

# productivity growth & the "new economy"

The Federal Reserve System is responsible for formulating and implementing U.S. monetary policy. It also supervises banks and bank holding companies, and provides financial services to depository institutions and to the federal government. The Federal Reserve Bank of Boston is one of 12 regional Reserve Banks in the United States that, together with the Board of Governors in Washington, D.C., comprise the Federal Reserve System. The Federal Reserve Bank of Boston serves the First Federal Reserve District. The First District includes all of New England except Fairfield County, Connecticut.

## contents

LETTER FROM THE PRESIDENT	3
PRODUCTIVITY GROWTH AND THE "NEW ECONOMY"	7
THE BANK IN THE COMMUNITY	24
1999 BANK HIGHLIGHTS	26
SUMMARY OF OPERATIONS	30
DIRECTORS, ADVISORY COUNCILS AND OFFICERS	31
FINANCIAL STATEMENTS	36



Cathy E. Minehan, President, with Paul M. Connolly, First Vice President

## letter from the president

It is hard to imagine starting the twenty-first century on a higher note. First, New England banks and businesses, like those throughout the rest of the nation, sailed smoothly into the new millennium. Years of thoughtful Y2K planning reaped significant rewards, not only in terms of problems prevented but also in terms of technological improvements for individual companies. As a result, most businesses are well ahead of where they would otherwise have been technologically, and are well-poised for the challenges they will face in the early years of this new century.

(continued on next page)

A second hallmark of the dawn of the new millennium was the ebullient state of the U.S. economy. At the close of 1999, the country's nearly nine-year economic expansion was on the verge of becoming the longest period of continuous economic growth in our nation's history — a milestone that was in fact achieved in February, 2000. The national economy capped the century with high levels of growth that actually accelerated through year-end. Unemployment reached a 30-year low. Consumer confidence in the economy hovered near record highs. Notwithstanding such exuberance, and defying conventional economic wisdom, inflation remained benign. Overall price growth, net of the volatile food and energy components, actually moderated slightly from 1998, though higher oil prices certainly affected us here in New England.

The region continued to enjoy steady growth. In 1999, total nonagricultural employment in New England grew 2.0 percent, and just about kept pace with the nation. Throughout the District, labor markets remained tight as the need for workers grew at a strong pace and unemployment levels fell well below the national average.

The seeds of the nation's and the region's current prosperity were sown in the macro-economic policies of the '80s and '90s that tamed inflation and reined in budget deficits. In an environment of low price growth and increasing investment in technology, productivity, at first slow to increase, finally surged at the end of the decade. This surge has undoubtedly been critical to maintaining the economy's success in this long expansion period. In this year's Annual Report essay, we explore various aspects of current productivity growth with particular emphasis on how it can be sustained.

In addition to the essay, our Annual Report includes a Bank Highlights section that discusses the Bank's major initiatives and activities in 1999. The final year of the 20th century was a very busy and successful one for the Bank. The Highlights section reviews our extensive

4

preparations for the century date change, as well as some of our leading achievements in our key areas of responsibility: economic research and monetary policy, supervision and regulation, and financial services. The Report also includes the Bank's financial statements and management's assertion regarding the effectiveness of our internal controls over financial reporting, along with the report issued by our outside auditor, PricewaterhouseCoopers, LLP, concerning management's assertion.

It is impossible to list all the people who have been instrumental in the Bank's successes and accomplishments in 1999. There are many individuals, both inside and outside the Bank, who have made important contributions. However, I would like to give special acknowledgement to two individuals who have given significant guidance and time to the Bank in recent years. Kenneth Perine, CEO of Middlebury Trust Co., and Stephen Brown, Chairman of John Hancock, served on our board of directors for several years and completed their service in 1999. Their contributions to the Bank were significant and will be enduring sources of support. I would also like to thank the several members of the New England Advisory Council and the Community Development Advisory Council who also completed their terms of service this past year and the continuing members of our board and all of our Councils. Their assistance in our work is truly invaluable. Last, but not least, I extend my gratitude to every employee of the Bank. The challenges and demands of 1999 were exceptional, and the Bank simply could not consistently perform at its traditionally high levels without the ongoing loyalty and commitment of its management and staff.

Jocky E. Merilan



# productivity growth & the "new economy"

by Cathy E. Minehan, Lynn E. Browne and Lee McIntyre\*

By almost any measure these have been good economic times. In 1999, U.S. economic growth averaged more than 4 percent for the third consecutive year. The unemployment rate fell to a 30-year low. Inflation averaged just over 2 percent. And real incomes increased. Even those at the bottom of the income distribution seem to be making gains, after years of stagnation. For some time, "it doesn't get much better than this" has been on everyone's lips. Is this rosy picture just an unusually long upswing in the business cycle? Or is a "New Economy" truly emerging?

(continued on next page)





INCREASING

PRODUCTIVITY





Not very long ago, conventional economic wisdom held that the U.S. economy should not be able to sustain growth in excess of 2.5 percent with unemployment rates below 5.5 percent without experiencing an upturn in inflation. But for the past three years, growth averaged more than 4 percent and the unemployment rate fell to just above 4 percent. Yet inflation remained low. Why?

Higher productivity growth has been an important reason for our recent good fortune. Higher rates of productivity growth allowed the economy to grow rapidly without causing the unemployment rate to fall even further. Higher rates of productivity growth also helped firms absorb some of the cost pressures associated with low unemployment rates.

Throughout the 1980s, and even during the early years of this expansion, productivity growth averaged about 1.5 percent per year. But beginning in 1996, productivity growth just about doubled. Moreover, in 1999, the nation's productivity grew by 3.6 percent.

Why is productivity so important? First, productivity growth is as close as we can come to an unqualified economic benefit. It has the potential to make everyone better off. In contrast to the gains that one may make by taking a larger slice of the economic pie, productivity increases the size of the pie for everyone. As a result, productivity growth is the most important determinant of the country's standard of living. If the economy's output can increase, using the same amount of effort, everyone can benefit. And, like the magic of compound interest, small differences in productivity growth can yield large cumulative results over time. After twenty years, the difference between the 1.4 percent annual rate of productivity growth in the 1980s, and the 2.6 rate of the last half of the 1990s, will produce a 35 percent higher level of real national income. Put another way, this higher rate of growth means that the nation's standard of living will double in approximately half the time.

Second, the rate of productivity growth plays a key role in shaping monetary and fiscal policy, by influencing assumptions about the economy's sustainable rate of growth. If increasing productivity allows the nation to grow at a faster rate without generating inflationary pressure, this, in turn, may affect judgments about interest rates, projections about governmental surpluses or deficits, and other policy issues as well. Clearly, what is best for the economy is long-term growth. But, knowing how much growth can be sustained without increasing inflation depends critically on the economy's rate of productivity growth. Likewise, long-term fiscal balance depends on future tax revenues, which, in turn, depend on the economy's rate of growth, which, in turn, depends on productivity growth. Thus, understanding the role of productivity helps policy-makers keep the nation's economic house in order.

9

## $M \, \text{easuring}$

## PRODUCTIVITY

For all of the agreement about the importance of productivity, it is a difficult concept to measure, especially for the economy as a whole. The most basic measure — the one that is most familiar — is labor productivity, typically measured as output per hour. This measure shows how output fluctuates in relation to the critical input of total hours worked. Increases in the amount and quality of capital available for each worker and technological advances will be reflected in greater labor efficiency — either more output for the same labor input or the same output for less labor input. The classic illustration of increasing labor productivity can be seen in what happened to farming over the last one hundred years. At the turn of the century, over a third of the labor force was devoted to agriculture; to day it is just over two percent. Since fewer people (hours) were needed to produce the same output, something must have changed: the nation's agricultural productivity increased.

Measuring productivity poses problems, however. Even something as conceptually straightforward as hours worked is not as simple to measure as it might seem. The primary information source is the survey of establishments conducted by the Bureau of Labor Statistics. This provides information on the weekly paid hours of nonsupervisory workers. This is then supplemented from various sources to capture the hours of supervisors and managers, the self-employed and unpaid family workers. But what happens when time is spent completing tasks beyond the standard workweek for which workers or managers are compensated? What happens when time for which workers are paid is spent not working? And even if hours are accurately reported, there is no way to control for effort — how hard people are actually working.

Output poses greater challenges. The output data used to measure business sector productivity are derived from GDP but exclude government and several other components. The starting place is the value of expenditures on the various goods and services that make up final demand. Values are observable; data can be collected on firms' sales. Additionally, using values allows one to aggregate such diverse products as locomotives, haircuts and legal services. The output of each activity is weighted by its price. And if prices never changed, any change in value would represent a change in output. However, because prices do change, it is necessary to break the change in value into a price and a quantity change. Most commonly, this is done by estimating the price change and then "deflating" the change in value to determine the "real" change in output.

Much effort has gone in to improving our measures of price changes in recent years. However, problems remain. Some of the most vexing arise from difficulties in defining the basic unit of output for which the price change is to be estimated. What is the unit of output for legal or social services? What is the basic unit of output for computers? It is certainly not the physical unit. In the case of computers and some other products, the statistical agencies have determined that the unit is a set of key attributes, such as speed and memory. Statistical techniques are then used to estimate prices for these attributes and from changes in these prices, changes in output are estimated.

Before the recent pickup in productivity growth, many business people had difficulty reconciling the official estimates of productivity growth with their own experience, which suggested that larger gains were taking place. Trying to improve productivity in individual firms is the natural focus of individual businesses and managers, since a more productive operation can result in a better bottom line. At this micro level, productivity gains often reflect the combination of increased use of technology and worker skill and they are relatively easy to see and measure. Here at the Federal Reserve Bank of Boston, and in industries around New England, the need to be more and more productive to control costs, to offer better products and services, and to survive in an ever more competitive environment has been the primary management theme of the '80s and '90s. Anecdotes abounded for years about major increases in productivity at individual firms (see side bars), but until the last four years or so, these increases were not reflected in the national productivity figures.

Part of the explanation may be measurement difficulties. But part of the explanation may also be that productivity gains at the micro level do not necessarily imply gains in the aggregate. Productivity gains at one firm may be offset by increased inefficiencies at another. While everyone may be trying to improve productivity, mistakes can be made; investments in new equipment and changes in business practices may not yield the expected payoff — particularly in the short run. Additionally, if productivity gains at individual firms result in worker displacement, the productivity gains for the economy as a whole depend upon those workers' re-employment opportunities. If workers are moving into industries and occupations in which output per hour is lower than in their former employment, this shift from higher productivity activities to lower productivity ones will damp productivity growth at the aggregate level.

Because productivity growth is so important, much effort has been devoted to determining its causes. But this, too, poses difficulties. Many argue that in one way or another all productivity growth can be linked to improvements in either the quantity or the quality of investments in the means of production. The amount of capital per worker might be increased. For instance, providing more workers with access to computers may cause labor productivity to rise. Similarly, if workers are provided with better computers and other capital — perhaps reflecting the latest technological improvements — their productivity should go up as well. Third, productivity might be enhanced by improving the quality of the workforce itself, for example, through better education or improved job-specific skills.

There are, however, certain residual efficiencies that are left over even after one has accounted for all such improvements in the traditional inputs to production. This is where some have turned to the concept of "multi-factor" or "total factor" productivity. The standard measures of multi-factor productivity calculate output relative to capital as well as labor inputs with each factor weighted by its returns. Multi-factor productivity embodies the possibility that at least some efficiencies arise from harder to measure "synergies" of production. The idea is that, in addition to the benefits that may accrue directly from better inputs, there may be potential gains that result from the way that the inputs are put together as well.

One such example is known as "spillover," where firms that produce similar products may benefit from being in close proximity to one another. Consider the clustering of high-tech firms along Route 128, or in Silicon Valley. Sharing ideas and exposure to different ways of doing things is potentially beneficial to all who participate. As a result of such interactions, the whole may be greater than the sum of its parts.

Despite all of the complexities in defining and measuring productivity, however, the nation's recent productivity numbers represent real gains in economic well-being. All of the anecdotal evidence of productivity increases in the 1980s and 1990s is being reflected in the aggregate data. If this increase in productivity growth is to prove long-lasting, the key lies in investment in the means of production, such as technology and education.

## U.S. labor productivity has surged since 1996 *Output per Hour*



Quarterly Data Source: Bureau of Labor Statistics



At the start of the 21st century, it is easy to marvel at the fast pace of technological change. The blossoming of the Information Age has created a sense of both enormity and uncertainty about the potential that today's inventions may have for the economy, and for future standards of living. It is important to remember, however, that this is not the first time that this nation has faced such rapid technological progress. Early in the 20th century, the invention of the automobile, the telephone, and the spread of electrification, all were beginning to transform the American economy, leading to a period of rapid productivity growth during the 1920s. With the benefit of hindsight, it is easy to appreciate such a link. Scholars have noted, however, the curious reluctance with which breakthrough innovations were first embraced. The radio was initially regarded as useful only for ship-to-ship, or ship-to-shore communications. The telephone was thought merely to be a slight improvement over telegraphy. The automobile was dismissed as a plaything for the rich. Even the computer was initially perceived as having no direct business applications.

Over time, of course, things changed. Further technical refinements were made, prices came down, and new applications were developed. At times, the very process by which a product was manufactured — such as the mass production techniques employed by Henry Ford — was copied with great success in other industries. Eventually, each of the technological innovations mentioned above led to new efficiencies in business interaction, or improvements in manufacturing, and ultimately led to an increase in productivity. Even though it is sometimes difficult to appreciate at the time, it now seems obvious that with each new invention come unanticipated benefits to commerce.

Today, some have argued that the engine behind our current economic boom is the novel efficiencies that have resulted from what is called the Information Revolution. In just a few short years, the growth of computers and the Internet have changed much about the way that business is done. Earlier methods of data gathering and communication have been replaced by transactions that occur in "internet time," and many are just beginning to discover the economic benefit of this quickened pace. Consequently, some speculate that the computer and the Internet have restructured the economy, and shifted its sustainable rate of growth, through a period of accelerating productivity, much like that characterizing the "Second Industrial Revolution" in the early 20th Century. Beyond the problems of measurement noted earlier, why were the gains in productivity growth so slow throughout the 1980s, when the computer was invented in the 1940s, and large businesses first started to use them as early as the late 1950s? Recent work by Paul David, an economic historian, makes the argument that the computer, like electrification, takes time to have an effect. The real economic benefit of technology comes only as a product of the synergy that results when it has diffused to a critical mass of people. Although the incandescent light bulb was invented by Edison in 1879, at the turn of the century only 3% of all residences had electric lighting. It took another twenty years to reach 50%. Critical mass was not reached, David contends, until widespread factory electrification in the early 1920s. Though it would ultimately have a marked effect on our economy, the economic benefits of electrification did not show up until fairly late. By the same token, David speculates that the computer has only recently diffused to the point where we would begin to expect it to have an effect on our economy.

The most recent productivity numbers bring encouraging news for this prediction. A recent study by Stephen Oliner and Daniel Sichel, of the Board of Governors of the Federal Reserve System, provides evidence that computers are having an effect on American productivity, by their estimate accounting for close to two-thirds of our recent acceleration in productivity growth. Notably, in contrast to other studies that linked the entirety of the computer's contribution to production of computer hardware, Oliner and Sichel attribute a significant share of the pickup to computer use. Thus, by the late 1990s, the economy apparently had moved beyond the situation in 1987, when Nobel Laureate Robert Solow remarked that "we can see the computer age everywhere except in the productivity numbers." While no one knows whether such gains will survive an economic downturn, the prospects seem brighter than they once did that computers are having a measurable effect on productivity. And perhaps, as with electrification, we are only beginning to enjoy the full fruits of the computer revolution, with even larger gains still to come.

(continued on page 19)

Fifteen years ago, the jewelry manufacturing industry in the greater Providence, Rhode Island, area numbered 25 firms and was in a steep decline. Today, only a handful of these firms remain in business. Increasingly, wholesale jewelry buyers were looking to Europe, mainly Italy, to satisfy their demand for quick delivery of high quality products at lower prices. Local jewelry manufacturing companies had difficulty competing with their international counterparts. Excel Manufacturing Company, a company of 160 employees founded in 1919, was a typical, small jewelry manufacturer sharing in these competitive difficulties. However, unlike many of these firms, Excel took a long hard look at its future prospects and decided that it would not survive if it continued to do business in the traditional way. It became clear to Excel's CEO, Howard Kilguss, that the old formula of increased production to meet customer demand, that is, hiring more people and buying

more machines, would simply not work. Survival meant taking a whole new approach to business and productivity.

Company management took a strategic look at the industry and decided to learn more about it. Specifically, they realized that Excel needed to develop ways to be far more productive and maintain

lower manufacturing costs to successfully compete in an increasingly global marketplace. Their search for the right formula took them to Italy, where they saw first-hand the capabilities of technology and a corporate culture of continuous technological advancement. These were some of the tools that were giving Italian firms the competitive edge. Excel adopted these new tools and values. The end result of research, decision-making, and implementation was the transformation of a declining company into a successful, growing, high-tech jewelry manufacturing firm.

Today, Excel has approximately the same number of employees it had fifteen years ago, half the number of machines, and four times the level of production. The company's success is a result of continuing investment in the latest state-of-the-art equipment, staying ahead of the industry technologically, hiring educated and skilled technicians, and retraining lower skilled



workers. Also, management created a company culture that readily embraces technology and anticipates further technological changes to increase productivity. While the old machines produced 80 gold chain links per minute, the new machines are producing 300-350 links per minute and require far less labor input. Future machines will produce even more. Unmanned laser-manufacturing equipment now produces jewelry 7 days a week, 24 hours a day. Moreover, the time needed to complete other related tasks has diminished and these tasks require far less labor. For instance, X-raying material to determine gold composition previously took hours; through technological advances it now takes minutes.

The road to success took time and tremendous effort. The mix of employees shifted from mostly low skilled to mostly technical and highly skilled. Innovation, quality standards and increased productivity became goals

> as the company built its future. Supply lead times were cut in half because investment in capital allowed the company to produce its own wire, the staple in jewelry making. Purchasing practices were streamlined to eliminate unnecessary wait time for materials, which, in turn, drastically reduced attendant production slowdowns. In-house retraining

allowed many workers to learn the skills needed for the new technical positions that replaced lower-skilled, labor-intensive jobs.

The future for Excel means more innovation. The jewelry manufacturing industry competes in a rapidly changing global market. Excel management knows that it must stay keenly aware of the competition and continually invest in technology that will increase high quality production, reduce cost, and improve delivery times. Increased use of lasers in manufacturing jewelry will further transform the industry, and will produce additional productivity gains. New employees will need to be even more welleducated, possess more technical skills and be open to change when the technology changes.

Gains in productivity allowed Excel to become a strong competitor in the global jewelry manufacturing market. Its management is keenly aware that further increases in productivity are the keys to ongoing success and survival.

## BOSTON FED PRODUCTIVITY SNAPSHOTS

Long before it is measured in economy-wide statistics, increasing productivity is created by the many decisions, small and large, of individual companies who have committed themselves to a process of continual improvement in the way they do business. Here at the Federal Reserve Bank of Boston, productivity improvements have been the focus of management attention for many years. Three snapshots follow.

#### "PAPERLESS" PAYMENTS

In the last four years, the Bank has revolutionized its method of paying vendors, so as to enjoy the efficiency of paperless transactions. In 1995, the Bank paid only two vendors a total of 39 payments electronically through the Automated Clearing House (ACH). The remaining vendors were paid with paper checks — 9,738 of them. By 1999, a sea-change had occurred, with 92 percent of all payments made through ACH. The resulting efficiencies have been significant, both for the Bank and for its vendors.

Internally, the entire volume of out-going checks can now be handled by one person.

In addition, manual and mechanical printing processes have been eliminated, the Bank's mailing costs have dropped, and check reconcilement a once arduous task with 10,000 checks — is now trivial. The Bank's vendors have benefited from quicker access to payments, elimination of lost checks, and the possi-

bility of nearly instantaneous reconcilement of payments through invoice matching.

#### TRAVELING SMARTER

Prior to the fall of 1997, employees traveling on Bank business and needing travel advances followed a long and winding road to the cash. The traveler completed a paper request, sought an official approval signature, delivered the paper to accounts payable, waited a day or two, picked up the check, went to a Bank teller between 10:00 a.m and 2:00 p.m., and cashed the check.

Corporate travel cards straightened and shortened the road. Travelers were issued corporate credit cards to charge travel-related from any ATM in the country. There was no longer a need for paper, before-the-fact permission, or the Bank teller; any advances taken are documented and settled after the trip. The productivity gains are both direct

expenses as well as obtain cash advances

and indirect. The traveler's time to obtain a cash advance was greatly reduced, the Bank saved the cost of a teller's position, and the documentation process was greatly improved.

#### TURNING A "CYCLE" INTO A TREND

In 1999, the Bank's check collection department experienced a sudden upsurge

in volume. Volume increased by nearly 10 percent, but hours worked only grew by a bit over 5 percent. Productivity surged. Some of this productivity improvement was attributed to shortterm economies of scale; staff worked harder and faster for a short period to absorb the growth. However, to sustain higher

volumes over a long period, something more permanent had to be done.

The check operation focused on improving process flows and internal quality. A reorganization and review of processes was undertaken. This review moved two experienced supervisory staff from the day shift to cover the high volume night shift. Staff work schedules were changed to better meet deadlines and cover peak times, and staff was cross-trained in multiple functions. In the process, overtime decreased 39 percent from 1998 to 1999, and quality improved, as reflected in a 20 percent drop in the internal error rate. More importantly, these changes created the ability for the check operation to sustain its hard-won productivity gains.



Investments in technology are important. But just as important are investments in human capital. In recent studies of U.S. productivity growth, economist Dale Jorgenson attributes a good share of the increase in productivity over the period of 1948-98 to improvements in the quality of human capital. Increasing educational attainment is a major component in this increased quality. Education, innovation, creativity, even sheer effort: all of these are tied to the quality of the workforce. This quality must continue to improve, if continued improvements in productivity are to be seen.

There are, of course, tradeoffs. As productivity increases, some people will be left behind. Think here of the farmers who were compelled to find other occupations as a direct result of the increased productivity of modern farming methods. With increases in productivity sometimes come sharp disruptions in living styles, either within a profession or across an entire society. Though, on the whole, increasing productivity is a good thing for everyone, it can produce short-run setbacks for some.

With economic change, displaced workers are a fact of life. There may well be jobs for them, but will they have the skills to fill these new positions? Two factors are important: first, the quality of initial education experiences, and second, the need for continual training and retraining. Increasingly, a good education must prepare a worker not just with the skills needed for a first job, but for a lifetime of continuing change. Beyond that, industries must focus resources on training and retraining incumbent workers. Particularly now, with levels of unemployment at a 30-year low, and a dearth of available labor in technical areas, the interest of business and labor coincide in this regard, with investments in training an increasing necessity from a business as well as worker perspective.







INCREASED

PRODUCTIVITY

GROWTH

CYCLICA

O R

NEW TREND?

INVESTMENTS IN HUMAN AND PHYSICAL CAPITAI We now return to the question of whether a "New Economy" exists. Is there any evidence that the investments in human and physical capital are paying off, not only with higher rates of productivity growth for the moment, but with sustained higher rates? Has the information revolution brought about a structural change in the economy, such that the old assumptions about how fast the economy can grow no longer apply, because of higher and possibly even accelerating productivity?

The critical question is whether the productivity gains now being enjoyed are the result of the strength of the current cyclical expansion or reflect a new trend. While there is now some evidence that a large share of the economy's recent productivity growth is due to the impact of computers, some question whether this involves a permanent change in the rate of productivity growth. Whatever its cause, some argue that the nation's recent increase in productivity growth rate does not, in and of itself, provide evidence that a new trend exists. The recent rate of productivity growth, while impressive, they argue, is what one would expect given the nation's strong overall growth rate. Measured productivity growth could have increased simply because the recent strength of demand required a short-term spurt in production. Normally, such short-term bursts cannot be sustained, either because demand falls or supply constraints start to bite, increasing costs and inflation.

Of course, this raises the question of what caused the rate of GDP growth to be so high in the first place. Is productivity growth itself feeding back in such a way as to influence GDP, or are both GDP growth and productivity growth collateral effects of some common cause? Improvements in productivity brought about by technological change, or changes in education or skill levels, could well make consumers and businesses more confident about the future. This increase in confidence could lead to more near-term growth in consumption and investment, which in turn would raise measured productivity. But could this process reverse itself as well? If businesses and consumers become more pessimistic about the future, perhaps because investments in new technologies do not deliver the returns expected, could a collective reevaluation occur and bring into question the permanence of recent increases in productivity? There is no way to tell. All we can say is that while our best evidence cannot prove that we are in a "New Economy," neither can it rule it out. Just as in the examples of technological innovations at the turn of the century, it is only over time that the impact of today's technological innovations will be fully realized.

## INTERNATIONAL

## COMPARISONS

Although the recent pickup in overall U.S. productivity growth has not been matched in the rest of industrial world, a number of countries achieved growth in manufacturing productivity in the 1990s comparable to that in this country. Sweden and Germany also saw a notable acceleration in manufacturing productivity growth from the 1980s to the 1990s. An interesting question, then, is not just whether the United States is experiencing a new trend, but whether the world (at least the developed world) may be on the verge of doing so as well.

That high rates of growth in manufacturing productivity in other countries are generally not reflected in high rates of productivity growth overall could reflect the relatively slow rates of expansion and excess capacity in some of these countries. As noted earlier, increases in labor efficiency at the micro level translate more readily into productivity gains at the aggregate level when excess workers can be redeployed — and redeployed into activities at least as productive as those they left.

It is also possible that Paul David's theory applies to the rest of the world, as well as to the United States. As the United States leads other countries in investment in information technology equipment and its dispersion throughout the economy, the fruits of a technology-induced productivity gain might appear here earlier than in other countries. However, if history is any indication, the other industrial countries will follow the U.S. lead. Through much of the post World War II era, productivity levels in the industrial world showed a strong tendency to converge, as countries with comparatively low output per hour narrowed the gap with the productivity leaders, especially the United States. Even now, other industrial countries are active investors in and users of the new technologies. Indeed, in the number of mobile phones per capita the United States is actually well down in the pack.

Unfortunately, the convergence process has not yet extended to many developing countries. In this regard, a very encouraging feature of many of the new technologies, like personal computers and mobile phones, is that they can be widely dispersed without the costly infrastructure improvements required by many of the major technological innovations of previous eras. It seems at least possible that the new technologies could eventually allow more of the developing countries to join the group where convergence — rather than divergence — prevails.





■ 1980-1989 ■ 1990-1998 Source: Bureau of Labor Statistics Increasing productivity, for all of our uncertainties in defining and measuring it, is the most important reason for the nation's current economic prosperity. Arguably, it is what has brought the nation from the uncertainty and collective angst of the 1970s to confidence in its position as one of the most competitive economies in the world with one of the highest standards of living. The gains in productivity that we have seen in the last few years deserve to be celebrated. But, they must not be taken for granted; there is no way to know how long these gains will last nor how far they will reach.

One thing does seem clear, however. The combination of macroeconomic policies in the 1980s and 1990s, policies focused on price stability and on reducing budget deficits, created an environment in which the investments in technology and in human capital so necessary to productivity improvement were both possible and logical. With low inflation, economic distortions are minimized and productive investment is rewarded. Declining budget deficits, more recently budget surpluses, in combination with low inflation, reduce long-term interest rates and make a wider variety of investments feasible. If investments in technology and human capital are the proximate cause for the country's recent gains in productivity, then these prudent macroeconomic policies have made such investment possible.

The potential for complacency must be regarded as the worst enemy. Business cycles will come and go; economic fortunes will wax and wane. But policymakers and the public alike must remain focused on the fundamental necessities for continued productivity growth. Low inflation, conservative national budgets, combined with public and private investments in new technologies and human capital must be the highest priority. That is the only way that this country's current success in increasing productivity, and ultimately in improving the lives of its citizens, can be maintained.

#### Papers referred to in this essay:

Paul David, "The Dynamo and the Computer: An Historical Perspective on the Modern Productivity Paradox," The American Economic Review, Vol. 80, #2 (May 1990), pp. 355-361.

Jeffrey Fuhrer and Jane Sneddon Little (eds.), "Technology and Growth: Conference Proceedings," Conference Series No. 40, Federal Reserve Bank of Boston (June 1996).

Mun Ho and Dale Jorgenson, "The Quality of the U.S. Work Force, 1948-1995," Program on Technology and Economic Policy, Kennedy School of Government, Harvard University (forthcoming).

Dale Jorgenson and Kevin Stiroh, "Raising the Speed Limit: U.S. Economic Growth in the Information Age," Brookings Papers on Economic Activity, 2000, No. 2 (forthcoming).

Stephen Oliner and Daniel Sichel, "The Resurgence of Growth in the Late 1990s: Is Information Technology the Story?," Finance and Discussion Series No. 2000-20, Federal Reserve Board (March 2000).

\*Cathy E. Minehan is the President and Chief Executive Officer of the Federal Reserve Bank of Boston; Lynn E. Browne is Senior Vice President and Director of Research; and Lee McIntyre is an Associate Editor in the Research Department. The views expressed here are those of the authors and do not necessarily reflect official opinions of the Federal Reserve System.

## BEYOND OUR WALLS...

Books & Kids Reading Program



1999 Community Care Day



1999 Community Care Day



## ... REACHING OUT TO OUR COMMUNITY

1999 Fed Challenge Finalists



1999 LifeSmarts Winners



1999 Student Interns

1999 *Reading About Law* Seminar for South Boston High School







## 1999 BANK HIGHLIGHTS

The Federal Reserve Bank of Boston's major responsibilities fall into three principal categories: economic research and monetary policy, supervision and regulation of banking organizations, and the provision of financial services to banking institutions. The Bank's activities and initiatives in these areas reflect a strong commitment to the public good and to the proud tradition of the Federal Reserve System. This section describes some of the Bank's leading achievements in each of its major areas of responsibility in 1999. First, however, it briefly discusses the Bank's leading achievement in 1999 — the successful transition to the Year 2000.

#### CENTURY DATE CHANGE

A primary focus of the Bank's management and staff in 1999 was preparing for the changeover to the Year 2000, a comprehensive undertaking that engaged nearly every business, operations, and support area of the Bank. The Bank's Y2K activities fell into two categories: Federal Reserve System (System) preparations for which the Bank provided national leadership, and local Reserve Bank preparations.

At the System level, senior management of the Bank served as co-chair of the Century Date Change Council, a senior policy group that provided high-level national direction and



guidance on Y2K matters. As part of this System leadership role, Bank senior management directed and coordinated preparations for the Reserve Banks' financial services operations. In that capacity, Bank personnel developed the requirements for event management at the 12 Reserve Banks and executed two national drills to test System readiness prior to the Y2K event. During the nine-day Y2K event changeover period, the Bank operated the System's communication center that coordinated and communicated information related to national financial services, operations and facilities.

At the local level, Bank operations and technical staff worked together to prepare internal systems; test customer readiness; ensure adequate supplies of cash for the public; and refine the Bank's contingency plans. Additionally, senior management and Public Information staff undertook a year-long community outreach effort throughout New England to assure customers and the general public that they should not expect any significant disruptions in banking and other major services as a result of Y2K. In that connection, the Bank held a forum for the New England media that brought together senior officials representing vital private and public services for the purpose of providing the public with current and reliable information on the preparedness of key service providers.

In support of the Federal Reserve's role as lender of last resort, the Bank secured borrowing documentation from over 85% of the commercial banks and thrift institutions in the District, enabling them to borrow readily from the Bank's discount window in the event of any Y2K-related liquidity needs. In conjunction with other federal and state regulators, Bank supervision staff evaluated and ensured the preparedness of all New England bank holding companies and other depository institutions.

The Bank, the financial institutions it supervises, and the region as a whole made the transition to the Year 2000 smoothly. The planning and collaborative efforts that worked well in preparing the Bank and the region for Y2K will have lasting benefits for all of us. From the Bank's perspective, synergies created by the many collaborations that took place in preparing for Y2K — among Bank departments that under ordinary circumstances would not have occasion to work together; between the Bank and its customers; and between the Bank and many of the region's utilities, public safety services, and local governments — have already led to new avenues for economic research, improved operational and business processes, and new coalitions that will contribute to the advancement of the Bank's strategic objectives in 2000 and over the longer term.

## ECONOMIC RESEARCH AND MONETARY POLICY



The primary responsibility of the Bank's Research economists is the analysis of economic conditions for the monetary policy deliberations of the Bank's President and Directors. In 1999, the U.S. economy entered its ninth year of an expansion that continued to challenge conventional wisdom and wellestablished economic models. Much of the economic research undertaken in 1999 focused on the reasons for the economy's unusually favorable performance and the risks to continued expansion. Another research focus in 1999 was on assessing whether information gleaned from the supervisory process can provide valuable insights to monetary policy-makers. Bank research economists also contributed to System efforts to rethink supervisory techniques for large and complex banking organizations, particularly in areas related to financial disclosure requirements and systemic risk.

The Bank hosted two economic conferences in 1999. The topic of the annual spring conference was "Rethinking the International Monetary System," prompted by the recent financial and economic crisis in Asia. The second conference, which the Bank co-sponsored along with the Board of Governors and several other Reserve Banks, addressed the difficulties of conducting monetary policy in a low-inflation and low-interest rate environment.

The Bank's research was published in numerous prestigious economic journals in 1999, and the Bank continued to receive wide-

spread requests to have its economists present their research and share their expertise in prominent national and international forums, such as the Bank for International Settlements and the European Central Bank. The Bank also continued to publish its own respected economic journal, the New England Economic Review, as well as its colorful, newly redesigned and engaging Regional Review. Other ongoing publications produced by Research in 1999 include banking market and structure change tables for New England and BankNotes, a monthly digest of banking news, which are now available on the Bank's public website as well as in hard copy. All of these publications enjoy a large and growing circulation to diverse audiences around the country.

## SUPERVISION AND REGULATION

The strong performance of the New England banking industry, fueled by expectations of the enactment of financial modernization legislation and an upcoming change in accounting rules governing mergers and acquisitions, prompted a flurry of consolidation activity in the First District in 1999. Affiliations were announced among three pairs of institutions among the District's ten largest, including a merger between the two largest banking organizations in the District. These affiliations were subject to the Federal Reserve's review and approval process, which engaged a significant number of the Bank's top supervision, legal, and research personnel. The competitive analysis of the merger of the region's top two banking organizations resulted in a divestiture requirement that is the largest in U.S. banking history. As part of the application process for that merger, the Bank hosted a 12-hour public meeting at which more than 150 people testified.



In addition to pressing forward with its extensive Y2K responsibilities in 1999, the Bank's supervision function continued to provide expertise and leadership within the Federal Reserve System in areas of strategic importance to the First District: capital markets, global custody, mutual funds, insurance, and the Community Reinvestment Act (CRA). At the System level, Bank personnel chaired a committee on capital markets, continued to participate in special projects and studies, and developed examiner guidance for the insurance activities of banking organizations. The Bank also led analysis of global custody industry practices, which yielded a comprehensive, consistent approach to the examination of global custody activities. Within the District, staff tightened risk focus in the consumer examination process, and increased the number of banks subject to continuous safety and soundness oversight.

Late in the year, long awaited financial modernization legislation, the Gramm-Leach-Bliley Act, was passed by Congress. In 1999, the Bank's unique areas of expertise helped the System's supervision function prepare for changes associated with the financial modernization legislation. For example, relationships previously established with the National Association of Insurance Commissioners were strengthened to form the basis for a constructive dialogue on the System's new responsibilities as the umbrella supervisor of functionally regulated businesses.

The new financial modernization law will bring substantial changes to the financial and regulatory landscape in the coming years and presents numerous challenges and opportunities for the Bank's highly-skilled supervision and regulation professionals. It will also provide the Bank with new opportunities for industry and community collaboration, and a chance to build on relationships developed in the course of the Bank's Y2K activities.

#### FINANCIAL SERVICES

The highest priority in the financial services areas in 1999 was to prepare for the century date change. Operations and customer services staff supported extensive testing with New England financial institutions to ensure that their systems were Y2K compliant. The Bank established three strategic inventory locations for the distribution of currency to ensure that ample supplies were readily available to all New England depository institutions in the event of increased Y2K-related demand. To assist customers in their Y2K planning, the Bank revised and published its *Business Continuity Guide* and its *FedLine Planning Guide to Business Continuity.* 

Beyond Y2K, the Bank made significant contributions to payments system leadership, both at the System and local levels. The Reserve Banks' payments services are managed nationally by a policy committee comprised of three Reserve Bank presidents and two Reserve Bank first vice presidents. The committee is chaired and supported by this Bank. Some of the leading activities of this committee in 1999 included the completion of a new umbrella strategic plan for the Reserve Banks' financial services, an analysis of the Reserve Banks' financial services' requirements for



future IT services as input to national business/IT strategic planning, and the provision of guidance on standardizing the Reserve Banks' check processing platform. Related to its policy committee role, Boston assumed cochair and other leadership responsibilities for the new Payments System Development Committee, which will continue the important work in the payments system arena begun by a committee under the direction of former Federal Reserve Vice Chairman Alice Rivlin.

The Bank undertook several other important initiatives to improve the efficiency and integrity of the nation's payments system. At the System level, these included pioneering a collaborative national effort with the banking industry on the use of image technology in the check returns process, working with another Reserve Bank and the U.S. Postal System to create an image archive for postal money orders, managing three tests of emerging payments technologies for the U.S. Treasury, leading an effort to develop and test a web-based image retrieval program for check customers, and completing the transition to serving as a consolidation site for the Reserve Banks' offline funds and securities transfer activities. Additionally, the Bank was selected by the U.S. Treasury as one of three TreasuryDirect investor services consolidation sites, and as the lead technology site for TreasuryDirect.

Locally, the Bank continued to actively promote electronic payments. Through initiatives like a check image exposition attended by 200 area bankers, the Bank enrolled 31 new electronic check customers. It also extended its check image services to its Windsor Locks customers. To promote the benefits of ACH DirectDeposit/Payment, the Bank collaborated with its local ACH association in joint marketing efforts, including radio and print advertising and interactive educational and public service events. The Bank also held meetings with large local organizations to determine how ACH services could enhance their business processes.

Also noteworthy in 1999 were the favorable results received by the Bank in the System's first national financial services' customer satisfaction survey. In comparison to the results of a similar local District survey two years earlier, the Bank showed significant improvement in every service area. While the survey responses were very positive, the Bank is committed to continuous improvement and has already begun to identify opportunities for enhancing the services and value it offers customers.

#### PUBLIC AND COMMUNITY AFFAIRS

In addition to the three principal responsibility areas of the Bank, the Bank has a long tradition of promoting economic and consumer education, and of sharing its expertise with its community. The Bank's education outreach initiatives serve students, teachers, bankers and the general public. In 1999, the Bank offered more than 350 educational programs, reaching over 10,000 professionals, students, and consumers. It distributed more than 100,000 educational publications about the Federal Reserve System and money and banking in the United States, and produced a highly thought of quarterly publication entitled "Communities and Banking." Two of the special economic education programs the Bank again sponsored in 1999 were the Fed *Challenge* and *LifeSmarts*. In the Fed Challenge competition, 21 high schools from around New England participated in making presentations as part of a mock Federal Open Market Committee meeting that required knowledge of current economic conditions and monetary policy-making. *LifeSmarts* is also a high school competition, focusing on general financial and life-skills subjects such as banking, credit and consumer protections. In both competitions, the winning teams went on to compete in national finals.

In the consumer education arena, programs on identity fraud and Y2K readiness were the principal areas of focus in 1999. The Bank also undertook several new initiatives in support of community development and partnership-building. One such effort was a conference co-sponsored with the New England Board of Higher Education to explore the potential for academic institutions to take a leadership role in revitalizing neighboring communities. The Bank co-sponsored two seminars on micro-enterprise lending. It also began development of an educational video as a follow-up to the Bank's successful 1998



Making It In The Mainstream conference, which promoted working partnerships between small minority enterprises and large corporations.

The Bankers' Forum program introduced in 1998 was continued this year. Under this outreach initiative, the Bank's senior management team travels together to locations throughout New England to meet with groups of local bankers to exchange information and share perspectives on current banking and economic topics, as well as on other business topics of mutual interest. This popular program enables Bank management to get to know its constituents and their interests and concerns, as well as familiarizes bankers with the purposes, functions and activities of the Fed.

## SUMMARY OF OPERATIONS

	1999		1998	
	Daily	Daily Dollar	Daily	Daily Dollar
	Average	Value of	Average	Value of
Services to Depository Institutions	Volume	Transactions	Volume	Transactions
Funds Transfer	57,250 transfers	\$ 178.7B	52,609 transfers	\$ 144.2B
Automated Clearing House				
Commercial ACH				
Items Originated	813,671 items	\$ 1.5B	703,210 items	\$ 1.40B
Government ACH				
Items Originated	1,706 items	\$ 6.2M	1,726 items	\$ 6.1M
Cash Operations				
Cash Shipped	8.2 M notes	\$ 121.6M	7.2 M notes	\$ 102.6M
Cash Received	7.4 M notes	\$ 104.2M	6.9 M notes	\$ 95.4M
Services to the U.S. Treasury <sup>1</sup>				
Electronic Book Entry				
Securities	9,995 transfers	\$ 112.9B	9,692 transfers	\$ 126.3B
Commercial Check Processing				
Total Volume	4.0 M checks	\$ 3.4B	4.0 M checks	\$ 3.3B
Processed Volume	3.6 M checks	\$ 3.1B	3.3 M checks	\$ 2.9B
Fine Sort Volume	0.4 M checks	\$ 240.4M	0.6 M checks	\$ 0.30B
Processed Returns	41,235 checks	\$ 48.3M	39,379 checks	\$ 0.04B

<sup>1</sup> Includes work performed as a System consolidation site for processing off-site wholesale payments beginning in September 1998.

## BOARD OF DIRECTORS



William C. Brainard (Chairman) Professor of Economics Yale University

William O. Taylor (Deputy Chairman) Chairman Emeritus The Boston Globe

Stephen L. Brown Chairman and Chief Executive Officer John Hancock Mutual Life Insurance Company

Edwin N. Clift President and Chief Executive Officer Merrill Merchants Bank Edward M. Dugger III President and Chief Executive Officer UNC Partners

Robert R. Glauber Adjunct Lecturer John F. Kennedy School of Government

Terrence Murray Chairman and Chief Executive Officer FleetBoston Financial Corporation

James J. Norton President Graphic Communications International Union G. Kenneth Perine President and Chief Executive Officer National Bank of Middlebury

#### FEDERAL ADVISORY COUNCIL MEMBER

Lawrence K. Fish Chairman, President and Chief Executive Officer Citizens Financial Group

## NEW ENGLAND ADVISORY COUNCIL



Chester E. Homer (Chairman) President Shawnee Peak Ski Area

Ray W. Allen Owner Allenholm Farm

Joan Wallace-Benjamin President and Chief Executive Officer Urban League of Eastern Massachusetts

Maxine Brandenburg President Vermont Business Roundtable

Bruce D. Clow President and Chief Executive Officer Laconia Savings Bank Anthony Dolphin President and Chief Executive Officer SpringBoard Technology Corporation

Albert B. Glickman, Esq.

Kathryn Henry Vice Chairman Confluence Holdings

Howard Kilguss President Excel Manufacturing Company

Shepard Lee Chairman The Lee Auto Malls

Joseph W. Nigro, Jr. General Agent/Secretary-Treasurer Boston Building and Trades Council Brett N. Silvers President and Chief Executive Officer First International Bank

Richard Stammer President and Chief Executive Officer Cabot Creamery

Michael Swack Director Community Economic Development Program at New Hampshire College

James Brett (Advisor) President The New England Council

## COMMUNITY DEVELOPMENT ADVISORY COUNCIL



Richard Walker (Chairman) Vice President, Community Affairs Federal Reserve Bank of Boston

Julie Connelly Vice President Citizens Bank of Massachusetts

Michael Davey Commercial Loan Officer Greenfield Savings Bank

Michael Finnegan Vice President Key Bank of Maine Evelyn Friedman-Vargas Executive Director Nuestra Communidad Development Corporation

Thomas M. Guerino Executive Director Massachusetts Rural Development Council

Paul McCraven Vice President New Haven Savings Bank

Patrick McGuigan Executive Director The Providence Plan

Clara Monier Executive Director New Hampshire Housing Finance Agency Joseph Newsome Executive Director South Providence Development Corporation

Ronald Phillips President Coastal Enterprises

Gregory Prince President Hampshire College

Felix Torres Executive Director Manchester Neighborhood Housing Services

## SENIOR OFFICERS



Cathy E. Minehan President and Chief Executive Officer

Paul M. Connolly First Vice President and Chief Operating Officer William N. McDonough Executive Vice President and General Counsel

Lynn E. Browne Senior Vice President and Director of Research

Thomas E. Cimeno, Jr. Senior Vice President Thomas E. Gagnon Senior Vice President

Sarah G. Green Senior Vice President

Robert K. LaRocca Senior Vice President

## OFFICERS

Cathy E. Minehan President and Chief Executive Officer

Paul M. Connolly First Vice President and Chief Operating Officer

William N. McDonough Executive Vice President and General Counsel

Lynn E. Browne Senior Vice President and Director of Research

Thomas E. Cimeno, Jr. *Senior Vice President* 

Thomas E. Gagnon Senior Vice President

Sarah G. Green Senior Vice President

Robert K. LaRocca Senior Vice President

Katharine L. Bradbury Vice President and Economist

Robert M. Brady Vice President

Richard M. Burns Vice President

Cynthia A. Conley Vice President, Associate General Counsel and Secretary

Marshall F. D'Avanzo Vice President

Claire M. Desjardins Vice President

James R. Fitzgerald Vice President

Mary E. Fothergill Vice President

Jeffrey C. Fuhrer Vice President and Economist

Gerald J. Giaccai Vice President

Joan M. Gibbons Vice President

Katharine Gibson Vice President

Dexter S. Holt Vice President John R.H. Kimball Vice President and Associate General Counsel

Richard W. Kopcke Vice President and Economist

Linda K. Kopec Vice President

Linda J. Mahon Vice President

Roland H. Marx, Jr. Vice President and General Auditor

James McEneaney Vice President

Edward A. Romkey Vice President

Eric S. Rosengren Vice President and Economist

E. Philip A. Simpson, Jr. *Vice President* 

William J. Spring Vice President

Geoffrey M.B. Tootell Vice President and Economist

Stephen G. Trebino Vice President

Curtis L. Turner Vice President

Richard C. Walker III Vice President and Community Affairs Officer

Steven M. Whitney Vice President

Robert Augusta, Jr. Assistant Vice President

Alan Bloom Assistant Vice President

James S. Cunha Assistant Vice President

Amina P. Derbali Assistant Vice President

Brian L. Donovan Assistant Vice President

Jonathan S. Fine Assistant Vice President

Christopher J. Gale Assistant Vice President Peter F. Genevich Assistant Vice President

Jane A. Goubeaux Assistant Vice President

Yolanda Kodrzycki Assistant Vice President and Economist

John J. Kroen Assistant Vice President and Assistant Secretary

Thomas L. Lavelle Assistant Vice President and Public Information Officer

Jane S. Little Assistant Vice President and Economist

Paul J. Malloy Assistant Vice President

Michael P. Malone Assistant Vice President

Leah Maurer Assistant Vice President

Kevin J. McCabe Assistant Vice President

James T. Nolan Assistant Vice President

David K. Park Assistant Vice President and Assistant General Counsel

David L. Plasse Assistant Vice President

Susan E. Rodburg Assistant Vice President

Colby Rottler Assistant Vice President

Krista M. Shields Assistant Vice President

Robert Tannenwald Assistant Vice President and Economist

Kristine M. Van Amsterdam Assistant Vice President

Marilyn E. Weekes Assistant Vice President

Anna M. Wong Assistant Vice President and Assistant General Auditor

## FINANCIAL STATEMENTS

MANAGEMENT ASSERTION	37
Report of Independent Accountants	38
STATEMENTS OF CONDITION	40
STATEMENTS OF INCOME	41
STATEMENT OF CHANGES IN CAPITAL	42
NOTES TO FINANCIAL STATEMENTS	43

## FEDERAL RESERVE BANK OF BOSTON

P. O. BOX 2076 BOSTON, MASSACHUSETTS 02106-2076

## To: Board of Directors

The management of the Federal Reserve Bank of Boston (FRBB) is responsible for the preparation and fair presentation of the Statement of Financial Condition, Statement of Income, and Statement of Changes in Capital as of December 31, 1999 (the "Financial Statements"). The Financial Statements have been prepared in conformity with the accounting principles, policies, and practices established by the Board of Governors of the Federal Reserve System and as set forth in the Financial Accounting Manual for the Federal Reserve Banks, and as such, include amounts, some of which are based on judgments and estimates of management.

The management of the FRBB is responsible for maintaining an effective process of internal controls over financial reporting including the safeguarding of assets as they relate to the Financial Statements. Such internal controls are designed to provide reasonable assurance to management and to the Board of Directors regarding the preparation of reliable Financial Statements. This process of internal controls contains self-monitoring mechanisms, including, but not limited to, divisions of responsibility and a code of conduct. Once identified, any material deficiencies in the process of internal controls are reported to management, and appropriate corrective measures are implemented.

Even an effective process of internal controls, no matter how well designed, has inherent limitations, including the possibility of human error, and therefore can provide only reasonable assurance with respect to the preparation of reliable financial statements.

The management of the FRBB assessed its process of internal controls over financial reporting including the safeguarding of assets reflected in the Financial Statements, based upon the criteria established in the "Internal Control – Integrated Framework" issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Based on this assessment, the management of the FRBB believes that the FRBB maintained an effective process of internal controls over financial reporting including the safeguarding of assets as they relate to the Financial Statements.

Jacky E. Minchen

Cathy E. Minehan, President *February 16, 2000* 

Paul M. Connolly

Paul M. Connolly, First Vice President



#### To the Board of Directors of the Federal Reserve Bank of Boston:

We have examined management's assertion that the Federal Reserve Bank of Boston ("FRB Boston") maintained effective internal control over financial reporting and the safeguarding of assets as they relate to the Financial Statements as of December 31, 1999, included in the accompanying Management's Assertion.

Our examination was made in accordance with standards established by the American Institute of Certified Public Accountants, and accordingly, included obtaining an understanding of the internal control over financial reporting, testing, and evaluating the design and operating effectiveness of the internal control, and such other procedures as we considered necessary in the circumstances. We believe that our examination provides a reasonable basis for our opinion.

Because of inherent limitations in any internal control, misstatements due to error or fraud may occur and not be detected. Also, projections of an evaluation of the internal control over financial reporting to future periods are subject to the risk that the internal control may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

In our opinion, management's assertion that the FRB Boston maintained effective internal control over financial reporting and over the safeguarding of assets as they relate to the Financial Statements as of December 31, 1999, is fairly stated, in all material respects, based upon criteria described in "Internal Control — Integrated Framework" issued by the Committee of Sponsoring Organizations of the Treadway Commission.

Viceweterlow Cooper, Cip

Boston, Massachusetts March 3, 2000

# PRICEWATERHOUSECOOPERS 🕅

## To the Board of Governors of the Federal Reserve System and the Board of Directors of the Federal Reserve Bank of Boston:

We have audited the accompanying statements of condition of the Federal Reserve Bank of Boston (the "Bank") as of December 31, 1999 and 1998, and the related statements of income and changes in capital for the years then ended. These financial statements are the responsibility of the Bank's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with auditing standards generally accepted in the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

As discussed in Note 3, the financial statements were prepared in conformity with the accounting principles, policies, and practices established by the Board of Governors of the Federal Reserve System. These principles, policies, and practices, which were designed to meet the specialized accounting and reporting needs of The Federal Reserve System, are set forth in the "Financial Accounting Manual for Federal Reserve Banks" and constitute a comprehensive basis of accounting other than accounting principles generally accepted in the United States.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Bank as of December 31, 1999 and 1998, and the results of its operations for the years then ended, on the basis of accounting described in Note 3.

Viceweterlow Cooper, Cip

Boston, Massachusetts March 3, 2000

## STATEMENTS OF CONDITION

December 31, 1999 and 1998 (*in millions*)

	1999	1998
Assets		
Gold certificates	\$ 533	\$ 582
Special drawing rights certificates	307	530
Coin	4	23
Items in process of collection	383	539
Loans to depository institutions	91	
U.S. government and federal agency securities, net	25,024	24,871
Investments denominated in foreign currencies	725	958
Accrued interest receivable	252	235
Interdistrict settlement account	9,921	1,172
Bank premises and equipment, net	118	119
Other assets	31	21
Total assets	\$ 37,389	\$ 29,050
Liabilities and Capital		
Liabilities:		
Federal Reserve notes outstanding, net	\$ 34,765	\$ 26,417
Deposits:		
Depository institutions	1,545	1,568
Other deposits	3	7
Deferred credit items	400	393
Surplus transfer due U.S. Treasury	32	67
Accrued benefit cost	56	52
Other liabilities	12	12
Total liabilities	36,813	28,516
Capital:		
Capital paid-in	288	267
Surplus	288	267
Total capital	576	534
Total liabilities and capital	\$ 37,389	\$ 29,050

The accompanying notes are an integral part of these financial statements.

## Statements of Income

For the years ended December 31, 1999 and 1998 *(in millions)* 

	1999	1998
Interest income:		
Interest on U.S. government and federal agency securities	\$ 1,436	\$ 1,493
Interest on foreign currencies	10	21
Interest on loans to depository institutions	1	
Total interest income	1,447	1,514
Other operating income (loss):		
Income from services	44	73
Reimbursable services to government agencies	16	17
Foreign currency gains (losses), net	(22)	91
U.S. government securities gains (losses), net	(1)	2
Other income	11	9
Total other operating income	48	192
Operating expenses:		
Salaries and other benefits	81	77
Occupancy expense	13	12
Equipment expense	12	11
Assessments by Board of Governors	36	29
Other expenses	39	75
Total operating expenses	181	204
Net income prior to distribution	\$ 1,314	\$ 1,502
Distribution of net income:		
Dividends paid to member banks	\$ 17	\$ 15
Transferred to surplus	21	13
Payments to U.S. Treasury as interest on Federal Reserve notes	1,276	453
Payments to U.S. Treasury as required by statute	-	1,021
Total distribution	\$ 1,314	\$ 1,502

The accompanying notes are an integral part of these financial statements.

## Statements of Changes in Capital

	Capital	Surplus	Total
	Paid-in		Capital
Balance at January 1, 1998 (5.2 million shares)	\$ 262	\$ 254	\$ 516
Net income transferred to surplus	_	13	13
Net change in capital stock issued			
(0.1 million shares)	5	-	5
Balance at December 31, 1998 (5.3 million shares)	\$ 267	\$ 267	\$ 534
Net income transferred to surplus	-	21	21
Net change in capital stock issued			
(0.4 million shares)	21	-	21
Balance at December 31, 1999 (5.7 million shares)	\$ 288	\$ 288	\$ 576

For the years ended December 31, 1999 and December 31, 1998 (*in millions*)

The accompanying notes are an integral part of these financial statements.

### 1. ORGANIZATION

The Federal Reserve Bank of Boston ("Bank") is part of the Federal Reserve System ("System") created by Congress under the Federal Reserve Act of 1913 ("Federal Reserve Act") which established the central bank of the United States. The System consists of the Board of Governors of the Federal Reserve System ("Board of Governors") and twelve Federal Reserve Banks ("Reserve Banks"). The Reserve Banks are chartered by the federal government and possess a unique set of governmental, corporate, and central bank characteristics. Other major elements of the System are the Federal Open Market Committee ("FOMC"), and the Federal Advisory Council. The FOMC is composed of members of the Board of Governors, the president of the Federal Reserve Bank of New York ("FRBNY") and, on a rotating basis, four other Reserve Bank presidents.

#### Structure

The Bank serves the First Federal Reserve District, which includes Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and a portion of Connecticut. In accordance with the Federal Reserve Act, supervision and control of the Bank is exercised by a Board of Directors. Banks that are members of the System include all national banks and any state chartered bank that applies and is approved for membership in the System.

#### **Board of Directors**

The Federal Reserve Act specifies the composition of the board of directors for each of the Reserve Banks. Each board is composed of nine members serving three-year terms: three directors, including those designated as Chairman and Deputy Chairman, are appointed by the Board of Governors, and six directors are elected by member banks. Of the six elected by member banks, three represent the public and three represent member banks. Member banks are divided into three classes according to size. Member banks in each class elect one director representing member banks and one representing the public. In any election of directors, each member bank receives one vote, regardless of the number of shares of Reserve Bank stock it holds.

#### 2. OPERATIONS AND SERVICES

The System performs a variety of services and operations. Functions include: formulating and conducting monetary policy; participating actively in the payments mechanism, including large-dollar transfers of funds, automated clearinghouse operations and check processing; distribution of coin and currency; fiscal agency functions for the U.S. Treasury and certain federal agencies; serving as the federal government's bank; providing short-term loans to depository institutions; serving the consumer and the community by providing educational materials and information regarding consumer laws; supervising bank holding companies, and state member banks; and administering other regulations of the Board of Governors. The Board of Governors' operating costs are funded through assessments on the Reserve Banks.

The FOMC establishes policy regarding open market operations, oversees these operations, and issues authorizations and directives to the FRBNY for its execution of transactions. Authorized transaction types include direct purchase and sale of securities, matched sale-purchase transactions, the purchase of securities under agreements to resell, and the lending of U.S. government securities. Additionally, the FRBNY is authorized by the FOMC to hold balances of and to execute spot and forward foreign exchange and securities contracts in fourteen foreign currencies, maintain reciprocal currency arrangements ("F/X swaps") with various central banks, and "warehouse" foreign currencies for the U.S. Treasury and Exchange Stabilization Fund ("ESF") through the Reserve Banks.

### **3. SIGNIFICANT ACCOUNTING POLICIES**

Accounting principles for entities with the unique powers and responsibilities of the nation's central bank have not been formulated by the Financial Accounting Standards Board. The Board of Governors has developed specialized accounting principles and practices that it believes are appropriate for the significantly different nature and function of a central bank as compared to the private sector. These accounting principles and practices are documented in the "Financial Accounting Manual for Federal Reserve Banks" ("Financial Accounting Manual"), which is issued by the Board of Governors. All Reserve Banks are required to adopt and apply accounting policies and practices that are consistent with the Financial Accounting Manual.

## NOTES TO FINANCIAL STATEMENTS

The financial statements have been prepared in accordance with the Financial Accounting Manual. Differences exist between the accounting principles and practices of the System and generally accepted accounting principles ("GAAP"). The primary differences are the presentation of all security holdings at amortized cost, rather than at the fair value presentation requirements of GAAP, and the accounting for matched sale-purchase transactions as separate sales and purchases, rather than secured borrowings with pledged collateral, as is required by GAAP. In addition, the Bank has elected not to present a Statement of Cash Flows or a Statement of Comprehensive Income. The Statement of Cash Flows has not been included as the liquidity and cash position of the Bank are not of primary concern to the users of these financial statements. The Statement of Comprehensive Income, which comprises net income plus or minus certain adjustments, such as the fair value adjustment for securities, has not been included because as stated above the securities are recorded at amortized cost and there are no other adjustments in the determination of Comprehensive Income applicable to the Bank. Other information regarding the Bank's activities is provided in, or may be derived from, the Statements of Condition, Income, and Changes in Capital. Therefore, a Statement of Cash Flows or a Statement of Comprehensive Income would not provide any additional useful information. There are no other significant differences between the policies outlined in the Financial Accounting Manual and GAAP.

The preparation of the financial statements in conformity with the Financial Accounting Manual requires management to make certain estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of income and expenses during the reporting period. Actual results could differ from those estimates. Unique accounts and significant accounting policies are explained below.

## **Gold Certificates**

The Secretary of the Treasury is authorized to issue gold certificates to the Reserve Banks to monetize gold held by the U.S. Treasury. Payment for the gold certificates by the Reserve Banks is made by crediting equivalent amounts in dollars into the account established for the U.S. Treasury. These gold certificates held by the Reserve Banks are required to be backed by the gold of the U.S. Treasury. The U.S. Treasury may reacquire the gold certificates at any time and the Reserve Banks must deliver them to the U.S. Treasury. At such time, the U.S. Treasury's account is charged and the Reserve Banks' gold certificate accounts are lowered. The value of gold for purposes of backing the gold certificates is set by law at \$42 2/9 a fine troy ounce. The Board of Governors allocates the gold certificates among Reserve Banks once a year based upon Federal Reserve notes outstanding in each District at the end of the preceding year.

## Special Drawing Rights Certificates

Special drawing rights ("SDRs") are issued by the International Monetary Fund ("Fund") to its members in proportion to each member's quota in the Fund at the time of issuance. SDRs serve as a supplement to international monetary reserves and may be transferred from one national monetary authority to another. Under the law providing for United States participation in the SDR system, the Secretary of the U.S. Treasury is authorized to issue SDR certificates, somewhat like gold certificates, to the Reserve Banks. At such time, equivalent amounts in dollars are credited to the account established for the U.S. Treasury, and the Reserve Banks' SDR certificate accounts are increased. The Reserve Banks are required to purchase SDRs, at the direction of the U.S. Treasury, for the purpose of financing SDR certificate acquisitions or for financing exchange stabilization operations. The Board of Governors allocates each SDR transaction among Reserve Banks based upon Federal Reserve notes outstanding in each District at the end of the preceding year.

#### Loans to Depository Institutions

The Depository Institutions Deregulation and Monetary Control Act of 1980 provides that all depository institutions that maintain reservable transaction accounts or nonpersonal time deposits, as defined in Regulation D issued by the Board of Governors, have borrowing privileges at the discretion of the Reserve Banks. Borrowers execute certain lending agreements and deposit sufficient collateral before credit is extended. Loans are evaluated for collectibility, and currently all are considered collectible and fully collateralized. If any loans were deemed to be uncollectible, an appropriate reserve would be established. Interest is recorded on the accrual basis and is charged at the applicable discount rate established at least every fourteen days by the Board of Directors of the Reserve Banks, subject to review by the Board of Governors. However, Reserve Banks retain the option to impose a surcharge above the basic rate in certain circumstances.

The Board of Governors established a Special Liquidity Facility (SLF) to make discount window credit readily available to depository institutions in sound financial condition around the century date change (October 1, 1999, to April 7, 2000) in order to meet unusual liquidity demands and to allow institutions to confidently commit to supplying loans to other institutions and businesses over this period. Under SLF, collateral requirements are unchanged and loans are made at a rate of 150 basis points above FOMC's target federal funds rate.

## U.S. Government and Federal Agency Securities and Investments Denominated in Foreign Currencies

The FOMC has designated the FRBNY to execute open market transactions on its behalf and to hold the resulting securities in the portfolio known as the System Open Market Account ("SOMA"). In addition to authorizing and directing operations in the domestic securities market, the FOMC authorizes and directs the FRBNY to execute operations in foreign markets for major currencies in order to counter disorderly conditions in exchange markets or other needs specified by the FOMC in carrying out the System's central bank responsibilities.

Purchases of securities under agreements to resell and matched sale-purchase transactions are accounted for as separate sale and purchase transactions. Purchases under agreements to resell are transactions in which the FRBNY purchases a security and sells it back at the rate specified at the commencement of the transaction. Matched sale-purchase transactions are transactions in which the FRBNY sells a security and buys it back at the rate specified at the commencement of the transaction.

Effective April 26, 1999 FRBNY was given the sole authorization by the FOMC to lend U.S. Government securities held in the SOMA to U.S. government securities dealers and to banks participating in U.S. government securities clearing arrangements, in order to facilitate the effective functioning of the domestic securities market. These securities-lending transactions are fully collateralized by other U.S. government securities. FOMC policy requires FRBNY to take possession of collateral in amounts in excess of the market values of the securities loaned. The market values of the collateral and the securities loaned are monitored by FRBNY on a daily basis, with additional collateral obtained as necessary. The securities loaned continue to be accounted for in the SOMA. Prior to April 26, 1999 all Reserve Banks were authorized to engage in such lending activity.

Foreign exchange contracts are contractual agreements between two parties to exchange specified currencies, at a specified price, on a specified date. Spot foreign contracts normally settle two days after the trade date, whereas the settlement date on forward contracts is negotiated between the contracting parties, but will extend beyond two days from the trade date. The FRBNY generally enters into spot contracts, with any forward contracts generally limited to the second leg of a swap/warehousing transaction.

The FRBNY, on behalf of the Reserve Banks, maintains renewable, short-term F/X swap arrangements with authorized foreign central banks. The parties agree to exchange their currencies up to a prearranged maximum amount and for an agreed upon period of time (up to twelve months), at an agreed upon interest rate. These arrangements give the FOMC temporary access to foreign currencies that it may need for intervention operations to support the dollar and give the partner foreign central bank temporary access to dollars it may need to support its own currency. Drawings under the F/X swap arrangements can be initiated by either the FRBNY or the partner foreign central bank, and must be agreed to by the drawee. The F/X swaps are structured so that the party initiating the transaction (the drawer) bears the exchange rate risk upon maturity. The FRBNY will generally invest the foreign currency received under an F/X swap in interest-bearing instruments. Warehousing is an arrangement under which the FOMC agrees to exchange, at the request of the Treasury, U.S. dollars for foreign currencies held by the Treasury or ESF over a limited period of time. The purpose of the warehousing facility is to supplement the U.S. dollar resources of the Treasury and ESF for financing purchases of foreign currencies and related international operations.

In connection with its foreign currency activities, the FRBNY, on behalf of the Reserve Banks, may enter into contracts which contain varying degrees of off-balance sheet market risk, because they represent contractual commitments involving future settlement, and counter-party credit risk. The FRBNY controls credit risk by obtaining credit approvals, establishing transaction limits, and performing daily monitoring procedures.

While the application of current market prices to the securities currently held in the SOMA portfolio and investments denominated in foreign currencies may result in values substantially above or below their carrying values, these unrealized changes in value would have no direct effect on the quantity of reserves available to the banking system or on the prospects for future Reserve Bank earnings or capital. Both the domestic and foreign components of the SOMA portfolio from time to time involve transactions that can result in gains or losses when holdings are sold prior to maturity. However, decisions regarding the securities and foreign currencies transactions, including their purchase and sale, are motivated by monetary policy objectives rather than profit. Accordingly, earnings and any gains or losses resulting from the sale of such currencies and securities are incidental to the open market operations and do not motivate its activities or policy decisions.

U.S. government and federal agency securities and investments denominated in foreign currencies comprising the SOMA are recorded at cost, on a settlement-date basis, and adjusted for amortization of premiums or accretion of discounts on a straight-line basis. Interest income is accrued on a straight-line basis and is reported as "Interest on U.S. government and federal agency securities" or "Interest on foreign currencies," as appropriate. Income earned on securities lending transactions is reported as a component of "Other income." Gains and losses resulting from sales of securities are determined by specific issues based on average cost. Gains and losses on the sales of U.S. government and federal agency securities are reported as "U.S. government securities gains (losses), net." Foreign currency denominated assets are revalued monthly at current market exchange rates in order to report these assets in U.S. dollars. Realized and unrealized gains and losses on investments denominated in foreign currencies are reported as "Foreign currency gains (losses), net." Foreign currencies held through F/X swaps, when initiated by the counter party, and warehousing arrangements are revalued monthly, with the unrealized gain or loss reported by the FRBNY as a component of "Other assets" or "Other liabilities," as appropriate.

Balances of U.S. government and federal agencies securities bought outright, investments denominated in foreign currency, interest income, amortization of premiums and discounts on securities bought outright, gains and losses on sales of securities, and realized and unrealized gains and losses on investments denominated in foreign currencies, excluding those held under an F/X swap arrangement, are allocated to each Reserve Bank. Effective April 26, 1999 income from securities lending transactions undertaken by FRBNY was also allocated to each Reserve Bank. Securities purchased under agreements to resell and unrealized gains and losses on the revaluation of foreign currency holdings under F/X swaps and warehousing arrangements are allocated to FRBNY and not to other Reserve Banks.

## Bank Premises and Equipment

Bank premises and equipment are stated at cost less accumulated depreciation. Depreciation is calculated on a straight-line basis over estimated useful lives of assets ranging from 2 to 50 years. New assets, major alterations, renovations and improvements are capitalized at cost as additions to the asset accounts. Maintenance, repairs and minor replacements are charged to operations in the year incurred.

## Interdistrict Settlement Account

At the close of business each day, all Reserve Banks and branches assemble the payments due to or from other Reserve Banks and branches as a result of transactions involving accounts residing in other Districts that occurred during the day's operations. Such transactions may include funds settlement, check clearing and automated clearinghouse ("ACH") operations, and allocations of shared expenses. The cumulative net amount due to or from other Reserve Banks is reported as the "Interdistrict settlement account."

## Federal Reserve Notes

Federal Reserve notes are the circulating currency of the United States. These notes are issued through the various Federal Reserve agents to the Reserve Banks upon deposit with such Agents of certain classes of collateral security, typically U.S. government securities. These notes are identified as issued to a specific Reserve Bank. The Federal Reserve Act provides that the collateral security tendered by the Reserve Bank to the Federal Reserve Agent must be equal to the sum of the notes applied for by such Reserve Bank. In accordance with the Federal Reserve Act, gold certificates, special drawing rights certificates, U.S. government and agency securities, loans, and investments denominated in foreign currencies are pledged as collateral for net Federal Reserve notes outstanding. The collateral value is equal to the book value of the collateral tendered, with the exception of securities, whose collateral value is equal to the par value of the securities tendered. The Board of Governors may, at any time, call upon a Reserve Bank for additional security to adequately collateralize the Federal Reserve notes. The Reserve Banks have entered into an agreement which provides for certain assets of the Reserve Banks to be jointly pledged as collateral for the Federal Reserve notes of all Reserve Banks in order to satisfy their obligation of providing sufficient collateral for outstanding Federal Reserve notes. In the event that this collateral is insufficient, the Federal Reserve Act provides that Federal Reserve notes become a first and paramount lien on all the assets of the Reserve Banks. Finally, as obligations of the United States, Federal Reserve notes are backed by the full faith and credit of the United States government.

The "Federal Reserve notes outstanding, net" account represents Federal Reserve notes reduced by cash held in the vaults of the Bank of \$8,034 million, and \$3,879 million at December 31, 1999 and 1998, respectively.

## Capital Paid-in

The Federal Reserve Act requires that each member bank subscribe to the capital stock of the Reserve Bank in an amount equal to 6% of the capital and surplus of the member bank. As a member bank's capital and surplus changes, its holdings of the Reserve Bank's stock must be adjusted. Member banks are those state-chartered banks that apply and are approved for membership in the System and all national banks. Currently, only one-half of the subscription is paid-in and the remainder is subject to call. These shares are nonvoting with a par value of \$100. They may not be transferred or hypothecated. By law, each member bank is entitled to receive an annual dividend of 6% on the paid-in capital stock. This cumulative dividend is paid semiannually. A member bank is liable for Reserve Bank liabilities up to twice the par value of stock subscribed by it.

## Surplus

The Board of Governors requires Reserve Banks to maintain a surplus equal to the amount of capital paid-in as of December 31. This amount is intended to provide additional capital and reduce the possibility that the Reserve Banks would be required to call on member banks for additional capital. Reserve Banks are required by the Board of Governors to transfer to the U.S. Treasury excess earnings, after providing for the costs of operations, payment of dividends, and reservation of an amount necessary to equate surplus with capital paid-in.

The Omnibus Budget Reconciliation Act of 1993 (Public Law 103-66, Section 3002) codified the existing Board surplus policies as statutory surplus transfers, rather than as payments of interest on Federal Reserve notes, for federal government fiscal years 1998 and 1997 (which ended on September 30, 1998 and 1997, respectively). In addition, the legislation directed the Reserve Banks to transfer to the U.S. Treasury additional surplus funds of \$107 million and \$106 million during fiscal years 1998 and 1997, respectively. Reserve Banks were not permitted to replenish surplus for these amounts during this time. Payments to the U.S. Treasury made after September 30, 1998, represent payment of interest on Federal Reserve notes outstanding.

The Consolidated Appropriations Act of 1999 (Public Law 106-113, Section 302) directed the Reserve Banks to transfer to the U.S Treasury additional surplus funds of \$3,752 million during the Federal Government's 2000 fiscal year. The Reserve Banks will make this payment prior to September 30, 2000.

In the event of losses, payments to the U.S. Treasury are suspended until such losses are recovered through subsequent earnings. Weekly payments to the U.S. Treasury may vary significantly.

### Income and Cost related to Treasury Services

The Bank is required by the Federal Reserve Act to serve as fiscal agent and depository of the United States. By statute, the Department of the Treasury is permitted, but not required, to pay for these services. The costs of providing fiscal agency and depository services to the Treasury Department that have been billed but not paid are immaterial and included in "other expenses".

## Taxes

The Reserve Banks are exempt from federal, state, and local taxes, except for taxes on real property, which are reported as a component of "Occupancy expense."

## 4. U.S. GOVERNMENT AND FEDERAL AGENCY SECURITIES

Securities bought outright and held under agreements to resell are held in the SOMA at the FRBNY. An undivided interest in SOMA activity, with the exception of securities held under agreements to resell and the related premiums, discounts and income, is allocated to each Reserve Bank on a percentage basis derived from an annual settlement of interdistrict clearings. The settlement, performed in April of each year, equalizes Reserve Bank gold certificate holdings to Federal Reserve notes outstanding. The Bank's allocated share of SOMA balances was approximately 5.171 % and 5.446 % at December 31, 1999 and 1998, respectively.

The Bank's allocated share of securities held in the SOMA at December 31, that were bought outright, were as follows (*in millions*):

	1999		
Par value:			
Federal agency	\$ 9	\$ 18	
U.S. government:			
Bills	9,128	10,608	
Notes	11,298	10,233	
Bonds	4,291	3,784	
Total par value	24,726	24,643	
Unamortized premiums	471	402	
Unaccreted discounts	(173)	(174)	
Total allocated to Bank	\$ 25,024	\$ 24,871	

Total SOMA securities bought outright were \$483,902 million and \$456,667 million at December 31, 1999 and 1998, respectively.

The maturities of U.S. government and federal agency securities bought outright, which were allocated to the Bank at December 31, 1999, were as follows (*in millions*):

		Par value			
Maturities of Securities Held	U.S. Government Securities	Federal Agency Obligations	Total		
Within 15 days	\$ 240	\$ -	\$ 240		
16 days to 90 days	4,753	1	4,754		
91 days to 1 year	7,233	1	7,234		
Over 1 year to 5 years	6,421	1	6,422		
Over 5 years to 10 years	2,643	6	2,649		
Over 10 years	3,427	-	3,427		
Total	\$ 24,717	\$ 9	\$ 24,726		

At December 31, 1999, and 1998, matched sale-purchase transactions involving U.S. government securities with par values of \$39,182 million and \$20,927 million, respectively, were outstanding, of which \$2,026 million and \$1,140 million were allocated to the Bank. Matched sale-purchase transactions are generally overnight arrangements.

### 5. INVESTMENTS DENOMINATED IN FOREIGN CURRENCIES

The FRBNY, on behalf of the Reserve Banks, holds foreign currency deposits with foreign central banks and the Bank for International Settlements and invests in foreign government debt instruments. Foreign government debt instruments held include both securities bought outright and securities held under agreements to resell. These investments are guaranteed as to principal and interest by the foreign governments.

Each Reserve Bank is allocated a share of foreign-currency-denominated assets, the related interest income, and realized and unrealized foreign currency gains and losses, with the exception of unrealized gains and losses on F/X swaps and warehousing transactions. This allocation is based on the ratio of each Reserve Bank's capital and surplus to aggregate capital and surplus at the preceding December 31. The Bank's allocated share of investments denominated in foreign currencies was approximately 4.493 % and 4.840 % at December 31, 1999 and 1998, respectively.

The Bank's allocated share of investments denominated in foreign currencies, valued at current exchange rates at December 31, were as follows (*in millions*):

	1999	1998
German Marks:		
Foreign currency deposits	\$ -	\$ 506
Government debt instruments including agreements to resell	-	115
European Union Euro:		
Foreign currency deposits	195	-
Government debt instruments including agreements to resell	114	-
Japanese Yen:		
Foreign currency deposits	14	32
Government debt instruments including agreements to resell	400	300
Accrued interest	2	5
Total	\$ 725	\$ 958

Total investments denominated in foreign currencies were \$16,140 million and \$19,769 million at December 31, 1999 and 1998, respectively. The 1998 balance includes \$15 million in unearned interest collected on certain foreign currency holdings that is allocated solely to the FRBNY.

The maturities of investments denominated in foreign currencies which were allocated to the Bank at December 31, 1999, were as follows (*in millions*):

#### Maturities of Investments Denominated in Foreign Currencies

Within 1 year	\$ 677
Over 1 year to 5 years	22
Over 5 years to 10 years	26
Total	\$ 725

At December 31, 1999 and 1998, there were no open foreign exchange contracts or outstanding F/X swaps.

At December 31, 1999 and 1998, the warehousing facility was \$5,000 million with nothing outstanding.

## 6. BANK PREMISES AND EQUIPMENT

A summary of bank premises and equipment at December 31 is as follows (in millions):

	1999	1998
Bank premises and equipment:		
Land	\$ 22	\$ 22
Buildings	94	92
Building machinery and equipment	15	10
Construction in progress	2	5
Furniture and equipment	63	60
	196	189
Accumulated depreciation	(78)	(70)
Bank premises and equipment, net	\$ 118	\$ 119

Depreciation expense was \$11 million and \$10 million for the years ended December 31, 1999 and 1998, respectively.

The Bank leases unused space to outside tenants. Those leases have terms ranging from 1 to 8 years. Rental income from such leases was \$9 million and \$8 million for the years ended December 31, 1999 and 1998, respectively. Future minimum lease payments under agreements in existence at December 31, 1999, were (in millions):

2000	\$ 8
2001	7
2002	7
2003	5
2004	4
Thereafter	4
	\$ 35

#### 7. COMMITMENTS AND CONTINGENCIES

At December 31, 1999, the Bank was obligated under noncancelable leases for premises and equipment with terms ranging from 1 to approximately 3 years. These leases provide for increased rentals based upon increases in real estate taxes, operating costs or selected price indices.

Rental expense under operating leases for certain operating facilities, warehouses, and data processing and office equipment (including taxes, insurance and maintenance when included in rent), net of sublease rentals, was \$1 million for each of the years ended December 31, 1999 and 1998, respectively. Certain of the Bank's leases have options to renew.

Future minimum rental payments under noncancelable operating leases and capital leases, net of sublease rentals, with terms of one year or more, at December 31, 1999, were not material.

At December 31,1999, there were no other commitments and long-term obligations in excess of one year.

Under the Insurance Agreement of the Federal Reserve Banks dated as of March 2, 1999, each of the Reserve Banks has agreed to bear, on a per incident basis, a pro rata share of losses in excess of 1% of the capital paid-in of the claiming Reserve Bank, up to 50% of the total capital paid-in of all Reserve Banks. Losses are borne in the ratio that a Reserve Bank's capital paid-in bears to the total capital paid-in of all Reserve Banks at the beginning of the calendar year in which the loss is shared. No claims were outstanding under such agreement at December 31, 1999 or 1998.

The Bank is involved in certain legal actions and claims arising in the ordinary course of business. Although it is difficult to predict the ultimate outcome of these actions, in management's opinion, based on discussions with counsel, the aforementioned litigation and claims will be resolved without material adverse effect on the financial position or results of operations of the Bank.

## 8. RETIREMENT AND THRIFT PLANS

## **Retirement Plans**

The Bank currently offers two defined benefit retirement plans to its employees, based on length of service and level of compensation. Substantially all of the Bank's employees participate in the Retirement Plan for Employees of the Federal Reserve System ("System Plan") and the Benefit Equalization Retirement Plan ("BEP"). The System Plan is a multi-employer plan with contributions fully funded by participating employers. No separate accounting is maintained of assets contributed by the participating employers. The Bank's projected benefit obligation and net pension costs for the BEP at December 31, 1999 and 1998, and for the years then ended, are not material.

## Thrift plan

Employees of the Bank may also participate in the defined contribution Thrift Plan for Employees of the Federal Reserve System ("Thrift Plan"). The Bank's Thrift Plan contributions totaled \$3 million for the years ended December 31, 1999 and 1998, respectively, and are reported as a component of "Salaries and other benefits."

## 9. POSTRETIREMENT BENEFITS OTHER THAN PENSIONS AND POSTEMPLOYMENT BENEFITS

## Postretirement benefits other than pensions

In addition to the Bank's retirement plans, employees who have met certain age and length of service requirements are eligible for both medical benefits and life insurance coverage during retirement.

The Bank funds benefits payable under the medical and life insurance plans as due and, accordingly, has no plan assets. Net postretirement benefit cost is actuarially determined using a January 1 measurement date.

Following is a reconciliation of beginning and ending balances of the benefit obligation (in millions):

	1999	1998
Accumulated postretirement benefit obligation at January 1	\$ 50.9	\$ 47.2
Service cost-benefits earned during the period	1.4	1.2
Interest cost of accumulated benefit obligation	3.0	3.0
Actuarial loss /(gain)	(5.8)	0.5
Contributions by plan participants	0.3	0.4
Benefits paid	(1.3)	(1.4)
Accumulated postretirement benefit obligation at December 31	\$ 48.5	\$ 50.9

1999		1998	
Fair value of plan assets at January 1	\$ -	\$ -	
Actual return on plan assets	-	-	
Contributions by the employer	1.0	1.0	
Contributions by plan participants	0.3	0.4	
Benefits paid	(1.3)	(1.4)	
Fair value of plan assets at December 31	\$ -	\$ -	
Unfunded postretirement benefit obligation	\$ 48.5	\$ 50.9	
Unrecognized prior service cost	5.5	6.2	
Unrecognized net actuarial (loss)	(2.0)	(8.0)	
Accrued postretirement benefit cost	\$ 52.0	\$ 49.1	

Following is a reconciliation of the beginning and ending balance of the plan assets, the unfunded postretirement benefit obligation, and the accrued postretirement benefit cost *(in millions)*:

Accrued postretirement benefit cost is reported as a component of "Accrued benefit cost."

The weighted-average assumption used in developing the postretirement benefit obligation as of December 31 1999 and 1998 was 7.5% and 6.25%, respectively.

For measurement purposes, an 8.75% annual rate of increase in the cost of covered health care benefits was assumed for 2000. Ultimately, the health care cost trend rate is expected to decrease gradually to 5.50% by 2006, and remain at that level thereafter.

Assumed health care cost trend rates have a significant effect on the amounts reported for health care plans. A one percentage point change in assumed health care cost trend rates would have the following effects for the year ended December 31, 1999 (*in millions*):

	1 Percentage		1 Percentage	
	Point Increase	Point Decrease	rease	
Effect on aggregate of service and interest cost components of				
net periodic postretirement benefit cost	\$	1.0	\$	(0.8)
Effect on accumulated postretirement benefit obligation		8.5		(7.0)

The following is a summary of the components of net periodic postretirement benefit cost for the years ended December 31 (*in millions*):

	1999	1998
Service cost-benefits earned during the period	\$ 1.4	\$ 1.2
Interest cost of accumulated benefit obligation	3.0	3.0
Amortization of prior service cost	(0.6)	(0.7)
Recognized net actuarial loss	0.1	-
Net periodic postretirement benefit cost	\$ 3.9	\$ 3.5

Net periodic postretirement benefit cost is reported as a component of "Salaries and other benefits."

## Postemployment benefits

The Bank offers benefits to former or inactive employees. Postemployment benefit costs are actuarially determined and include the cost of medical and dental insurance, survivor income, and disability benefits. Costs were projected using the same discount rate and health care trend rates as were used for projecting postretirement costs. The accrued postemployment benefit costs recognized by the Banks at December 31, 1999 and 1998, were \$4 million and \$3 million, respectively. This cost is included as a component of "Accrued benefit cost." Net periodic postemployment benefit costs included in 1999 and 1998 operating expenses were \$1 million in each year.

## OUR MISSION

As part of the nation's central bank, the Federal Reserve Bank of Boston promotes sound growth and financial stability in New England and the nation. The Bank contributes to local communities, the region, and the nation through its high-quality research, regulatory oversight, and financial services, and through its commitment to leadership and to innovation.

## OUR VALUES

Integrity, Serving the Public, Respect, Leadership, Excellence, Continuous Improvement



For additional copies contact: Publications Federal Reserve Bank of Boston P.O. Box 2076 Boston, MA 02106-2076

www.bos.frb.org