Welcome to the third annual Philadelphia Fed Policy Forum. It is a pleasure to see so many familiar faces from past Forums, as well as some new ones to bring a fresh perspective to the issues.

As those of you who attended past Policy Forums are well aware, this event is intended to bring together widely recognized experts to discuss the central policy issues of the day. This year's theme, "Managing the Recovery in Uncertain Times," focuses on important issues that emerged during the recovery. We will discuss topics pertaining to consumer behavior, uncertainty, corporate governance, and of course, optimal monetary policy.

State of the Economy

Today's conference provides a timely opportunity to reflect on the progress of the recovery and the events surrounding this business cycle.

The recovery, tenuous at first, has finally begun to gain momentum. Third-quarter GDP was stronger than expected. Other data, such as orders, earnings, and consumer confidence, are improving steadily. Most notably, we are now seeing signs of growth in the labor market, the one area that had been exhibiting a fairly substantial lag. We can expect growth to continue at a healthy pace as we move into the new year. Employment gains should continue to pick up, but it will take some time before the economy reaches full employment.

The prolonged weakness in the labor market stands as the most obvious, and most disconcerting, feature of the current business cycle. This has been the second consecutive jobless recovery. In fact, this one --- more severe than the first --- had earned the dubious distinction of being "the job loss recovery," as we watched payrolls decline by over 1 million from the start of the recovery through last July.

Perhaps recent numbers signal that job growth has finally turned around. Nonetheless, with the jobs issue the focus of so much recent concern, I thought I'd share a few perspectives in my opening remarks this morning.

Fundamental Story of the Job Loss Recovery: Unfolding Impact of the ICT Revolution

Most observers have attributed the slow turnaround of the labor market to some combination of three factors: weak aggregate demand growth; strong productivity growth; and an increasing use of foreign labor. This morning, I want to emphasize the sense in which these phenomena are all part of the same story --- the story of the unfolding impact of the technological revolution on the economy.

I begin the story with the impact of this revolution on aggregate demand.

Fundamentally, it was the boom --- and subsequent bust --- of business spending on information and communications technology, or ICT, that generated the most recent business cycle. Now, we expect a reacceleration in such investment spending to help push demand growth to more robust levels.

In retrospect, business technology spending in the late 1990s represented a mix of both good and bad business judgments. Some of the ICT spending turned out to be wise and even prescient investments in productive new capital. Some of it was just investment pulled forward for fear that legacy equipment would malfunction in Y2K. And some of it --- often associated with ill-conceived "dot com" business plans --- reflected "irrational exuberance" about the viability of new business models.
In any case, it took the business sector three years, from 2000 through 2002, to digest those investments. From an accounting perspective, it took three years to depreciate accumulated stock of hardware and software. From an economic perspective, it took three years to put existing capital to its most productive use: reallocating it across firms, and fully exploiting its capabilities to boost productivity and cut costs within firms.

Now, that absorption process seems to have run its course. Businesses are exhibiting a renewed appetite for investment. Looking ahead, I expect firms to maintain a healthy pace of ICT spending. As this plays out, growth in real business fixed investment should resume its role as a significant contributor to overall demand growth.

With the return of business investment spending, aggregate demand growth will be more balanced and less dependent upon the consumer and fiscal stimulus to support the expansion. All else constant, this improved pace and pattern of growth in aggregate demand will mean stronger growth in demand for labor.

Of course, the caveat here is "all else constant," which brings me to the second chapter in the story of the "job loss recovery": strong productivity growth.

**While the impact of the technology revolution on aggregate demand has been uneven, its impact on productivity has been consistently positive.**

The late 1990s' acceleration in ICT investment coincided with a marked pickup in productivity growth. Strong growth in productivity has persisted throughout the recession and recovery, as the business sector fully exploited the benefits of its investments.

Between 1973 and 1995 productivity growth in the nonfarm business sector averaged 1.4 percent per year. Between 1995 and the present, productivity growth has averaged 3 percent per year and has yet to show any signs of flagging. Indeed, it has been even stronger of late.

Most economists agree that innovation in, and application of, ICT will continue to drive productivity growth. The question is: at what pace? During the first quarter of this year, when we asked participants in our Survey of Professional Forecasters to project productivity growth over the next 10 years, their median response was 2.3 percent. I am a bit more optimistic and believe productivity growth may continue at a 3 percent annual rate for some time.

So, allowing for labor force growth of 1 to 1-¼ percent, the economy's potential output would grow between 3-½ and 4 percent for quite some time, most likely closer to the upper end of this range.

Put another way, to mirror capacity growth, including the new entrants to the labor force, we need sustained real GDP growth of around 4 percent. But to re-employ those who became unemployed or underemployed during the past three years, we will need a period of real GDP growth above 4 percent.

Fortunately, I believe this level of growth is achievable as we move into 2004. At the same time, however, I acknowledge that the process of regaining and maintaining a full employment economy will be neither smooth nor painless.

The ICT revolution has created changes in the labor market that present challenges, both near term and long term. Near term, mismatches between workers' skills and businesses' requirements could slow the rate at which currently unemployed workers are re-absorbed, relative to previous recoveries. Longer term, the ICT revolution will surely mean significant restructuring in many industries, including the decline of some and the birth of entirely new ones. This has been our experience with previous technological revolutions, and there is little reason to doubt it will happen again this time.

History also tells us that such transformations benefit us as consumers. Prices are lower, wealth is increased, and welfare is enhanced for society as a whole. However, such transformations also create difficulties for many of us as workers when job requirements and job locations change. The transition is not always easy.
Nonetheless, the U.S. economy is very flexible. Over some reasonable horizon, the market will induce the required adjustments. Workers will learn new skills. Hardware and software engineers will develop new tools that match workers’ skills and capabilities. Businesses will revise processes and locate operations to best deploy available labor pools. In the process, they will use both domestic and foreign labor.

As I mentioned at the outset, the increased use of foreign labor in production is the third reason offered for weak job growth in the U.S. during this recovery.

This is part of the location decisions that emerged with the technological revolution. As we are becoming increasingly aware, the restructuring of the product and labor markets, driven by the ICT revolution, is unfolding in a global context.

Of course, "offshoring," as it is now being called, has been the trend in manufacturing for a long time. But now it seems to be intensifying in manufacturing, particularly with the opening of the Chinese economy. It also seems to be spreading to the service sector. Lower-skilled, call-center and other service jobs have been migrating to India and elsewhere in the Far East for several years. More recently, the process has been moving up the value chain to higher level professional service jobs, such as accountants, financial analysts, and software engineers.

At this point, we have yet to accurately quantify the impact of the ICT revolution on the offshoring phenomenon. However, this may be less important than acknowledging that the ICT revolution is creating an increasingly integrated market for both goods and services, including labor services.

In essence, the introduction of new and lower cost information and communications technologies is expanding the size of markets. Information can be disseminated and transactions effected between individuals and organizations located essentially anywhere in the world at lower cost than ever before. The bigger the market, the greater the opportunities for specialization and gains from trade.

In addition, new ICT is reducing the cost of coordinating activities between firms regardless of location. This allows for even greater specialization by firms, a more segmented value chain, and even more efficient ways of delivering goods and services.

Even within firms, ICT is reducing the cost of coordinating activities across sites. So internal processes, such as research and development, production, distribution, and service functions, can be further segmented, and each segment can be located at the site of greatest comparative advantage.

In short, as a result of the technology revolution, the demand for labor in the U.S. will become more sensitive to labor market conditions and other economic considerations in a broad array of countries around the world.

The global context of these forces may be broader in scope and the competition more intense than we have experienced in the past, but they are not fundamentally different in kind. Again, I believe the U.S. economy is up to the challenge, given its agility, adaptability, and most relevant to current concerns, the flexibility of the U.S. labor market. Together these features will position our economy to take full advantage of the international gains from trade created by the ICT revolution.

This leads me to my last topic for this morning: the implications of the current business cycle for policymakers.

The Legacy of This Cycle from a Policymaker's Perspective

The lessons I take away from our recent experience are quite simple. First, our economy is a dynamic one, subject to forces that change it fundamentally over time. Second, business cycles still occur as this transformation process plays out, and stabilization policies can still be effective in mitigating their impact. So it is imperative that stabilization policies be prepared to deal with the forces that might lead to future cycles. What does this mean for monetary and fiscal policies?

On the monetary policy side, as I have said before, I believe it was the Fed's 20-year investment in price stability that made monetary policy so effective in this cycle.
With inflation low, the Fed had the latitude to bring interest rates to historic lows in response to the decline in demand wrought by recession. Moreover, with inflation expectations well-anchored, the Fed's cuts in nominal rates were seen as concomitant declines in real interest rates relative to expected future real rates. That made them more effective in stimulating spending.

Looking ahead, once the current expansion gains a firmer foothold, monetary policy must eventually be moved to a less stimulative and then neutral stance. This will avoid momentum toward accelerating inflation or destabilizing shifts in long-term inflation expectations. In light of significant excess capacity and benign inflation pressures, any policy adjustment need not take place in the near future. Nonetheless, the current level of short-term interest rates cannot be maintained indefinitely.

On the fiscal policy front, being prepared means returning to a cyclically balanced federal budget. But beyond that, federal dollars would be best spent on programs designed to increase our economy’s ability to respond to changing market conditions, both secular and cyclical. Such investments, including programs to educate, train, and retrain workers, and programs to fund basic research and development, will have substantial benefits well into the future.

**Summary**

So, to summarize, the information and communications revolution --- like all technological revolutions --- has proven to be a positive and, at the same time, disruptive force on the economy both here in the U.S. and throughout the world. The unique features of the current business cycle are testament to both of those characteristics.

I believe this technological revolution is well positioned to provide a solid foundation for sustained expansion in both output and employment in the U.S. It offers the prospect for the greatest growth in our nation's living standards in a generation.

Indeed, there is good reason to believe the ICT revolution will continue to fuel strong productivity growth. First of all, there are still many businesses and business lines that have not yet exploited the gains that ICT makes available. Second, even where new technologies have been introduced, new applications will be developed as people gain more experience with them. Third, technology itself continues to improve at a rapid pace. Technological progress will also contribute to aggregate demand growth by creating markets for new and different goods and services.

At the same time, garnering those gains will require ongoing adjustments to shifting market forces on the part of both businesses and individuals. The competitive global marketplace will increasingly pressure firms to invest in productivity-enhancing processes and maintain high efficiency workplaces. In the labor market, it may be too soon to be certain that recent data on employment represent the beginning of a sustained upward trend, or just how strong that trend will be. We do not know whether the recent job losses associated with offshoring are bigger than the previous trend losses to overseas operations. Nonetheless, what is certain is the fact that one consequence of the ICT revolution is the increasingly international scope of market forces.

Meanwhile, monetary and fiscal policymakers went to great lengths to mitigate the impact of the most recent business cycle. As economic conditions improve, we must re-position ourselves so that we stand ready to respond to the next sequence of shocks, whenever they come and whatever their source.

We have many important and timely issues to discuss today, and those of you who are assembled here are in fact those very best qualified to discuss them. So I am confident we can count on some truly thought-provoking sessions.

With that, I’d like to turn it over to Loretta Mester to kick off our first session. Thank you for attending the Policy Forum. I look forward to hearing your insights.