress against inflation increased the stability and predictability of the economic environment and thus contributed significantly to improvements in economic performance, not least in many emerging market nations that in previous eras had suffered bouts of very high inflation. Moreover, success greatly enhanced the credibility of central banks' commitment to price stability, and that credibility further supported stability and confidence. Retaining that credibility is of utmost importance.

Although the attainment of price stability after a period of higher inflation was a landmark achievement, monetary policymaking in an era of low inflation has not proved to be entirely straightforward. In the 1980s and 1990s, few ever questioned the desired direction for inflation; lower was always better. During those years, the key questions related to tactics: How quickly should inflation be reduced? Should the central bank be proactive or "opportunistic" in reducing inflation? As average inflation levels declined, however, the issues became more complex. The statement of the Federal Open Market Committee (FOMC) following its May 2003 meeting was something of a watershed, in that it noted that, in the Committee's view, further disinflation would be "unwelcome." In other words, the risks to price stability had become two-sided: With inflation close to

levels consistent with price stability, central banks, for the first time in many decades, had to take seriously the possibility that inflation can be too low as well as too high.

A second complication for policymaking created by low inflation arises from the fact that low inflation generally implies low nominal interest rates, which increase the potential relevance for policymaking of the zero lower bound on interest rates. Because the short-term policy interest rate cannot be reduced below zero, the Federal Reserve and central banks in other countries have employed nonstandard policies and approaches that do not rely on reductions in the short-term interest rate. We are still learning about the efficacy and appropriate management of these alternative tools.

In the remainder of my remarks I will discuss these issues in the context of current economic and policy developments. I will comment on the near-term outlook for economic activity and inflation. I will then compare that outlook to some quantitative measures of the Federal Reserve's objectives, namely, the longer-run outcomes that FOMC participants judge to be most consistent with its dual mandate of maximum employment and price stability. Finally, I will observe that, in a world in which the policy interest rate is close to zero, the Committee must consider the costs and risks associated with the use of nonconventional tools when it assesses whether additional policy accommodation is likely to be beneficial on net.

### **The Outlook for Growth and Employment**

The arbiters across the river in Cambridge, the business cycle dating committee of the National Bureau of Economic Research, recently made their determination: An economic recovery began in the United States in July 2009, following a series of forceful actions by central banks and other policymakers around the world that helped stabilize

the financial system and restore more-normal functioning to key financial markets. The initial upturn in activity, which was reasonably strong, reflected a number of factors, including efforts by firms to better align their inventories with their sales, expansionary monetary and fiscal policies, improved financial conditions, and a pickup in export growth. However, factors such as fiscal policy and the inventory cycle can provide only a temporary impetus to recovery. Sustained expansion must ultimately be driven by growth in private final demand, including consumer spending, business and residential investment, and net exports. That handoff is currently under way. However, with growth in private final demand having so far proved relatively modest, overall economic growth has been proceeding at a pace that is less vigorous than we would like.

In particular, consumer spending has been inhibited by the painfully slow recovery in the labor market, which has restrained growth in wage income and has raised uncertainty about job security and employment prospects. Since June, private-sector employers have added, on net, an average of only about 85,000 workers per month--not enough to bring the unemployment rate down significantly.

Consumer spending in the quarters ahead will depend importantly on the pace of job creation but also on households' ability to repair their financial positions. Some progress is being made on this front. Saving rates are up noticeably from pre-crisis levels, and household assets have risen, on net, over recent quarters, while debt and debt service payments have declined markedly relative to income.<sup>1</sup> Together with expected further easing in credit terms and conditions offered by lenders, stronger balance sheets should eventually provide households the confidence and the wherewithal to increase

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<sup>1</sup> Some of the reduction in household debt burdens is the result of defaults and writedowns rather than higher saving.

their pace of spending. That said, progress has been and is likely to be uneven, as the process of balance sheet repair remains impeded to some extent by elevated unemployment, lower home values, and limited ability to refinance existing mortgages.

Household finances and attitudes also have an important influence on the housing market, which has remained depressed, notwithstanding reduced house prices and record-low mortgage rates. The overhang of foreclosed properties and vacant homes remains a significant drag on house prices and residential investment.

In the business sector, indicators such as new orders and business sentiment suggest that growth in spending on equipment and software has slowed relative to its rapid pace earlier this year. Investment in nonresidential structures continues to contract, reflecting stringent financing conditions and high vacancy rates for commercial real estate. The availability of credit to finance investment and expand business operations remains quite uneven: Generally speaking, large firms in good financial condition can obtain credit in capital markets easily and on favorable terms. Larger firms also hold considerable amounts of cash on their balance sheets. By contrast, surveys and anecdotes indicate that bank-dependent smaller firms continue to face significantly greater problems in obtaining credit, reflecting in part weaker balance sheets and income prospects that limit their ability to qualify for loans as well as tight lending standards and terms on the part of banks. The Federal Reserve and other banking regulators have been making significant efforts to improve the credit environment for small businesses, and we have seen some positive signs. In particular, banks are no longer tightening lending standards and terms and are reportedly becoming more proactive in seeking out creditworthy borrowers.

Although the pace of recovery has slowed in recent months and is likely to continue to be fairly modest in the near term, the preconditions for a pickup in growth next year remain in place. Stronger household finances, a further easing of credit conditions, and pent-up demand for consumer durable goods should all contribute to a somewhat faster pace of household spending. Similarly, business investment in equipment and software should grow at a reasonably rapid pace next year, driven by rising sales, an ongoing need to replace obsolete or worn-out equipment, strong corporate balance sheets, and low financing costs. In the public sector, the tax receipts of state and local governments have started to recover, which should allow their spending to stabilize gradually. The contribution of federal fiscal stimulus to overall growth is expected to decline steadily over coming quarters but not so quickly as to derail the recovery. Continued solid expansion among the economies of our trading partners should also help to support foreign sales and growth in the United States.

Although output growth should be somewhat stronger in 2011 than it has been recently, growth next year seems unlikely to be much above its longer-term trend. If so, then net job creation may not exceed by much the increase in the size of the labor force, implying that the unemployment rate will decline only slowly. That prospect is of central concern to economic policymakers, because high rates of unemployment--especially longer-term unemployment--impose a very heavy burden on the unemployed and their families. More broadly, prolonged high unemployment would pose a risk to consumer spending and hence to the sustainability of the recovery.

## **The Outlook for Inflation**

Let me turn now to the outlook for inflation. Generally speaking, measures of underlying inflation have been trending downward. For example, so-called core PCE price inflation (which is based on the broad-based price index for personal consumption expenditures and excludes the volatile food and energy components of the overall index) has declined from approximately 2.5 percent at an annual rate in the early stages of the recession to an annual rate of about 1.1 percent over the first eight months of this year. The overall PCE price inflation rate, which includes food and energy prices, has been highly volatile in the past few years, in large part because of sharp fluctuations in oil prices. However, so far this year the overall inflation rate has been about the same as the core inflation rate.

The significant moderation in price increases has been widespread across many categories of spending, as is evident from various measures that exclude the most extreme price movements in each period. For example, the so-called trimmed mean consumer price index (CPI) has risen by only 0.9 percent over the past 12 months, and a related measure, the median CPI, has increased by only 0.5 percent over the same period.<sup>2</sup>

The decline in underlying inflation importantly reflects the extent to which cost pressures have been restrained by substantial slack in the utilization of productive resources. Notably, the unemployment rate remains fairly close to last fall's peak and is

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<sup>2</sup> Trimmed-mean and median CPI measures are published regularly by the Federal Reserve Bank of Cleveland; these indicators are constructed using the distribution of monthly price changes for the disaggregated components of the CPI. The median CPI inflation rate is the price change at the center of this distribution, and the trimmed-mean CPI inflation rate is a weighted average of all components excluding the most extreme price increases and decreases. For further information, see [www.clevelandfed.org/research/data/us-inflation/chartsdata/index.cfm](http://www.clevelandfed.org/research/data/us-inflation/chartsdata/index.cfm).

currently about 5 percentage points above the rates that prevailed just before the onset of the financial crisis.

In gauging the magnitude of prevailing resource slack and the associated restraint on price and wage increases, it is essential to consider the extent to which structural factors may be contributing to elevated rates of unemployment. For example, the continuing high level of permanent job losers may be a sign that structural impediments--such as barriers to worker mobility or mismatches between the skills that workers have and the ones that employers require--are hindering unemployed individuals from finding new jobs. The recent behavior of unemployment and job vacancies--somewhat more vacancies are reported than would usually be the case given the number of people looking for work--is also suggestive of some increase in the level of structural unemployment. On the other hand, we see little evidence that the reallocation of workers across industries and regions is particularly pronounced relative to other periods of recession, suggesting that the pace of structural change is not greater than normal. Moreover, previous post-World-War-II recessions do not seem to have resulted in higher structural unemployment, which many economists attribute to the relative flexibility of the U.S. labor market. Overall, my assessment is that the bulk of the increase in unemployment since the recession began is attributable to the sharp contraction in economic activity that occurred in the wake of the financial crisis and the continuing shortfall of aggregate demand since then, rather than to structural factors.<sup>3</sup>

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<sup>3</sup> Recent empirical studies assessing the magnitude of shifts in the sustainable rate of unemployment--the portion of unemployment not attributable to temporary cyclical factors--include Barnichon and Figura (2010), Dickens (2009), Dowling, Estevão, and Tsounta (2010), Fleischman and Roberts (2010), Fujita (2010), Lindner and Tasci (2010), and Kuang and Valletta (2010).

The public's expectations for inflation also importantly influence inflation dynamics. Indicators of longer-term inflation expectations have generally been stable in the wake of the financial crisis. For example, in the Federal Reserve Bank of Philadelphia's Survey of Professional Forecasters, the median projection for the annual average inflation rate for personal consumption expenditures over the next 10 years has remained close to 2 percent. Surveys of households likewise show that longer-term inflation expectations have been relatively stable. In the financial markets, measures of inflation compensation at longer horizons (computed from the spread between yields on nominal and inflation-indexed Treasury securities) have moved down, on net, this year but remain within their historical ranges. With long-run inflation expectations stable and with substantial resource slack continuing to restrain cost pressures, it seems likely that inflation trends will remain subdued for some time.

### **The Objectives of Monetary Policy**

To evaluate policy alternatives and explain policy choices to the public, it is essential not only to forecast the economy, but to compare that forecast to the objectives of policy. Clear communication about the longer-run objectives of monetary policy is beneficial at all times but is particularly important in a time of low inflation and uncertain economic prospects such as the present. Improving the public's understanding of the central bank's policy strategy reduces economic and financial uncertainty and helps households and firms make more-informed decisions. Moreover, clarity about goals and strategies can help anchor the public's longer-term inflation expectations more firmly and thereby bolsters the central bank's ability to respond forcefully to adverse shocks.<sup>4</sup>

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<sup>4</sup> See Bernanke (2007).

The Federal Reserve has a statutory mandate to foster maximum employment and price stability, and explaining how we are working toward those goals plays a crucial role in our monetary policy strategy. It is evident that neither of our dual objectives can be taken in isolation: On the one hand, a central bank that aimed to achieve the highest possible level of employment in the short run, without regard to other considerations, might well generate unacceptable levels of inflation without any permanent benefits in terms of employment. On the other hand, a single-minded focus by the central bank on price stability, with no attention at all to other factors, could lead to more frequent and deeper slumps in economic activity and employment with little benefit in terms of long-run inflation performance.

Recognizing the interactions between the two parts of our mandate, the FOMC has found it useful to frame our dual mandate in terms of the *longer-run sustainable rate of unemployment* and the *mandate-consistent inflation rate*. The longer-run sustainable rate of unemployment is the rate of unemployment that the economy can maintain without generating upward or downward pressure on inflation. Because a healthy economy must allow for the destruction and creation of jobs, as well as for movements of workers between jobs and in and out of the labor force, the longer-run sustainable rate of unemployment is greater than zero. Similarly, the mandate-consistent inflation rate--the inflation rate that best promotes our dual objectives in the long run--is not necessarily zero; indeed, Committee participants have generally judged that a modestly positive inflation rate over the longer run is most consistent with the dual mandate. (The view that policy should aim for an inflation rate modestly above zero is shared by virtually all central banks around the world.) Several rationales can be provided for this judgment,

including upward biases in the measurement of inflation. A rationale that is particularly relevant today is that maintaining an “inflation buffer” (that is, an average inflation rate greater than zero) allows for a somewhat higher average level of nominal interest rates, which in turn gives the Federal Reserve greater latitude to reduce the target federal funds rate when needed to stimulate increased economic activity and employment. A modestly positive inflation rate also reduces the probability that the economy could fall into deflation, which under some circumstances can lead to significant economic problems.

Although attaining the long-run sustainable rate of unemployment and achieving the mandate-consistent rate of inflation are both key objectives of monetary policy, the two objectives are somewhat different in nature. Most importantly, whereas monetary policymakers clearly have the ability to determine the inflation rate in the long run, they have little or no control over the longer-run sustainable unemployment rate, which is primarily determined by demographic and structural factors, not by monetary policy. Thus, while central bankers can choose the value of inflation they wish to target, the sustainable unemployment rate can only be estimated, and is subject to substantial uncertainty. Moreover, the sustainable rate of unemployment typically evolves over time as its fundamental determinants change, whereas keeping inflation expectations firmly anchored generally implies that the inflation objective should remain constant unless there are compelling technical reasons for changing it, such as changes in the methods used to measure inflation.

In recent years, the Federal Reserve has taken important steps to more clearly communicate its outlook and longer-run objectives. Since the fall of 2007, the Federal Reserve has been publishing the “Summary of Economic Projections” (SEP) four times a

year in conjunction with the FOMC minutes. The SEP provides summary statistics and an accompanying narrative regarding the projections of FOMC participants--that is, the Board members and the Reserve Bank presidents--for the growth rate of real gross domestic product (GDP), the unemployment rate, core inflation, and headline inflation over the next several calendar years. Since early 2009, the SEP has also included information about FOMC participants' longer-run projections for the rates of economic growth, unemployment, and inflation to which the economy is expected to converge over time, in the absence of further shocks and under appropriate monetary policy. Because appropriate monetary policy, by definition, is aimed at achieving the Federal Reserve's objectives in the longer run, FOMC participants' longer-run projections for economic growth, unemployment, and inflation may be interpreted, respectively, as estimates of the economy's longer-run potential growth rate, the longer-run sustainable rate of unemployment, and the mandate-consistent rate of inflation.

The most recent release of the SEP was in June, and I will refer to those projections here, noting that new projections will be released with the minutes of the next FOMC meeting, in early November.

The longer-run inflation projections in the SEP indicate that FOMC participants generally judge the mandate-consistent inflation rate to be about 2 percent or a bit below. In contrast, as I noted earlier, recent readings on underlying inflation have been approximately 1 percent. Thus, in effect, inflation is running at rates that are *too low* relative to the levels that the Committee judges to be most consistent with the Federal Reserve's dual mandate in the longer run. In particular, at current rates of inflation, the constraint imposed by the zero lower bound on nominal interest rates is too tight (the

short-term real interest rate is too high, given the state of the economy), and the risk of deflation is higher than desirable. Given that monetary policy works with a lag, the more relevant question is whether this situation is forecast to continue. In light of the recent decline in inflation, the degree of slack in the economy, and the relative stability of inflation expectations, it is reasonable to forecast that underlying inflation--setting aside the inevitable short-run volatility--will be less than the mandate-consistent inflation rate for some time. Of course, forecasts of inflation, as of other key economic variables, are uncertain and must be regularly updated with the arrival of new information.

As of June, the longer-run unemployment projections in the SEP had a central tendency of about 5 to 5-1/4 percent--about 1/4 percentage point higher than a year earlier--and a couple of participants' projections were even higher at around 6 to 6-1/4 percent. The evolution of these projections and the diversity of views reflect the characteristics that I noted earlier: The sustainable rate of unemployment may vary over time, and estimates of its value are subject to considerable uncertainty. Nonetheless, with an actual unemployment rate of nearly 10 percent, unemployment is clearly *too high* relative to estimates of its sustainable rate. Moreover, with output growth over the next year expected to be only modestly above its longer-term trend, high unemployment is currently forecast to persist for some time.

### **Monetary Policy Tools: Benefits and Costs**

Given the Committee's objectives, there would appear--all else being equal--to be a case for further action. However, as I indicated earlier, one of the implications of a low-inflation environment is that policy is more likely to be constrained by the fact that nominal interest rates cannot be reduced below zero. Indeed, the Federal Reserve

reduced its target for the federal funds rate to a range of 0 to 25 basis points almost two years ago, in December 2008. Further policy accommodation is certainly possible even with the overnight interest rate at zero, but nonconventional policies have costs and limitations that must be taken into account in judging whether and how aggressively they should be used.

For example, a means of providing additional monetary stimulus, if warranted, would be to expand the Federal Reserve's holdings of longer-term securities.<sup>5</sup> Empirical evidence suggests that our previous program of securities purchases was successful in bringing down longer-term interest rates and thereby supporting the economic recovery.<sup>6</sup> A similar program conducted by the Bank of England also appears to have had benefits.

However, possible costs must be weighed against the potential benefits of nonconventional policies. One disadvantage of asset purchases relative to conventional monetary policy is that we have much less experience in judging the economic effects of this policy instrument, which makes it challenging to determine the appropriate quantity and pace of purchases and to communicate this policy response to the public. These factors have dictated that the FOMC proceed with some caution in deciding whether to engage in further purchases of longer-term securities.

Another concern associated with additional securities purchases is that substantial further expansion of the balance sheet could reduce public confidence in the Fed's ability to execute a smooth exit from its accommodative policies at the appropriate time. Even if unjustified, such a reduction in confidence might lead to an undesired increase in inflation expectations, to a level above the Committee's inflation objective. To address

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<sup>5</sup> For further discussion of unconventional policy tools, see Bernanke (2010a).

<sup>6</sup> See Gagnon and others (2010), D'Amico and King (2010), and Hamilton and Wu (2010).

such concerns and to ensure that it can withdraw monetary accommodation smoothly at the appropriate time, the Federal Reserve has developed an array of new tools.<sup>7</sup> With these tools in hand, I am confident that the FOMC will be able to tighten monetary conditions when warranted, even if the balance sheet remains considerably larger than normal at that time.

Central bank communication provides additional means of increasing the degree of policy accommodation when short-term nominal interest rates are near zero. For example, FOMC postmeeting statements have included forward policy guidance since December 2008, and the most recent statements have reflected the FOMC's anticipation that exceptionally low levels of the federal funds rate are likely to be warranted "for an extended period," contingent on economic conditions. A step the Committee could consider, if conditions called for it, would be to modify the language of the statement in some way that indicates that the Committee expects to keep the target for the federal funds rate low for longer than markets expect. Such a change would presumably lower longer-term rates by an amount related to the revision in policy expectations. A potential drawback of using the FOMC's statement in this way is that, at least without a more comprehensive framework in place, it may be difficult to convey the Committee's policy intentions with sufficient precision and conditionality. The Committee will continue to actively review its communications strategy with the goal of providing as much clarity as possible about its outlook, policy objectives, and policy strategies.

## **Conclusion**

In short, there are clearly many challenges in communicating and conducting monetary policy in a low-inflation environment, including the uncertainties associated

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<sup>7</sup> See Bernanke (2010b).

with the use of nonconventional policy tools. Despite these challenges, the Federal Reserve remains committed to pursuing policies that promote our dual objectives of maximum employment and price stability. In particular, the FOMC is prepared to provide additional accommodation if needed to support the economic recovery and to return inflation over time to levels consistent with our mandate. Of course, in considering possible further actions, the FOMC will take account of the potential costs and risks of nonconventional policies, and, as always, the Committee's actions are contingent on incoming information about the economic outlook and financial conditions.

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