Remarks by Cathy E. Minehan
President, Federal Reserve Bank of Boston

National Association of Business Economists
38th Annual Meeting
Living Standards and the U.S. Economy

Boston Park Plaza Hotel
Boston, Massachusetts

September 9, 1996

Good morning. I am pleased to welcome this distinguished group of practicing economists to Boston. You meet at an important time for macroeconomic policy, for, at least at the broad levels, things seem to be going fairly well--solid growth, low unemployment, restrained price increases--in some ways a return to the golden economic years of the 50's and 60's. Yet this is also a challenging time as well. How do we extend this long period of economic expansion without on the one hand, feeding the nascent fires of inflation, or on the other, biting down too hard on the expansion to rein in those very fires? And, most importantly, how do we contribute to that overall goal of macroeconomic policy, rising standards of living for all Americans, the very timely subject of your annual meeting this year. I'd like to comment on three areas this morning as a brief introduction to your conference: the current state of the economy; some issues related to long-term economic growth; and a few lessons we've learned here in Boston in the course of our economic research and conferences this past year.

During the first six months of 1996, the economy performed quite well. It wasn't always easy to see it through the disruptions caused by winter storms, government shutdowns, more winter storms, huge swings in stocks of inventories, and the GM strike, but with sufficient hindsight it's now clear. Real GDP grew at a 2 percent rate in the first quarter, and the estimate for the second quarter shows growth at more than double that pace. On the employment front, nearly one and one-half million

jobs were added during the first half of this year, and the unemployment rate fell below 5-1/2 percent in the process.

Throughout this period of strong employment and output performance, the core rate of inflation remained remarkably well-behaved. The core consumer price index rose just 2.7 percent over the twelve months ending in June of this year. To be sure, surges in oil and grain prices contributed to a small increase in overall consumer price inflation. But it appears that these industry-specific price disruptions may not feed into overall wages and prices, and could thus amount to only temporary disruptions in the longer-run trajectory of inflation.

With regard to employee compensation, the trend has been generally favorable as well. Overall compensation costs have increased at about 3 percent over the past year, down from the 3.5 to 4 percent rates of the early 1990s. Modest increases in wages and atypically small increases in benefits costs, coupled with reasonable gains in productivity, particularly in the manufacturing sector, have kept producers' unit labor costs low, allowing the modest final price increases that we have seen in most industries.

Looking forward, most analysts expect growth in employment and output to moderate somewhat, perhaps to about 2.5 percent this year, largely due to the impact of higher interest rates and to the very length of this expansionary period. By mid-July, long-term credit market rates had risen about 1 percentage point above their year-end 1995 levels. While long-term rates have

bounced around somewhat recently, higher rates could restrain spending over the next six to twelve months on residential construction, on autos, and on other consumer durable goods. Higher interest rates have not yet had a clear and sustained effect on housing and autos purchases, but the rapid increases in rates of spending over the past four years on new houses and autos have likely left most consumers in the house that they desire with the desired number and style of automobiles. Purchases of these items may well continue at a healthy pace, but higher interest rates may keep these spending categories from growing, and may make a relatively high level of consumer debt more burdensome.

The modest tightening of credit market conditions could also have a similar effect on businesses. Spending on new business equipment--computers, business vehicles, and manufacturing equipment--has grown by 10 percent or better over the past three years. With these recent additions to productive capacity in place, with somewhat higher borrowing rates, and with the expectation of slowing demand during the coming quarters, businesses will likely gauge further additions to their capacity as less profitable, thus reducing the growth rate of business investment.

Finally, while healthy U.S. income growth and spending have added substantially to the national income of our trading partners, foreign spending on U.S. goods and services has done relatively little to add to our income. This pattern is unlikely

to be reversed in the near term, given projections of fairly healthy growth in the U.S. coupled with only gradual recovery towards more robust growth among our trading partners.

In sum, reduced rates of growth from the most vigorous sectors of the past year should slow the growth of spending and employment during the next year. Will this be sufficient to keep inflation in check? That's the $64,000 question at the moment. To say this is a time for considerable vigilance at the Fed is not an understatement by any means.

But should we be happy with an economy that will slow to perhaps a 2-1/2 percent rate of growth even if inflation remains restrained? In answering this question, let me first say that, in my view, the issue of whether there is a conflict between the pursuit of low rates of inflationary growth--or even stable price levels--and long-term economic growth has been resolved. There is no conflict. A low and stable rate of inflation is an absolutely necessary ingredient in the recipe for healthy long-run growth and higher standards of living. Countercyclical monetary policy is, of course, important, but over the long run, the definition of success for a Central Bank is to eliminate inflation as a concern when consumers, businesses and governments make their economic decisions.

But in many ways, low inflation is the back-drop against which economic growth is achieved. Monetary policy can make the environment more conducive to growth, but in the end it is the

economic players themselves, aided by fiscal policy, that make long-term growth happen.

Faster economic growth requires a change in how quickly we as a nation are increasing the productive capacity of the economy through physical and human capital accumulation and through technological change. But such increases are not easy to make, raising concerns about both how fast we can grow and whether the benefits of such growth will be shared by all.

These concerns are understandable. While analysts disagree over whether real wages have increased or decreased over the past couple of decades, it is clear that even if they have increased, on average they have not increased by much. The sharp drop in the growth rate of labor productivity beginning around 1973 has resulted in wage growth since that time which has been much slower than it was in the 1950s and 1960s. At the same time, there has been a trend of increased inequality in earnings which has led to a deterioration in the economic well being, particularly of low-wage workers. Although these trends are very troubling, appropriate policy responses are hard to devise since their underlying causes are not fully understood.

Increased economic growth could go a long way toward solving many of our most pressing economic problems, and in recent years there has been a surge in research on economic growth. However, while much progress has been made, the growth process is still very imperfectly understood. At our Boston Fed conference on "Technology and Growth" earlier this year, many of the

participants stressed that we simply are not sure of how to return the economy to the rate of growth we enjoyed in the 1950s and 60s.

Much of the discussion focused on the role of technology. In New England, our economy has been greatly affected by changes in technology. Minicomputers and technically advanced defense manufacturing helped to fuel the booming New England economy in the 1980s, but also contributed to our economic bust in the early 1990s as these sectors declined. Now, however, such areas as computer software and networking are currently strong parts of our economy. Our technically sophisticated and skilled work force, our human capital, has helped the New England economy recover from the economic shocks which hit us at the end of the 1980s. And more technological change lies ahead - advances in computer networking technology and the Internet are already having a major impact on the financial services industry and may transform banking in the relatively near future. But, how, exactly does technological change create productivity growth?

In research on economic growth, technological change is usually identified with the Solow residual - the component of economic growth that cannot be accounted for by changes in the stocks of capital and labor in the economy. As such, it is a combination of changes in the stocks of unmeasured inputs, changes in the quality of capital and labor, and changes in the way in which capital and labor are combined to produce output. Early work found that the Solow residual accounted for the bulk

of economic growth, but as research has progressed we have become better able to measure changes in the quality and quantity of capital and labor, and less has been left as an unexplained residual.

However, even after we quantify as well as we can investment in public and private sector physical capital, as well as investment in less tangible factors such as human capital, and adjust for quality changes over time to the extent possible, the technology residual still represents technology only in a very broad sense. Organizational structure, management techniques such as TQM, and even culture are components of this broad definition of technology, along with more traditional components such as computer technology, and we don't really know what is the right combination of these factors to create economic growth.

More simply stated, the process of technological innovation remains something of a mystery. Technologies which appear to have very limited economic potential when they first emerge from the laboratory may later spur the development of highly profitable new products. At our conference, Nathan Rosenberg cited the laser as a prime example of this - at the time it was first developed, who could have predicted its eventual impact on telecommunications, or its use in new products such as laser printers and CD players. In the case of telecommunications, it took the later development of fiber optics to make the use of lasers practical. In the case of laser printers, advances in electronics and widespread adoption of computers were necessary

for a viable market for the printers to exist. In all of these cases, it took imagination and creativity for the laser to be used in the development of successful new products. It is very difficult to predict in advance which technological developments will have the greatest economic payoff.

Technological change has the potential for increasing productivity, and we would like to encourage such innovation. But determining which public policies would do so is quite difficult. Participants at our conference believed the uncertainty regarding the usefulness of new technologies makes government backing of specific technologies questionable. As Edwin Mansfield pointed out, there is not even a consensus that the patent system encourages technological progress. While it helps to provide incentives for development of new technologies, it also increases the cost of imitation and may slow the rate of technological diffusion. To be sure, no one advocated abolishing the patent system, but the fact that there is so much uncertainty regarding its effect illustrates the difficulty in developing policies that would encourage innovation. A consensus view at the conference seemed to be that modest and balanced support of basic research was the most appropriate public policy.

One undesirable side effect of recent technological change appears to be increased inequality in earnings. With wages stagnant on average, growing inequality has resulted in low wage workers becoming worse off over time. Last November, we held a symposium on "Spatial and Labor Market Contributions to Earnings

Inequality." While there is no single explanation for why earnings inequality has increased, there seemed to be a consensus at the symposium that technological change had shifted labor demand in favor of more skilled workers, increasing wages of highly skilled workers relative to less skilled ones. Increased use of computer technology is often cited as an example of this sort of skill-biased technical change.

The solution to this problem is clearly not to stop technological change, but rather to encourage investment in education and training. Increasing the skills of low wage workers not only increases their earnings, but also helps to counteract the increase in the skill premium by increasing the supply of skilled relative to unskilled workers.

At our symposium, several impediments to improving the skills of low wage workers were discussed. Prominent among these is the increase in economic segregation within metropolitan areas documented by one of our own economists. The geographic isolation of low income families often results in children from these families facing schooling opportunities which are inferior to those enjoyed by their counterparts from better off families, and some neighborhoods may offer youths few successful role models. Perhaps more important, job opportunities may be scarce in these neighborhoods, obscuring the link between education and economic rewards for those living there. These factors may have contributed to productivity slowdown as well as to increased earnings inequality.

Training and education add to the country's human capital stock and lead to increased productivity. Investment in human capital, like investment in physical capital, needs to be an important element in any effort to stimulate growth. Policies aimed at encouraging human capital investment have the added advantage of being capable of being targeted toward low income families, thus attacking the problem of widening inequality along with the slow growth problem. Investment in both post-secondary and lower levels of education are important. Participants at our inequality symposium indicated that the returns to higher education tend to be particularly large for students from disadvantaged backgrounds, suggesting that targeting human capital investment programs at the disadvantaged may make sense even on efficiency grounds.

In closing, let me reiterate my sense that you have chosen one of the most critical economic issues of our time as the focus for your meeting this year. The business cycle is hardly dead, inflationary trends bear watching, fiscal and trade deficits must be brought lower, but all these things are the focus of much attention. Spurring long- term economic growth in the face of technological change and global competition is the remaining nut to crack--and an extremely difficult one indeed. I wish you well in your discussions.