Federal Reserve Bank of San Francisco

Shaping the Economy

2003 Annual Report

The Federal Reserve Bank of San Francisco is one of twelve regional Federal Reserve Banks across the U.S. that, together with the Board of Governors in Washington, D.C., serve as our nation's central bank.

The Twelfth Federal Reserve District includes the nine western states—Alaska, Arizona, California, Hawaii, Idaho, Nevada, Oregon, Utah, and Washington—and American Samoa, Guam, and the Northern Mariana Islands. Branches are located in Los Angeles, Portland, Salt Lake City, and Seattle, with a cash facility in Phoenix. The largest District, it covers 35 percent of the nation's landmass, ranks first in the size of its economy, and is home to approximately 20 percent of the nation's population.

Contents

George M. Scalise
Chairman

Sheila D. Harris
Deputy Chairman

John F. Moore
First Vice President

Robert T. Parry
President

from the Boardroom

This year's report focuses on innovation and U.S. productivity. This seems especially appropriate for a number of reasons. The remarkable performance of U.S. productivity in recent years is proving to be an enduring story—one that is important to all of us. For the Federal Reserve, understanding the sources of the current productivity boom is central to monetary policy because the potential growth of the economy, something we look at in setting a course for policy, depends directly on productivity growth.

The prevalence of high technology firms in the Twelfth District makes the current episode of productivity growth especially relevant for our region, given that the information technology (IT) producing sectors account for a major part of the current surge. Because productivity is so important, we have devoted a significant amount of effort at the Federal Reserve Bank of San Francisco over the past several years to build our expertise in the areas of innovation, technology, and productivity. This led to the launch in 2003 of the Center for the Study of Innovation and Productivity within our Economic Research department. Their efforts have focused on IT as well as other innovations affecting U.S. productivity such as the way businesses are organized and how they implement the use of IT equipment in the workplace. The center also is looking at the relationship of research and development to productivity in different industries and how productivity gains are reflected in prices, wages, and profits.

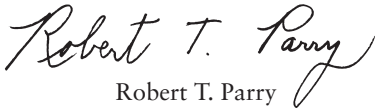
The center's research provides the foundation for our report's main essay, which examines in detail how innovation and productivity are fundamental forces shaping the economy and our standard of living. The essay also looks at the current boom in light of past historical episodes. With the clothing manufacturing and agricultural industries experiencing many of the productivity enhancements shaping businesses today, the report showcases Karen Kane, Inc. and Stahlbush Island Farms, two companies led by former and current members of our boards of directors. The report also looks inside our own doors where new business processes combined with technology and other workplace innovations are shaping how we work at the Federal Reserve Bank of San Francisco.

The year 2003 continued to be one of major challenges for our organization as we grappled with ongoing changes in the financial services industry. Facing dramatic declines in check volumes in our District and across the entire Federal Reserve System, we, like other Reserve Banks, focused our attention on cost recovery, revenue generation, and operational improvements. Our employees were asked to meet challenging cost recovery targets, unlike any our District has experienced to date. Despite the difficult circumstances, they met the challenge head on—embracing new approaches to work and bringing forth ideas of their own to surpass our goals for the year. We would like to thank them for their significant efforts.

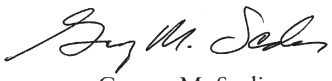
We also would like to extend our thanks and appreciation to our Twelfth District directors for their invaluable counsel during 2003. The directors' independent assessment of economic and financial conditions throughout our nine western states is critical to the formulation of monetary policy. In particular, we acknowledge the many contributions of Nelson C. Rising (Chairman and Chief Executive Officer, Catellus Development Corporation, San Francisco, California) who stepped down after serving this Reserve Bank in various capacities for more than five years, the last two and a half as Chairman of the Board.

In addition, we would like to express our sincere thanks and appreciation to the other directors and advisory council members who concluded their terms of service during 2003:

- on the Los Angeles Branch Board: Lonnie Kane (President, Karen Kane, Inc., Los Angeles, California) who served as chairman of the Los Angeles Branch Board during two years of his term; Linda Griego (Managing Partner, Engine Co. No. 28, Los Angeles, California)
- on the Portland Branch Board: Patrick Borunda (Principal, The Navigator Group, Yacolt, Washington)
- on the Salt Lake City Branch Board: Peggy Stock (President Emeritus, Westminster College, Salt Lake City, Utah)
- on the Seattle Branch Board: Betsy Lawer (Vice Chair and Chief Operating Officer, First National Bank Alaska, Anchorage, Alaska)
- on the Twelfth District Advisory Council: Richard S. Walden (Chairman, President and Chief Executive Officer, Farmers Investment Company, Sahuarita, Arizona)



Robert T. Parry



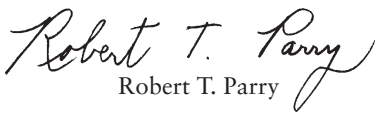
George M. Scalise

Robert T. Parry
President
Chief Executive Officer

A Personal Message

This annual report is the last to be published during my tenure at the Federal Reserve Bank of San Francisco before I retire on June 1, 2004. It has been a great honor and a great privilege to serve the nation and the Twelfth Federal Reserve District, the largest, most diverse District in the Federal Reserve System. I would like to take this opportunity to acknowledge the tremendous support I have received from the staff at all levels in this Bank.

During my eighteen years of service, dramatic—even revolutionary—changes have occurred in the U.S. and global economies and financial markets. In many respects, these developments challenged us to transform the way we conduct monetary policy, supervise banks, fulfill our role in the payments system, and deliver financial services. In every instance, the employees of this Bank rose to those challenges and met them with intelligence, commitment, and energy. Their contributions and dedication to the mission of the Federal Reserve have played a significant role in maintaining the institution's integrity and in guaranteeing its success. I thank them for all of their efforts and wish them well for the future. I leave deeply enriched by the personal and professional relationships I have developed with them over the years.



Robert T. Parry

Signs of innovation are everywhere in our daily lives. The cellular phone has gone from being an exclusive, expensive novelty to being common fare for millions. New pharmaceuticals enter the market regularly. The Internet, unavailable to most of us a decade ago, is accessed by millions of people every day for information, communications, and transactions. Even traffic lights have been improved through the use of low energy LED technology.

Innovations also are changing our lives at work, making us more productive. The improvement in productivity can be traced to innovations in the equipment and software we use in our factories, farms, warehouses, offices, and stores as well as innovations in the organization of our workplaces. What makes the recent experience especially notable is that key breakthroughs in technologies are having an ever-growing application in production processes. In this regard, the current period is taking on the look of previous pivotal episodes in our history in which innovations such as the steam engine and electrification had protracted and extensive positive effects on productivity. Given this past experience, the expanding scope for innovation along with the continued emphasis by businesses on improving productivity build a convincing case that the higher productivity growth we are experiencing will persist.

The prospects for continued innovation and heightened productivity growth are important to all of us. As we move ahead in the 21st century, the path of innovation and productivity growth will shape improvements in our economic well-being. It also will influence the mix of goods and services available to us as well as the jobs we perform.

innovation Shaping the Economy productivity

History in the Making

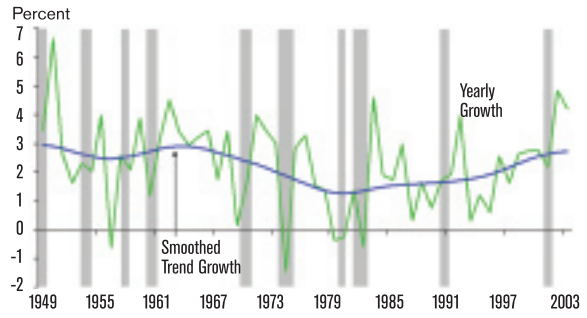
The remarkable strength of productivity growth has been a hallmark of the economy in recent years. The most familiar measure of productivity, labor productivity, is measured by real (inflation-adjusted) output per labor hour. Prior to the second half of the 1990s, the U.S. economy had endured a more than twenty-year slump in labor productivity growth. From 1973 through 1995, for example, labor productivity grew at an average rate of only about 1.4 percent per year. In the past eight years, labor productivity growth has averaged an impressive 3.0 percent per year.

The rise in productivity and the proliferation of innovation in recent years tell us that something new, though not unprecedented, is going on in the economy. Similar boosts to the economy from innovation and productivity growth were evident at other junctures in our economic history.

Breakthroughs in energy generation via the steam engine, electrification, and the internal combustion engine as well as innovations in wired and wireless communication are examples of key innovations that led to substantial increases in productivity earlier in our economic history.

Strengthening Productivity Growth

Real Output per Labor Hour, Nonfarm Business



Source: Bureau of Labor Statistics and FRBSF

Key innovations such as these, that have a formative impact on productivity, often are referred to as general purpose technologies since they are widely used throughout the economy. Typically, their initial effects take some time to show up, but afterward they can affect economic growth for decades. One reason for this pattern is that general purpose technologies are refined and improved over time. In the case of electrification, competing camps initially argued over what technology to use—direct current (DC), favored by Thomas Edison, or alternating current (AC). The DC technology was safer, but AC power could be transmitted over longer distances. The AC camp eventually won, with the rollout over time influenced in part by the pace of improvements in electrical power generation and transmission.

Another reason it takes time for a technology to become adopted throughout the economy—a process known as "diffusion"—is because it takes time for people to figure out ways to use the technology. Diffusion of electricity depended on the development of effective electric motors, improvements in lighting technology, and changes in the organization of manufacturing processes, as well as the invention of machines and consumer appliances powered by electricity.

As we move further into the 21st century, it looks more and more as though we are witnesses to another pivotal episode of innovation and productivity growth. A few fundamental breakthroughs in technology provide most of the basis for the recent rise in labor productivity. The microchip is one of the most dominant innovations. Others that are complementary to the microchip include lasers, digital data storage devices, and software. Today, we are seeing stunning improvements in these technologies and, more importantly, rapid expansion of their application in production processes and products. Microprocessors, for example, are not just the brains of

Agriculture – Producing More with Less

Over time, taking advantage of an array of technologies such as tractors and other farm equipment, advances in chemistry and genetic engineering, and land management practices greatly increased crop yields. As a result, today it takes only about two to three labor hours to produce 100 bushels of corn, while near the turn of the last century it took more than 10 times as much labor input. With advances in productivity such as these, it now takes only 2 percent of the U.S. population to work the farms and ranches to feed the country, compared to close to 40 percent at the beginning of the 20th century. Such capacity to produce more with less in agriculture as well as other sectors allows people to engage in other productive activities—expanding the economic pie and, more importantly, increasing the size of the pieces of pie per person.

our personal computers: they are in digitally controlled manufacturing equipment; they help control heating and cooling systems in offices; they are in autos, trucks and planes, and even basic home appliances. In fact, today, a majority of semiconductors are produced for uses other than personal computers and computer servers.

As with general purpose technologies of the past, the effects of the microchip and other related innovations took time to show up in the productivity numbers. The first commercial microprocessor, for example, was introduced in 1971, and by the 1980s many businesses were making major investments in computers and other information technology (IT) equipment and software. Yet, as the numbers indicate, average labor productivity growth in the U.S. was below par for most of the 1970s continuing into the early 1990s. For individual firms, there was a dearth of evidence that IT investments boosted productivity or added to their bottom lines as recently as the first half of 1990s. Even after 1995, when aggregate productivity growth in the U.S. appeared to accelerate, economists debated whether the economy was experiencing an increase in trend productivity growth or merely a cyclical upswing.

Impact of IT

With the advantage of time, revisions to various economic data series, and a considerable volume of additional research, it is clearer today that we are seeing a rise in underlying productivity growth and not just a cyclical upswing. Most economic research shows that the IT sector has contributed significantly to the strengthening in productivity growth—and the gains in the IT sector itself are an important part of the contribution. Producers of IT products—especially manufacturers of computers and semiconductors—have posted astounding gains in labor productivity. In the case of the semiconductor industry, productivity gains have come in part from dramatic increases in the computing power of microprocessors. In a little over 30 years, the number of transistors on a processor chip has increased from 2,350 to 125 million. The leaps in technology have been coupled with astounding declines in prices on microprocessors. The advances in this technology provide a poignant example of how getting more from less, for cheaper, through higher productivity, can shape the economy.

Impact of IT

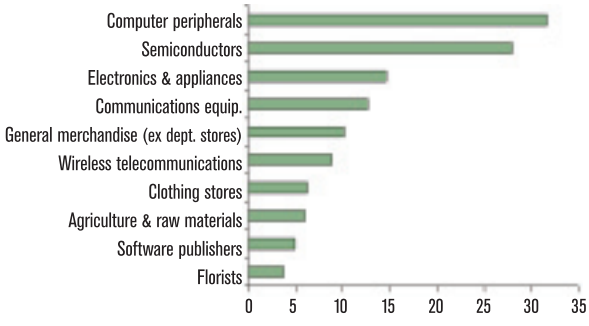
The cause of the productivity growth slowdown of the 1970s remains mysterious. By contrast, nearly all agree that the causes of the productivity growth speed-up in the 1990s lie in the information technology sector.[1]

Brad DeLong, University of California, Berkeley

The improvement in productivity growth in recent years also is evident among businesses investing in IT equipment and software. Some of the biggest strides forward are in the retail sector. In that sector, for example, scanning technology that combines laser and IT technologies can not only speed up checkouts, it also can reduce resources needed for inventory control and purchasing. Agriculture also has posted strong productivity gains, in some cases through additional automation that incorporates IT.

IT Leads in Productivity Gains

Average Yearly Growth in Output per Labor Hour (1995– 2001)



Source: Bureau of Labor Statistics

More than just IT

But IT is not the entire story. Part of the pickup in productivity since the mid-1990s appears to be due to factors other than just investment in IT. In agriculture, for example, biotechnology has contributed to improved yields for many crops. Research also points to innovations in work practices such as those affecting workplace organization (including manufacturing production processes), employee training, and incentive-based pay programs as sources of productivity growth. In some cases, investments in IT may enable changes in workplace organization. This is similar to what happened in

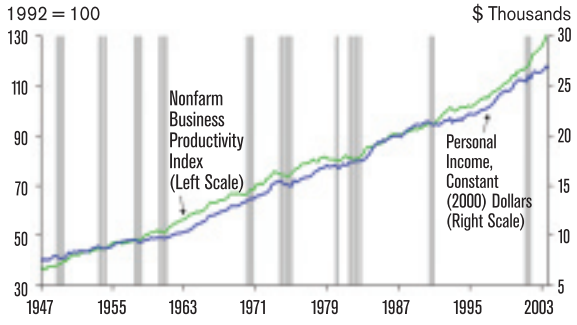
the 1920s when Henry Ford was able to use electric motors to power automobile assembly lines. The electric motor was an enabling technology, but much of the productivity gains could be appropriately attributed to the innovation of reorganizing the production process.

Rising Standard of Living

Innovation and the pace of growth in labor productivity set the path for improvement in our economic standard of living. A commonly used measure of the standard of living is real (inflation-adjusted) income per capita. To raise real income per capita in our economy, we can work more—meaning working longer hours or having more people in the population working—or be more productive—meaning producing more output per hour worked. Over the past half century, Americans demonstrated a remarkable capacity to increase the average standard of living. Since the late 1940s, real disposable personal income per capita has increased from about $7,000 to close to $27,000. While both working more and working smarter have contributed to this, the more than threefold increase in labor productivity accounts for the bulk of the nearly fourfold gain in our economic standard of living.

Productivity Gains and a Rising Standard of Living

Nonfarm Business Productivity and Real Personal Income Per Capita



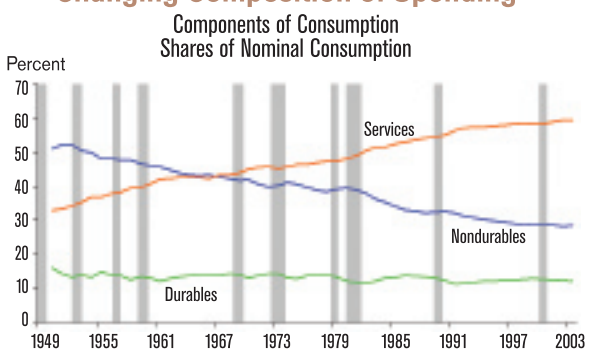
Source: Bureau of Labor Statistics

Looking ahead, with the evolving demographics in the U.S.—in particular, with baby boomers, representing about a third of the population, approaching retirement years—we are going to have to rely almost exclusively on gains in productivity to push up income per capita. Maintaining the improvement in productivity growth in the U.S. will make a big difference to us. Although the actual growth rate is unpredictable, if the average growth in labor productivity were 2.5 to 3.0 percent per year, per capita real income could double in roughly 25 years. However, if labor productivity growth were to fall back to, say, 1.5 percent per year, it could take twice as long to realize the same increase in our economic standard of living.

Changing Mix of Goods and Services

The combination of innovations and rising incomes also affects the mix of products we buy. As incomes rise, the share of our budgets going to different products changes—we typically reduce the share of our budgets allocated to buying staples such as food and increase the share going to more discretionary items such as entertainment. In addition, innovations mean new products and services become available. Over the past half century, we dramatically reduced the share of our income spent on nondurable goods, which include foods, while our spending on durable goods, like cars, has been relatively stable. Now we are spending a growing share of our budgets on services, which include cell phone services, financial services, medical services, and a large part of recreation and tourism.

Changing Composition of Spending

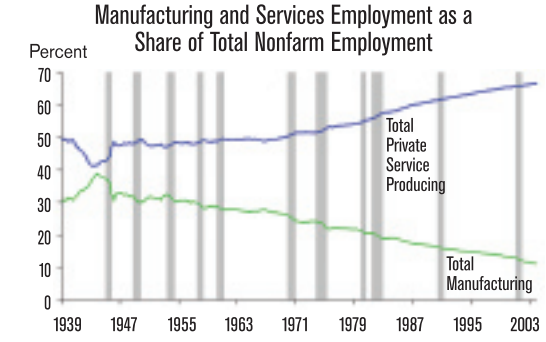


Source: Bureau of Economic Analysis

Changing Mix of Jobs

The mix of jobs created in the economy also is changing. Since the mid-1950s, the share of employment in the manufacturing sector has declined, while the share of service jobs has risen. This changing job mix mirrors the changes in the composition of our consumer spending. However, gains in labor productivity have been the key to making this shift possible. The capacity to produce more with less in some sectors allows people to engage in other productive activities (see box on agriculture, page 9). In effect, the gains in labor productivity have increased the productive capacity of the economy, producing more from less, for cheaper—which is fundamental to improving our standard of living.

Changing Mix of Jobs

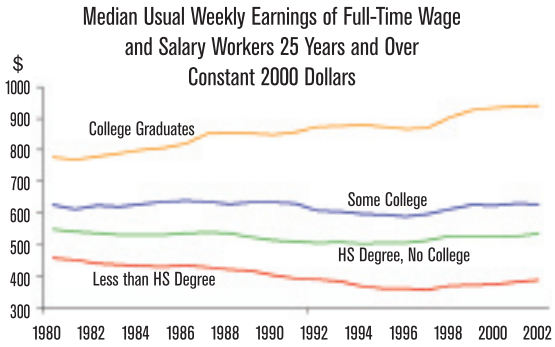


Source: Bureau of Labor Statistics

Dealing with Change

While the realignment of jobs is part of the long-run process that allows us to realize a higher standard of living, not everyone realizes the same net benefits from innovation and productivity. For one thing, shocks to productivity can have regional effects. In recent years, for example, the gains in productivity have been especially notable among several of the states in the West. This in part reflects direct contributions of the IT sectors—IT firms in the West generally posted greater gains in productivity than IT firms elsewhere, and IT producers are relatively more important to the economies of several metropolitan areas in the West, such as the San Francisco Bay Area, Seattle, and Portland.

Rise in Premium on Higher Education



Source: Bureau of Labor Statistics

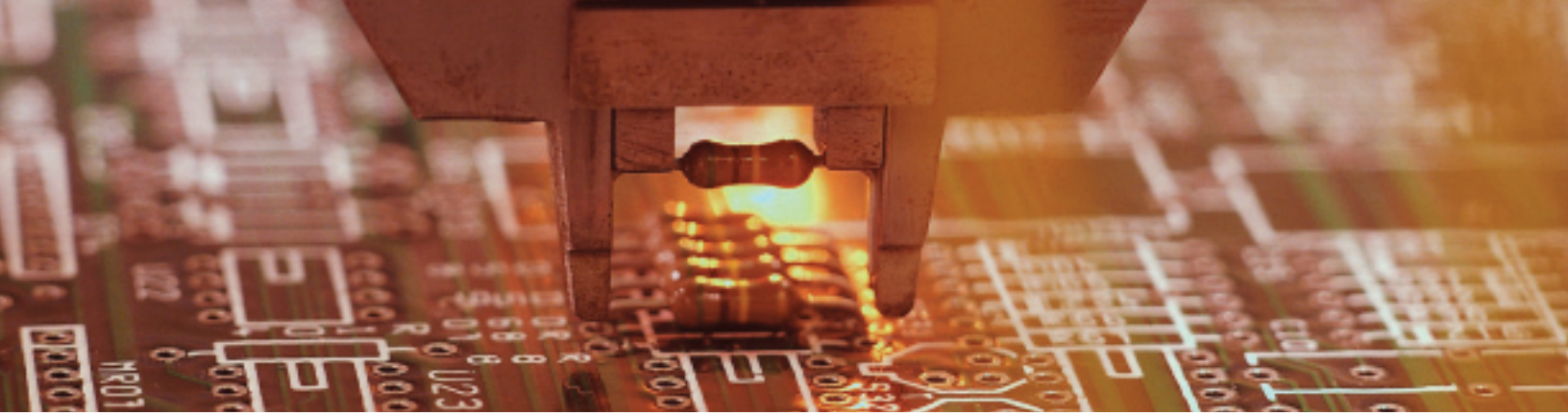
More generally, the impact of innovation and productivity gains on jobs is a common concern. The recent economic recovery, for example, apparently generated relatively few net payroll jobs from late 2001 through late 2003, as exceptionally large increases in productivity accounted for most of the growth in output. At the same time, the second half of the 1990s illustrated that relatively high productivity and strong employment growth can go hand-in-hand, though the job destruction and creation did not leave all individual workers better off.

Productivity and Jobs

. . . all of the progress that the U.S. has made over the last couple of centuries has come from . . . figuring out how to produce more goods with fewer workers, thereby releasing labor to be more productive in other areas. It has never come about through permanent unemployment, but temporary unemployment, in the process of shifting people from one area to another.[2]

Milton Friedman, 1976 Nobel Prize winner in Economics Sciences

Innovations in the workplace are changing the demand for the types of skills needed on the job, which in part explains the differential effects on workers. For example, evidence tells

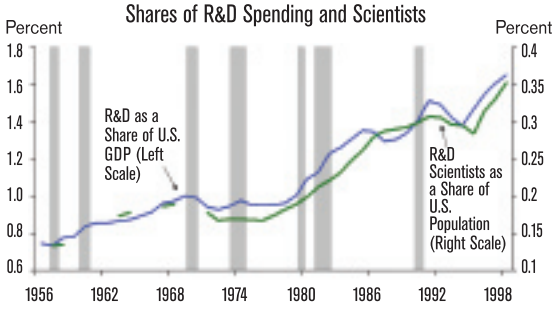


us that the returns from investments in higher education for workers in the U.S. have risen. Wage premiums also appear to be connected with the use of computers in the workplace. This is consistent with research indicating that the adoption of computer technology in production processes tends to replace routine tasks, while complementing less routine tasks that involve higher cognitive skills.

Advances in technology have made services more tradable in a global economy. Over time, opportunities for foreign trade benefit society. However, as with domestic productivity gains, the benefits from trade are not distributed evenly. Improved IT capabilities, for example, make it feasible for some businesses to provide services to their U.S. customers through call centers located in countries such as India. This means lower costs to consumers, but also means the loss of certain jobs domestically. At the same time, our trading partners have increased their demand for other IT services from U.S. firms—the foreign trade data show a rising surplus in overall IT services favoring U.S. firms.

Greater Share of Resources Devoted to Searching for Ideas

Shares of R&D Spending and Scientists



Source: National Science Foundation
Note: R&D here refers to Industrial R&D, which includes all company-performed R&D.

Continuing the Search for Ideas

Today's remarkable economic times appear to be taking on the look of previous pivotal episodes in our history in which innovations have had protracted and extensive positive effects on productivity. In recent years, much of the acceleration in productivity can be traced to innovations affecting capital equipment and software as well as to improvements in our business practices.

Ideas Are the Source of Growth

Over the past half century, the increase in the value of raw materials has accounted for only a fraction of the overall growth of U.S. gross domestic product. The rest of that growth reflects the embodiment of ideas in products and services that consumers value.[3]

Alan Greenspan, Chairman
Federal Reserve Board

The gains, however, have not come from thin air. The intriguing stories of fortuitous inventions such as the microwave oven, VELCRO,® and Post-its® aside, innovation and productivity gains have been the result of investment. This includes spending on research and development and investments in the education and training of those involved in research as well as those implementing new technologies in the workplace. Looking forward, improvements in our standard of living as well as our capacity to deal with change will depend importantly on the extent to which we make such investments in the search for new ideas.

1. J. Bradford DeLong, "Productivity Growth in the 2000s," NBER Macroeconomic Annual, (forthcoming). **econ161.berkeley.edu/Econ_Articles/macro_annual/delong_macro_annual_05.pdf**
2. "Interview with Milton Friedman," John Hawkins, September 2003. **rightwingnews.com**
3. Alan Greenspan, "Market Economics and Rule of Law," 2003 Financial Markets Conference of the Federal Reserve Bank of Atlanta, April 2003. **federalreserve.gov/boarddocs/speeches/2003/20030404/default.htm**

Strong Start for CSIP

The Center for the Study of Innovation and Productivity (CSIP) was established in 2003 to foster research on innovation and productivity and their links to economic growth and firm and labor market behavior. The center got off to a strong start in 2003, holding an inaugural conference in November, hosting several visiting scholars, and producing a number of new research papers.

2003

The CSIP inaugural conference focused on "Technology, Productivity, and Public Policy" and brought together researchers from around the country working on a variety of macroeconomic and microeconomic topics. James Kahn and Robert Rich (Federal Reserve Bank of New York), for example, presented their research on how to identify shifts in the trend of aggregate productivity growth. Rodolfo Manuelli and Ananth Seshadri (University of Wisconsin) examined the diffusion of technological change through their study of the adoption of tractors in the first half of the 20th century. David Autor and Frank Levy (Massachusetts Institute of Technology) considered the impact of rising computer use on the demand for college-educated workers. Martin Baily (International Institute of Economics) provided some real world perspective on the recent productivity revolution during his keynote address.

In 2003, the center's visiting scholars looked at issues related to workplace innovation and productivity (Sandra Black, UCLA), computer investment and productivity (Simon Gilchrist, Boston University), and patenting in the pharmaceutical industry (Margaret Kyle, Carnegie Mellon University). Other visitors to the Bank working on issues related to innovation and productivity included Robert Hunt (Federal Reserve Bank of Philadelphia) and Kevin Stiroh (Federal Reserve Bank of New York). These visitors and seminar speakers broadened the research expertise of the center.

The conference and the visiting scholar program augmented a rich array of research projects conducted by Federal Reserve Bank of San Francisco staff. In 2003, staff looked at the link between information technology investment intensity and productivity growth in the retail sector (Mark Doms et al.), inertia in wages in the face of permanent productivity shocks (John Williams et al.), and differences in the composition of investment and per capita income across countries (Dan Wilson et al.). Other topics included human capital and technology diffusion, depreciation of computer equipment, and pricing telecommunications goods.

2004

In 2004, CSIP will continue to foster research on innovation and productivity. The center will expand its visiting scholar program and host a joint seminar series on "Productivity and Growth" with U.C. Berkeley and Stanford University. The center makes its research and analysis available to the public, both researchers and non-specialists, through a public web site launched in 2004. The web site provides access to research papers, Economic Letters, issue overviews, and data related to innovation and productivity.

Visit CSIP online at: **frbsf.org/csip**.

CSIP

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John Williams, Senior Research Advisor
Dan Wilson, Economist

Visiting Scholars
Sandy Black
Chris Forman
Simon Gilchrist
Chad Jones
Margaret Kyle

Lonnie Kane, president of Karen Kane, Inc., served on the board of directors for the Los Angeles Branch of the Federal Reserve Bank of San Francisco from 1997 to 2003.

innovation

Karen Kane, Inc.

productivity

When Lonnie Kane launched a specialty clothing line for women in 1979 with his wife Karen, he adhered to a belief embraced at the time by many industries: increasing the workforce meant greater productivity. The paid workforce of their fledgling company headquartered in Los Angeles consisted of Lonnie, who ran the business and served as president, Karen, who designed the clothing line, Karen's mother, who did the books, and a sample maker. Over the next fifteen years, the Kanes overcame skeptics who said a new business needed more than the $6,000 in personal savings, $5,000 borrowed from relatives, and $10,000 line of credit the pair began with as start-up capital. By the mid-1990s, Karen Kane, Inc. grew into a company of 390 employees with a sales volume of $85 million a year.

But despite this growth, Kane realized the influx of new people had not made a demonstrable improvement in productivity. In fact, there were times when the company resembled a poorly administered bureaucracy says Kane. He points to the inefficient "paper trail" process used to determine product costs. "Paper was shuffled from department to department," says Kane. "Often it would take a week or more to complete—meaning a critical loss of time and potential sales revenue. Sometimes key documents were missing." Kane realized he was working from an outdated economic model, one that was out of sync with the realities of globalization and the technology-driven "new economy" ushered in by the 1990s.

At a trade show, Kane discovered a software program that could automate the process for compiling product costs. He

purchased the program in 1997 at a cost in excess of $100,000 and initiated the company's transition to a new approach to business and productivity, incorporating technology and retooled business processes. The software's real-time tracking features enabled employees to verify the status of a cost sheet at any time. Documents flowed smoothly from one department to the next in much less time. Products reached the stores more quickly, rather than getting mired down by misplaced paperwork.

A few years later the company purchased another software program to streamline business processes—this time across international boundaries. The program automated the coordination of production with the company's factory in China, where half of its goods are produced. Employees in Los Angeles and China were trained in the new system, which greatly improved production tracking. "With the automated process, we do not run late very often any more," says Kane. "In a business where retail clients cancel costly contracts if items do not arrive on time, the new software means higher profits in the long term."

Where Kane once focused on a philosophy of hiring more workers to increase productivity, today he believes "a key to productivity is in the consolidation of tasks." A consequence of consolidating tasks, of course, is fewer jobs. "You're not going to sweeten this by political correctness," he says. At Karen Kane, Inc., this was evident back in the mid-1980s, before the big productivity push, when the company purchased a $350,000 automated cutting machine that reduced the number of human cutters from eight to one to operate the automated machine. But there is another side to this equation. Kane recognized that employees who demonstrated flexibility and were willing to learn new tasks, including mastering software systems, deserved to be paid well. Kane switched to an incentive-based pay approach for his employees, offering a more attractive package to those who stayed on. "Incentive pay was the biggest part of what we did to increase productivity," says Kane. Rather than annual raises, employees now receive increases based on exceeding production targets. "The minute employees saw they didn't have to wait for a raise, we achieved our goals." Employees who were unable to adapt to the new system left the company. The annual paycheck of employees who remained increased on average by 24 percent.

Today the company employs some 170 people and ships between $65 and $76 million annually in products to major department stories. Where Karen once designed all of the clothes on her own, she now also supervises a group of five designers and a support staff of 35.

Talking about the future, Kane says he senses a trend toward standardization in the retail clothing business may be on the horizon. This could mean department stores would be less inclined to order the innovative apparel produced at Karen Kane, Inc. That time hasn't arrived, but it is a concern. Still, Kane finds satisfaction in knowing the company increased productivity and efficiency over the last several years, contributing to its ability to face new challenges. While the changes have not been easy to implement, he believes they have come without sacrificing the creativity that is the essence of Karen Kane, Inc.

"In a business where retail clients cancel costly contracts if items do not arrive on time, the new software means higher profits in the long term."

innovation

Stahlbush Island Farms

productivity

"In the global market, U.S. farmers need to compete in ways they never have, and the only way we can do this is through increased productivity," says Karla Chambers who, with her husband Bill Chambers, owns Stahlbush Island Farms, a 2,200-acre environmentally friendly farm located in Oregon's lush Willamette Valley. Price competition from abroad isn't the only challenge for farms like theirs. They also face what may be the most costly land and labor inputs on the world market, industry standards steeped in agricultural programs and practices handed down from the World War II era, and an uneven playing field when it comes to domestic and international agricultural regulations. Despite these challenges, Stahlbush Island Farms has experienced a 20 to 30 percent annual growth rate over the past thirteen years bringing together value-added production, sustainable farming practices, and innovative technologies to lower costs and boost productivity.

"What we've done is combine the change in consumer preferences toward environmentally enhanced products with value-added production to fill a niche that really is growing," says Bill Chambers. The couple bought their farm in 1985, harvesting two crops on 365 acres they owned and 150 leased acres, with a mechanic, a laborer, and their own sweat equity. Early on they knew that differentiating their products from others and moving away from commodity-dependent production was important for profitability. Studying successful farms in Oregon, Bill Chambers concluded that vertical integration was key. This meant adding a business such as a fertilizer or machinery company to lower input costs, or adding value to the raw commodity, for example, incorporating a fresh packing facility into the operation. Based on the study, the farm grew to include a processing plant in 1990 and began processing its own pumpkin.

Today Stahlbush produces 15 crops, which are turned into value-added products for retail, industrial, food service, and export markets. Twelve flash-frozen vegetables and fruits reach retail markets under the Stahlbush Island Farms "sustainable" label. In industrial markets, Stahlbush products are the primary ingredients for products such as baby food, soup, quiches, and pies. Products are exported to 16 countries, primarily for the industrial market, including the soup, beverage, and vegetable industries in Japan, a country that aggressively tests imports for chemical residues.

Farmer's Market, a certified-organic line of pumpkin products the farm began marketing in the U.S. and Canada during the past two years, grosses 4.5 times more in revenue than the entire farm did in its first year. "That's the difference between

Karla Chambers, vice president and owner of Stahlbush Island Farms with husband Bill Chambers, is the chairman of the board of directors for the Portland Branch of the Federal Reserve Bank of San Francisco. She has been a board member since 1999.

commodity and value-added agriculture where we grow, process, package, and market consumer-ready products—and why we're more profitable than we ever were with traditional practices," says Karla Chambers.

When the couple transitioned their farm to sustainable agriculture in 1992, they believed environmental stewardship and producing safe, nutritious food were as important as the bottom line. Although only a portion of the Stahlbush farming operation is certified organic, the entire farm is third-party certified by the Food Alliance for their sustainable farming practices. Through sustainable practices such as rotating crops annually, strip tilling, planting cover crops, reducing and eliminating pesticide use, testing soil and product residue, water conservation irrigating, and recycling, the farm is able to increase its yields with the added benefit of preserving soil and groundwater quality.

To decrease labor costs on the farm, Bill and Karla Chambers focus on mechanization—using their own innovations and bringing in new equipment that incorporates technology from other industries. The productivity gains speak for themselves. After replacing nine conventional tractors with four global positioning system (GPS) tractors, the farm recouped its technology costs within six months. Cost savings and productivity gains come from less maintenance and increased asset utilization. The four GPS tractors, which do the work of 11 conventional machines, operate 24 hours per day, at faster speeds and in straighter lines compared to human-driven tractors. Drivers are responsible only for turning the tractor when signaled at the end of a row. Because of the greater precision, fewer chemicals and fertilizers are used—benefiting the environment and food quality.

Three Marion blackberry harvesters use 30 workers to harvest what 300 workers could harvest by hand. A strip tillage system that reduces the necessity of tilling an entire field is among Bill Chambers' own innovations improving productivity. Another innovation, a pumpkin cultivator that mechanizes aspects of the cultivation process, has reduced the traditional 80-person hoeing crew down to five—cutting costs by over 75 percent. With pattern recognition technology coming, the couple hopes to completely automate the pumpkin cultivation process.

Providing stability for farm employees is a crucial part of the success of their operation. Crops are planned with complementary labor inputs so employees move from crop to crop through ten months of the year. The farm's labor force consists of 60 full-time employees, 100 seasonal workers, and 120 strawberry harvesters. Similar to any business, job skills span all levels—horticulturalists, microbiologists, millwrights, electricians, fabricators, welders, mechanics, shift supervisors, and manual laborers.

When asked about the future, Bill Chambers says, "It's where the customers steer us." Karla Chambers sees consumer demand for environmentally enhanced products continuing to grow as evidenced by the demand for their products and the number of stores devoting larger portions of shelf space to sustainable, organic, and locally grown products. The direction of traditional agriculture is what remains unclear. "It will be interesting to look back ten years from now," says Karla Chambers. But whatever the future holds, the vision for Stahlbush Island Farms is clear.

"In the global market, U.S. farmers need to compete in ways they never have, and the only way we can do this is through increased productivity."

innovation
Inside the Fed
productivity

Mirroring the economy around us, investments in new technology and workplace innovations are changing the way we do business at the Federal Reserve Bank of San Francisco. New web technology in our check business and employee teams in cash operations are generating productivity solutions to support our role in the payments system and contribute to our bottom line. Technology solutions, the creation of knowledge resource centers, and new business processes in how we administer reserve requirements and supervise banks are addressing greater complexity in banking and supporting our role overseeing the safety and soundness of the financial system.

innovation Technology productivity

A winning strategy for any business is giving customers what they want at a competitive price. In 2000, following five years of significant growth from earlier investments in leading-edge imaging technology, the Twelfth District Retail Payments division experienced a declining customer base for its check imaging services. Facing fierce competition and the need to update its core technology, the Twelfth District and Reserve Banks across the country moved to a national web delivery platform for image services in 2003. "This bold investment by the Federal Reserve was part of an overall check modernization effort to update the

technology infrastructure for all of our check services," says Drew Ellis, manager of the District's Seattle-based Retail Product Group, responsible for check product development.

Prior to the implementation of the web platform, the District's client banks waited 24 to 36 hours to receive a check image, a typical time frame for early generation image processing in the financial industry. Each Twelfth District office, similar to Reserve Banks around the country, had a self-contained image processing infrastructure: sorters with image cameras to capture pictures of a check; enough digital storage capacity on hard drives or optical disks to archive images for seven years; electronic equipment to create tapes or CDs to deliver images to customers; software to format, index, and track images; and, of course, the necessary staff dedicated to the process.

Under the former model, each office automatically imaged checks for client banks, retained the physical checks, and then transmitted an electronic file of the magnetic ink character recognition information contained on the check to the client bank.

Client banks in turn posted the electronic file to their customers' accounts. If customers requested an electronic image of the check, the client bank requested the image from the local Reserve Bank, which delivered the image via fax or electronic media with a one- to two-day turnaround, depending on the time of the request.

Enter the ISS, or Image Services System. Transforming the self-contained system into a national process based on a standard, centrally managed platform, ISS improved productivity, boosted revenue, and most importantly, enabled the delivery of images directly to customers when they need them over the web. With ISS, each of the Federal Reserve's 40-plus image capture sites, including five in the Twelfth District, transmit and archive images at one of two regional archive sites in the Federal Reserve System. Using new FedImage software, client banks can access check images online through Fedline for the Web within two hours after capture—no matter where the check is processed. Their customers, in turn, can seamlessly view check images directly from the bank's web site.

The reassignment of staff and the elimination of equipment, maintenance, and software associated with the former process have reduced costs in the District's five offices. Lower costs resulted in lower prices for some check products. Additionally, rather than managing equipment and labor-intensive processes, staff now are free to focus on customer needs.

Customer feedback has been strong. Ellis says client banks appreciate the versatility of offering corporate and retail customers the options of viewing check images on a CD or online.

Ellis believes ISS and the other standard check services the Fed now is able to offer nationwide are positioning the Fed for a strong future as a business partner with banks. He says, "We have the ability to meet the needs of our local and national customers as banks expand their reach across state borders." In concert with the national Retail Payments Office, Ellis says the Twelfth District also is developing Check 21 clearing products that use the ISS as a repository to facilitate image exchange.

"We have the ability to meet the needs of our local and national customers as banks expand their reach across state borders."

innovation
Employee Teams
productivity

Gone are the days when only one person in a department or a business focused on the future. Today companies are turning to employee teams to solve problems and to identify opportunities for innovation and growth. To improve productivity and to lower costs associated with processing increasing volumes of currency in Twelfth District cash vaults, Cash management turned to employee teams for solutions in 2003. The Virtual Processing Room Legacy Team, one of a number of teams

formed last year, consists of employees from cash operations around the Twelfth District who know the business from the inside out.

John Onuigbo, manager of High Speed Currency Processing for Los Angeles Cash operations, leads the team. "One of our challenges last year was to come up with workflow efficiencies that would lower costs in high-speed cash processing," says Onuigbo. His team studied a virtual processing concept for $1 notes that was conceived by a Federal Reserve System workgroup Onuigbo served on, adapting the concept for the Twelfth District. Where the System group evaluated the concept solely for $1 notes, Onuigbo's team expanded the focus to include larger denominations.

With approval from the U.S. Treasury, the Board of Governors, and the national Cash Product Office, which is headquartered at the San Francisco Reserve Bank, the virtual processing room concept was piloted with Los Angeles Cash employees with impressive results.

Los Angeles Cash operations, like the five other cash offices in the Twelfth District, processes cash received from commercial banks that store their excess money in Reserve Bank vaults. Upon delivery, the cash is processed using high-speed equipment to verify amounts, remove counterfeits, and destroy worn currency.

The Los Angeles virtual processing room pilot combined two processing rooms into one virtual room—with a single team of five employees sharing custody of notes processed on two separate machines. Adapting some traditional custody controls made the process virtual. For example, the removal of a dividing wall allowed the team to move between processing rooms. A custody waiver increased the permissible number of team members assigned to a machine. The waiver allowed all five employees of the combined room to maintain custody of the currency for both machines.

The pilot was a success. The virtual concept enabled a smaller team to process currency in the two rooms, which lowered costs significantly. A second phase of the pilot is now under way. This phase will determine whether the three-room concept is equally feasible, as long as the more efficient $1 note processing is included in the mix.

Onuigbo says Los Angeles Cash employees, who were at first reluctant to take on the additional workload, began to appreciate the increased flexibility and cohesive team environment of the new process. He says they also appreciate the greater returns from the gainsharing program, an incentive-based pay program launched in 2003, through which Cash employees are compensated for exceeding productivity targets. In the end, employees in the pilot contributed many of the ideas that make the virtual concept work.

Based on the success of the pilot and study results, the two- and three-room processing concepts will be implemented throughout the District in 2004. Onuigbo says as cash volumes grow, the Federal Reserve's ability to manage the demand will depend on matching policies, new workflow efficiencies, and technology to lower costs—just as his Legacy team did with virtual processing.

"One of our challenges last year was to come up with workflow efficiencies that would lower costs in high-speed cash processing."

innovation productivity

Knowledge Management

In late 2003, a large money-center bank started the first phase of its strategy to reduce the number of banks under its holding company by merging some of its affiliate banks. Months before the merger date, Reserve Bank staff in four Districts and at the Board of Governors prepared for the event to ensure the merger proceeded without disruption. At the Trading Desk of the Federal Reserve Bank of New York and within the Monetary Affairs section of the Board of Governors, analysts, economists, and statisticians carefully analyzed the data on reserve requirements and reserve position—a process known as reserve administration.

The merger typifies the complexity of the financial services industry that Federal Reserve staff grapple with when calculating and monitoring reserves. Over the past ten years, the rapid growth of mergers, interstate branching, and innovation and consolidation in banking has complicated reserve administration significantly. In response, the Federal Reserve System created new account structures and revised its operational procedures and organizational structure, but more was needed to keep pace with this changing landscape.

In October 2002, Carl Segall, the Twelfth District's director over Reserve Administration, approached senior staff at the Board of Governors with a proposal for a centralized reserve resource center. Board staff recognized the benefits of standardizing reserve processes and exploiting expertise across the System. So in 2003, the Board launched the new national Reserve Resource Center (RRC), selecting San Francisco as the headquarters. "The Board selected our District because of its strong reputation for reserve expertise and our cost-effective model for the RRC," says Mark Tanaka, assistant manager in Statistics and the lead responsible for oversight of the RRC.

Reserve requirements, the portion of each deposit that banks are required to hold, are an important monetary policy tool. Reserve administration requires a broad understanding of the linkages between reserve requirement concepts, monetary policy, regulatory reporting, banking regulations, and Federal Reserve operations. It also requires the ability to navigate the Federal Reserve's largest and most complex computer systems.

With all of these parameters, the process rarely is straightforward. "Reserve administration is uniquely challenging because it relies far more on exceptional analytical problem-solving skills, technical savvy, and sheer perseverance than formal procedures," says Tanaka. "Reserve issues can be unique events where routine procedures don't necessarily provide the correct result. Analysts must develop options, then select the most appropriate solution to achieve the correct outcome."

By providing a central point of contact, the RRC is eliminating previous barriers to sharing knowledge among Districts. Analysts can contact the RRC for support with complex assignments. Soon they will be able to pull directly from expertise and skills from around the Federal Reserve System when the RRC completes its new communications web site. The web site will include a discussion forum for analysts to pose and resolve reserves issues and will serve as a central repository for reserves procedures, where analysts can look for best practices, standardized agreements, and merger procedures, for example. The web site will contribute to a primary goal of the RRC as well—helping to ensure that reserves are administered consistently across the Federal Reserve.

As the central point of contact, the RRC also will take the lead in developing Federal Reserve System-level training, resolving and documenting the most difficult policy and administration issues, and serving as a consultant for maintenance and development of software applications that support reserve administration.

Although the RRC is administered from a central Reserve office in San Francisco, collaboration among analysts from all twelve Districts is the cornerstone of the knowledge-intensive operation. The RRC relies heavily on the expertise of its Board of Consultants composed of the most experienced reserve analysts from each Reserve Bank and the Board of Governors. By leveraging this expertise to analyze and draft recommendations on technical and policy issues, the RRC can operate locally with a small staff. Although the RRC is still in its infancy, Tanaka says the move to a national center already is showing results through less duplication of effort, greater standardization, and increased reliance on expert knowledge through collaboration and the sharing of best practices around the System.

"Reserve administration is uniquely challenging because it relies far more on exceptional analytical problem-solving skills, technical savvy, and sheer perseverance than formal procedures."

innovation
Risk Management
productivity

Managing the risks associated with the banking industry today is complex. The traditional portfolio of ten years ago—where lending and taking deposits were the primary services—has expanded to include nontraditional activities such as securities underwriting, derivatives trading, and asset management. Mergers, expansion of banks across states and internationally, and greater volume and speed of transactions with technology heighten the potential for swift changes in risks associated with complex bank portfolios. Examiners need sophisticated tools and knowledge to assess credit, market, and operational risk in a bank's portfolio.

In 2003, Banking Supervision and Regulation (BS&R) consolidated all supervision activities into one group as part of a larger reorganization. The move is one of a number of business process and technology innovations BS&R implemented to ensure appropriate supervisory risk management programs and resources are in place. The change integrates the safety and soundness and consumer examination groups and brings together risk analysis, bank applications, and enforcement within the single supervisory function. "There is greater succession, depth, and knowledge sharing in our supervision staff with the change," says Portfolio Manager Paul Montelaro. Montelaro says the interdisciplinary approach provides a

more comprehensive view of a bank, one that highlights the interdependencies of bank operations and their associated risks. Additionally, there is greater flexibility to allocate supervisory resources in a manner that focuses on the most significant risks raised by the institutions.

Two other elements of the new process help reduce duplication of efforts and provide flexibility in the deployment of resources. Banks calling the Twelfth District soon will have a central point of contact, rather than having separate contacts for consumer compliance and financial exam matters. Integrating safety and soundness and compliance exams into a single exam for large banks is a long-range goal. "Integration is a major objective, but it is being done over time and is a matter of degree at any point in time, since the required frequency for each type of exam varies by statute," says Laura Boughner, who will be one of the central points of contact for the Twelfth District.

The Risk Assessment Council, in place since early 2001, is a key risk management tool that is enhancing the sharing of information within the newly consolidated supervisory function. The council consists of management and staff from business areas including Economic Research, BS&R, and Law and risk coordinators from within BS&R who focus on operational, credit, market, and compliance risks. The council meets periodically to carry out a formal process for identifying and evaluating risks affecting banks in the Twelfth District. "The council's broad-based membership enables us to pull together horizontally the risks and concerns seen across the District to develop a baseline risk profile and to spot emerging trends and issues," says Gary Palmer, a manager within the Risk Monitoring and Analysis group. Palmer says consideration is given to events or scenarios that could result in safety and soundness problems at District banking institutions in the near to immediate future. The scenarios, such as a sharp increase in interest rates or a decline in commercial real estate values, are tiered based on the likelihood of a given scenario and the overall impact on District banks if the event comes to pass. Based on its assessment of risk, the council recommends follow-up strategies with respect to supervised institutions.

"Today, we need to put our supervisory resources where the most risk is," says Nancy di Sibio, the manager of Central Resource Management within the supervisory group. As the manager overseeing the deployment of examiners resources, di Sibio works with Evolve, a web-based resource scheduling platform adopted by all Federal Reserve Districts and the Board of Governors in 2003. The software tool, which provides a common language for defining examiner skills and a standard scheduling process, is enhancing the Federal Reserve's ability to manage and deploy resources, no matter where they're located. "Each Reserve Bank still maintains its own group of examiners, but now there is flexibility to move examiners to other regions when their expertise is needed," says di Sibio. This is especially important in the new banking environment. Large bank exams often require multiple skill sets—credit and capital market experience and information technology expertise, for example. Foreign language skills are needed when supervising a foreign entity. Mergers also alter the demand for examiner resources across the country.

Reserve Banks are just beginning to explore the software's capabilities. Business forecasting features will enhance the ability to coordinate resources with peaks and valleys in banking activity, such as during a merger. The software's report features already have sped up processing so some reports that once took several days to compile are processed within five minutes. "The true measure of success is down the road—having a technology in place that helps put the best resources toward the most risky institutions, and geographical and Reserve Bank boundaries fall by the wayside," says di Sibio.

"Each Reserve Bank still maintains its own group of examiners, but now there is flexibility to move examiners to other regions when their expertise is needed."

federal reserve bank

Executive Committee

Standing from left:

ROBERT T. PARRY — President and Chief Executive Officer

JOHN F. MOORE — First Vice President and Chief Operating Officer
National Cash Product Director

TERRY S. SCHWAKOPF — Executive Vice President
Banking Supervision and Regulation,
District Public Information, Communicating Arts,
and Office of the Secretary

Seated from left:

JOHN P. JUDD — Senior Vice President and Director of Research

SUSAN A. SUTHERLAND — Senior Vice President
District Business Continuity, Human Resources,
Legal, Statistics, and Structure

MARK L. MULLINIX — Executive Vice President
District Finance and Information Technology
National Cash Product Manager

summary of Operations

	2003	2002
	(volume in thousands)	
Cash Services		
Currency notes paid into circulation	5,829,322	5,749,365
Food stamp coupons processed	222,166	307,801
Check Services		
Commercial checks processed	1,743,501	1,841,660
Government checks processed	n/a*	41,116
Return items processed	33,602	33,023
Discounts and Advances		
Total discounts and transactions**	350	446
Number of financial institutions accommodated**	75	93

* Items no longer processed in the Twelfth District

** Whole numbers (not in thousands)

federal reserve bank

Branch Managers

Los Angeles

MARK L. MULLINIX ▶ Executive Vice President

Salt Lake City

ANDREA P. WOLCOTT ▶ Group Vice President

Seattle

MARK A. GOULD ▶ Group Vice President

Portland

RICHARD B. HORNSBY ▶ Group Vice President

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As of December 31, 2003

San Francisco Office

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President and
Chief Executive Officer

John F. Moore
First Vice President and
Chief Operating Officer

Terry S. Schwakopf
Executive Vice President

John S. Hsiao
Senior Vice President and
Chief Information Officer

John P. Judd
Senior Vice President

Michael J. Murray
Senior Vice President

Susan A. Sutherland
Senior Vice President

Teresa M. Curran
Group Vice President

Todd A. Glissman
Group Vice President

Donald R. Lieb
Group Vice President

John H. Parrish
Group Vice President
and General Auditor

Sharon Ruth
Group Vice President
and General Counsel

Deborah S. Smyth
Group Vice President

David W. Walker
Group Vice President

Patricia A. Welch
Group Vice President

Bonnie R. Allen
Vice President and
Managing Director

Lee C. Dwyer
Vice President

Frederick T. Furlong
Vice President

Eliot E. Giuili
Vice President

Reuven Glick
Vice President

Beverley-Ann Hawkins
Vice President

Joy K. Hoffmann
Vice President

Ann Marie Kohlligian
Vice President and
Managing Director

Mark E. Levonian
Vice President

Glenn D. Rudebusch
Vice President

Libby Wood
Vice President

Randy Balducci
Director

Thomas A. Ballantyne
Director

Tracy Basinger
Director

Barbara A. Bennett
Director

Kenneth R. Binning
Director

Richard K. Cabral
Director

James J. Callahan
Director

Clifford N. Croxall
Director

Alice Farrell
Director

Ellen M. Hamilton
Director

Jackie C. Hicks
Director

Peter K. C. Hsieh
Director

Michael E. Johnson
Director

Rick A. Miller
Director

Frederic P. Minardi
Director

Darren S. Post
Director

David E. Reiser
Director

Philip M. Ryan
Director

Carl M. Segall
Director

Roxana R. Tsougarakis
Director

Paulette M. Wallace
Director

Mary E. Wujek
Director

Mark M. Spiegel
Senior Research Advisor

John C. Williams
Senior Research Advisor

Mary C. Daly
Research Advisor

Judith R. W. Goff
Research Publications
Advisor

Simon H. Kwan
Research Advisor

Bharat Trehan
Research Advisor

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Research Advisor

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Gopa Kumar
Principal

David J. Moore
Principal

Lincoln R. Morita
Principal

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Principal

Erik Z. Revai
Principal

Peggy L. Speck
Principal and
Secretary of the Board

Shirley N. Thompson
Principal

Kevin E. Zerbe
Principal

Los Angeles Branch

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Executive Vice President

Roger W. Replogle
Senior Vice President

Robert G. Wiley
Group Vice President

Deborah Awai
Vice President

Marla E. Borowski
Vice President

Robert Zavala, Jr.
Vice President

Jose Alonso
Director

Anthony P. Dazzo
Director

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Director

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Mary E. Lee
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Steven H. Walker
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Salt Lake City Branch

Andrea P. Wolcott
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Jed W. Bodily
Director

Seattle Branch

Michael J. Stan
Senior Vice President

Mark A. Gould
Group Vice President

Pamela R. Anderson
Director

Lynn M. Jorgensen
Director

Jimmy F. Kamada
Director

Phoenix Processing Center

Robert E. Kellar, Jr.
Director

Each Reserve Bank has its own board of nine directors chosen from outside the Bank as provided by law. Three directors, designated Class A, represent commercial banks that are members of the Federal Reserve System. Three Class B and three Class C directors represent the public. The member commercial banks in each District elect Class A and Class B directors. The Board of Governors in Washington, D.C., appoints Class C directors. From the Class C directors, the Board of Governors selects one person as chairman and another as deputy chairman. No Class B or Class C director may be an officer, director, or employee of a bank or a bank holding company. No Class C director may own stock in a bank or a bank holding company. Directors have broad oversight responsibility for their Bank's operations and nominate the president and first vice president of their Reserve Bank, subject to approval by the Board of Governors.

Each Branch of a Reserve Bank has its own board of directors of five or seven members. A majority of these directors are appointed by the Branch's Reserve Bank; the others are appointed by the Board of Governors.

Boards of directors of the Reserve Banks and Branches provide the Federal Reserve System with a wealth of information on economic conditions in every corner of the nation. This information, along with other sources, is used by the Federal Open Market Committee and the Board of Governors when reaching decisions about monetary policy.

board of directors
San Francisco

As of January 1, 2004

Chairman of the Board and Federal Reserve Agent

George M. Scalise
President
Semiconductor Industry Association
San Jose, California

Deputy Chairman

Sheila D. Harris
Director
Arizona Department of Housing
Phoenix, Arizona

Richard W. Decker, Jr.
Chairman and Co-Founder
Belvedere Capital Partners LLC
San Francisco, California

Jay T. Harris
Wallis Annenberg Chair in Journalism & Communications
Annenberg School for Communication
University of Southern California
Los Angeles, California

Richard C. Hartnack
Vice Chairman
Union Bank of California, N.A.
Los Angeles, California

Jack McNally
Principal
JKM Consulting
Sacramento, California

David K. Y. Tang
Partner
Preston Gates & Ellis LLP
Seattle, Washington

Candace H. Wiest
President
Inland Empire National Bank
Riverside, California

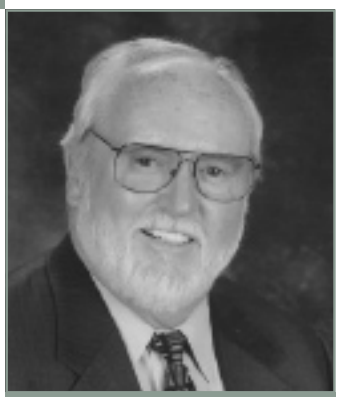
Barbara L. Wilson
Consultant and Regional Vice President (Retired)
Qwest Corporation
Boise, Idaho

SCALISE HARRIS


DECKER


HARRIS


HARTNACK


McNALLY


TANG


WIEST


WILSON


O'NEILL

Federal Advisory Council Member

Michael E. O'Neill
Chairman, CEO and President
Bank of Hawaii Corporation
Honolulu, Hawaii

board of directors

Los Angeles

As of January 1, 2004

Chairman of the Board

William D. Jones
Chairman, President and
Chief Executive Officer
CityLink Investment Corp.
San Diego, California

Karen Caplan
President and Chief
Executive Officer
Frieda's, Inc.
Los Alamitos, California

Sister Diane Donoghue
Executive Director
Esperanza Community
Housing Corporation
Los Angeles, California

Russell Goldsmith
Chairman and Chief
Executive Officer
City National Bank
Beverly Hills, California

Anita Santiago
President
Anita Santiago Advertising
Santa Monica, California

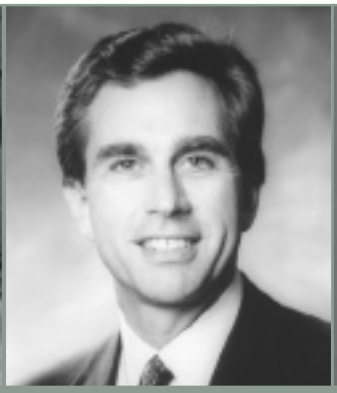
Peter M. Thomas
Managing Director
Thomas and Mack Co.
Las Vegas, Nevada

D. Linn Wiley
President and Chief
Executive Officer
Citizens Business Bank
Ontario, California

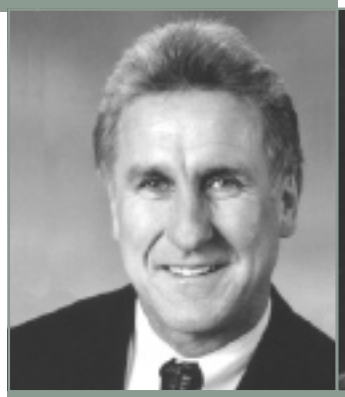

JONES


CAPLAN


DONOGHUE


GOLDSMITH


SANTIAGO


THOMAS


WILEY

board of directors

Portland

As of January 1, 2004

Chairman of the Board

Karla S. Chambers
Vice President and Co-Owner
Stahlbush Island Farms, Inc.
Corvallis, Oregon

Judi Johansen
President and Chief Executive Officer
PacifiCorp
Portland, Oregon

Peter O. Kohler
President
Oregon Health and Science University
Portland, Oregon

George Passadore
Chairman, Oregon
Wells Fargo Bank
Portland, Oregon

James H. Rudd
Chief Executive Officer
Ferguson Wellman Capital Management, Inc.
Portland, Oregon

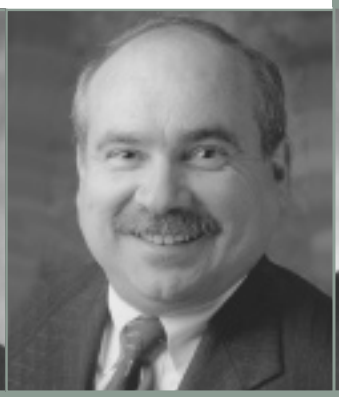
Robert D. Sznewajs
President and Chief Executive Officer
West Coast Bancorp
Lake Oswego, Oregon

William D. Thorndike, Jr.
President
Medford Fabrication
Medford, Oregon


CHAMBERS


JOHANSEN


KOHLER


PASSADORE


RUDD


SZNEWAJS


THORNDIKE

board of directors

Salt Lake City

As of January 1, 2004

Chairman of the Board

H. Roger Boyer
Chairman
The Boyer Company
Salt Lake City, Utah

A. Scott Anderson
President and Chief Executive Officer
Zions First National Bank
Salt Lake City, Utah

Gary L. Crocker
President
Crocker Ventures
Salt Lake City, Utah

William C. Glynn
President
Intermountain Industries, Inc.
Boise, Idaho

Curtis D. Harris
Chairman, President and Chief Executive Officer
Barnes Banking Co.
Kaysville, Utah

Annette K. Herman
President and Chief Executive Officer
UnitedHealthcare
Salt Lake City, Utah

Deborah B. Nielsen
President and Chief Executive Officer
United Way of Salt Lake
Salt Lake City, Utah


BOYER


ANDERSON


CROCKER


GLYNN


HARRIS


HERMAN


NIELSEN

board of directors

Seattle

As of January 1, 2004

Chairman of the Board

Mic R. Dinsmore
Chief Executive Officer
Port of Seattle
Seattle, Washington

James R. Gill
President
Pacific Northwest Title
Holding Company
Seattle, Washington

Kenneth M. Kirkpatrick
President, Washington
Commercial Banking
U.S. Bank
Seattle, Washington

Mary E. Pugh
President
Pugh Capital Management, Inc.
Seattle, Washington

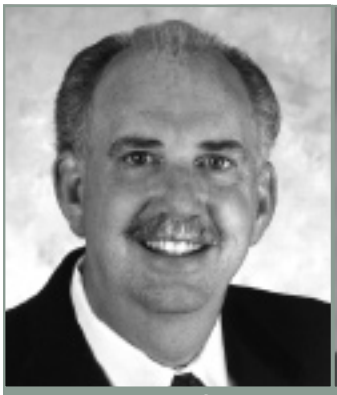
Helvi K. Sandvik
President
NANA Development Corp.
Anchorage, Alaska

Peter H. Van Oppen
Chairman and Chief
Executive Officer
Advanced Digital
Information Corp.
Redmond, Washington

David W. Wyckoff
Chairman and Chief
Executive Officer
Wyckoff Farms, Inc.
Grandview, Washington


DINSMORE


GILL


KIRKPATRICK


PUGH


SANDVIK


VAN OPPEN


WYCKOFF

twelfth district

Advisory Council

As of January 1, 2004

Chairman

Duff Willey
President
Willey Automotive Group
Bountiful, UT

Vice Chairman

Thomas E. Cleveland
Chairman and Chief Executive Officer
Access Business Finance
Bellevue, WA

Roberto E. Barragan
President
Valley Economic Development Center, Inc.
Van Nuys, CA

Barbara Bry
Chief Marketing Officer
TEC International
San Diego, CA

Paula R. Collins
Chief Executive Officer
WDG Ventures, Inc.
San Francisco, CA

Manuel Cunha, Jr.
President
Nisei Farmers League
Fresno, CA

Paul Ecke, III
Chairman and Chief Executive Officer
Paul Ecke Ranch
Encinitas, CA

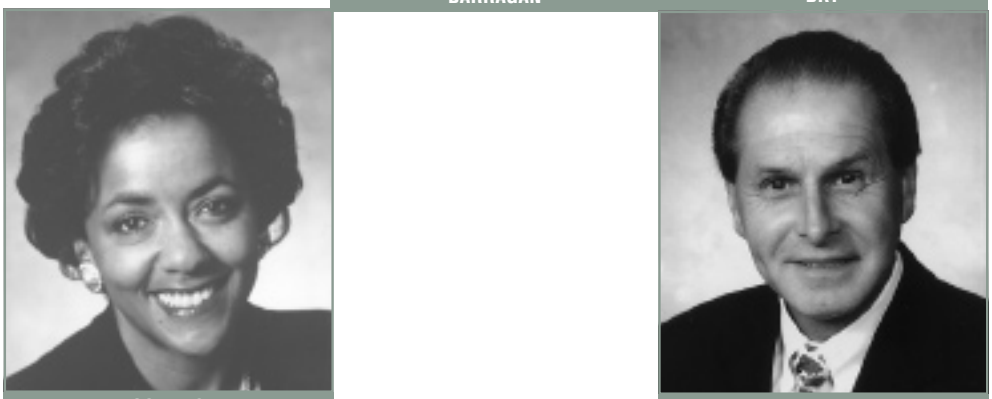
Jack Gleason
ComPlan Advisors LLC
Scottsdale, AZ

Ed P. Mayne
President
Utah AFL-CIO
West Valley, UT

Denice A. Young, CPA
President
Young Consulting Group and Real Estate Services
Torrance, CA

WILLEY | CLEVELAND

BARRAGAN | BRY



COLLINS | CUNHA

ECKE | GLEASON | MAYNE | YOUNG

2003

Financial Statements

The firm engaged by the Board of Governors for the audits of the individual and combined financial statements of the Reserve Banks for 2003 was PricewaterhouseCoopers LLP (PwC). Fees for these services totaled $1.4 million. To ensure auditor independence, the Board of Governors requires that PwC be independent in all matters relating to the audit. Specifically, PwC may not perform services for the Reserve Banks or others that would place it in a position of auditing its own work, making management decisions on behalf of the Reserve Banks, or in any other way impairing its audit independence. In 2003, the Bank did not engage PwC for advisory services.

December 31, 2003
To the Board of Directors

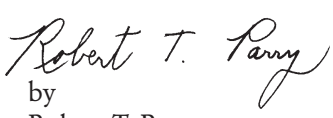
The management of the Federal Reserve Bank of San Francisco (FRB-SF) is responsible for the preparation and fair presentation of the Statement of Financial Condition, Statement of Income, and Statement of Changes in Capital as of December 31, 2003 (the "Financial Statements"). The Financial Statements 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, ("Manual") and as such, include amounts, some of which are based on judgments and estimates of management. To our knowledge, the Financial Statements are, in all material respects, fairly presented in conformity with the accounting principles, policies and practices documented in the Manual and include all disclosures necessary for such fair presentation.

The management of the FRB-SF 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.

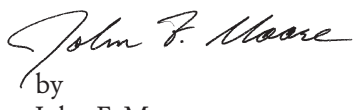
Even an effective process of internal controls, no matter how well designed, has inherent limitations, including the possibility of human error, and therefore can provide only reasonable assurance with respect to the preparation of reliable financial statements.

The management of the FRB-SF 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, we believe that FRB-SF maintained an effective process of internal controls over financial reporting including the safeguarding of assets as they relate to the Financial Statements.

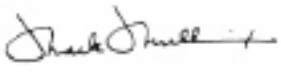
Federal Reserve Bank of San Francisco



by
Robert T. Parry
President



by
John F. Moore
First Vice President



by
Mark Mullinix
Principal Financial Officer

PRICEWATERHOUSECOOPERS

PricewaterhouseCoopers LLP
333 Market Street
San Francisco CA 94105-2119
Telephone (415) 498 500
Facsimile (415) 498 7100

Report of Independent Auditors

To the Board of Directors of
The Federal Reserve Bank of San Francisco

We have examined management's assertion, included in the accompanying Management Assertion, that The Federal Reserve Bank of San Francisco ("FRBSF.") maintained effective internal control over financial reporting and the safeguarding of assets as they relate to the financial statements as of December 31, 2003, based on criteria established in Internal Control – Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission. FRBSF's management is responsible for maintaining effective internal control over financial reporting and safeguarding of assets as they relate to the financial statements. Our responsibility is to express an opinion on management's assertion based on our examination.

Our examination was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants and, accordingly, included obtaining an understanding of internal control over financial reporting, testing and evaluating the design and operating effectiveness of internal control, and performing 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 any evaluation of 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 FRBSF maintained effective internal control over financial reporting and over the safeguarding of assets as they relate to the financial statements as of December 31, 2003 is fairly stated, in all material respects, based on criteria established in Internal Control – Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission.

This report is intended solely for the information and use of management and the Board of Directors and Audit Committee of FRBSF, and any organization with legally defined oversight responsibilities and is not intended to be and should not be used by anyone other than these specified parties.

PricewaterhouseCoopers LLP

March 1, 2004

PRICEWATERHOUSECOOPERS

PricewaterhouseCoopers LLP
333 Market Street
San Francisco CA 94105-2119
Telephone (415) 498 500
Facsimile (415) 498 7100

Report of Independent Auditors

To the Board of Governors of The Federal Reserve System and
the Board of Directors of The Federal Reserve Bank of San Francisco

We have audited the accompanying statements of condition of The Federal Reserve Bank of San Francisco (the "Bank") as of December 31, 2003 and 2002, and the related statements of income and changes in capital for the years then ended, which have been prepared in conformity with the accounting principles, policies, and practices established by the Board of Governors of The Federal Reserve System. These financial statements are the responsibility of the Bank's management. Our responsibility is to express an opinion on the financial statements based on our audits.

We conducted our audits in accordance with auditing standards generally accepted in the United States of America. 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 of America.

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, 2003 and 2002, and results of its operations for the years then ended, in conformity with the basis of accounting described in Note 3.

PricewaterhouseCoopers LLP

March 1, 2004

Statement of Condition

As of December 31, 2003 and 2002 (in millions)

Assets	**2003**	**2002**
Gold certificates	$ 963	$ 1,046
Special drawing rights certificates	234	234
Coin	84	111
Items in process of collection	2,689	2,608
Loans to depository institutions	20	5
U.S. government and federal agency securities, net	54,278	54,835
Investments denominated in foreign currencies	2,058	1,833
Accrued interest receivable	406	468
Interdistrict settlement account	11,391	–
Bank premises and equipment, net	234	233
Other assets	38	36
Total assets	$ 72,395	$ 61,409
Liabilities and Capital		
Liabilities:		
Federal Reserve notes outstanding, net	$ 63,868	$ 52,772
Securities sold under agreements to repurchase	2,061	1,810
Deposits:		
Depository institutions	1,957	2,273
Other deposits	3	4
Deferred credit items	2,296	2,584
Interest on Federal Reserve notes due U.S. Treasury	29	104
Interdistrict settlement account	–	43
Accrued benefit costs	69	69
Other liabilities	16	14
Total liabilities	70,299	59,673
Capital:		
Capital paid-in	1,048	868
Surplus	1,048	868
Total capital	2,096	1,736
Total liabilities and capital	$ 72,395	$ 61,409

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

Statement of Income

For the years ended December 31, 2003 and 2002 (in millions)

	2003	2002
Interest income:		
Interest on U.S. government and federal agency securities	$ 1,826	$ 2,258
Interest on investments denominated in foreign currencies	27	30
Total interest income	1,853	2,288
Interest expense:		
Interest expense on securities sold under agreements to repurchase	18	1
Net interest income	1,835	2,287
Other operating income:		
Income from services	81	98
Reimbursable services to government agencies	16	20
Foreign currency gains, net	280	224
U.S. government securities gains, net	–	7
Other income	8	7
Total other operating income	385	356
Operating expenses:		
Salaries and other benefits	186	194
Occupancy expense	18	18
Equipment expense	22	24
Assessments by Board of Governors	99	56
Other expenses	54	64
Total operating expenses	379	356
Net income prior to distribution	$ 1,841	$ 2,287
Distribution of net income:		
Dividends paid to member banks	$ 55	$ 50
Transferred to surplus	180	72
Payments to U.S. Treasury as interest on Federal Reserve notes	1,606	2,165
Total distribution	$ 1,841	$ 2,287

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

Statement of Change in Capital

For the years ended December 31, 2003 and 2002 (in millions)

	Capital Paid-in	Surplus	Total Capital
Balance at January 1, 2002 (16 million shares)	$ 796	$ 796	$ 1,592
Net income transferred to surplus	–	72	72
Net change in capital stock issued (1 million shares)	72	–	72
Balance at December 31, 2002 (17 million shares)	868	868	1,736
Net income transferred to surplus	–	180	180
Net change in capital stock issued (4 million shares)	180	–	180
Balance at December 31, 2003 (21 million shares)	$ 1,048	$ 1,048	$ 2,096

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

Notes to Financial Statements

1. Structure

The Federal Reserve Bank of San Francisco ("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. The Bank and its branches in Los Angeles, California, Portland, Oregon, Salt Lake City, Utah, and Seattle, Washington, serve the Twelfth Federal Reserve District, which includes Alaska, Arizona, California, Hawaii, Idaho, Nevada, Oregon, Utah, Washington, and the commonwealths or territories of American Samoa, Guam, and the Northern Mariana Islands. 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. 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

In accordance with the Federal Reserve Act, supervision and control of the Bank are exercised by a 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 ("ACH") operations and check processing; distributing coin and currency; performing 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, the sale of securities under agreements to repurchase, and the lending of U.S. government securities. The FRBNY is also authorized by the FOMC to hold balances of, and to execute spot and forward foreign exchange ("F/X") and securities contracts in nine 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

Notes to Financial Statements

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.

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 accounting principles generally accepted in the United States of America ("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 generally required by GAAP. In addition, the Bank has elected not to present a Statement of Cash Flows. 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. 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 would not provide any additional useful information. There are no other significant differences between the policies outlined in the Financial Accounting Manual and GAAP.

Each Reserve Bank provides services on behalf of the System for which costs are not shared. Major services provided on behalf of the System by the Bank, for which the costs were not redistributed to the other Reserve Banks, include: Statistics and Reserves, Enterprise Wide Adjustments, Cash Product Office, Check Standardization, and National Information Center – Central Operations.

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, 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. Certain amounts relating to prior year have been reclassified to conform to the current-year presentation. 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 average Federal Reserve notes outstanding in each District.

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

Notes to Financial Statements

exchange stabilization operations. At the time SDR transactions occur, the Board of Governors allocates SDR certificate transactions among Reserve Banks based upon Federal Reserve notes outstanding in each District at the end of the preceding year. There were no SDR transactions in 2003 or 2002.

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 loans were ever deemed to be uncollectible, an appropriate reserve would be established. Interest is accrued using the applicable discount rate established at least every fourteen days by the Boards of Directors of the Reserve Banks, subject to review by the Board of Governors. Reserve Banks retain the option to impose a surcharge above the basic rate in certain circumstances.

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 to meet other needs specified by the FOMC in carrying out the System's central bank responsibilities. Such authorizations are reviewed and approved annually by the FOMC.

In December 2002, the FRBNY replaced matched sale-purchase ("MSP") transactions with securities sold under agreements to repurchase. MSP transactions, accounted for as separate sale and 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. Securities sold under agreements to repurchase are treated as secured borrowing transactions with the associated interest expense recognized over the life of the transaction.

The FRBNY has 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 on behalf of the System, 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 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.

F/X 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 two authorized foreign central banks. The parties agree to exchange their currencies up to a pre-arranged 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

Notes to Financial Statements

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. Decisions regarding the securities and foreign currencies transactions, including their purchase and sale, are motivated by monetary policy objectives rather than profit. Accordingly, market values, 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 investments denominated in 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, net". Foreign- currency-denominated assets are revalued daily at current foreign currency 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, net". Foreign currencies held through F/X swaps, when initiated by the counter-party, and warehousing arrangements are revalued daily, 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 agency securities bought outright, securities sold under agreements to repurchase, securities loaned, investments denominated in foreign currencies, interest income and expense, securities lending fee 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. 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 the FRBNY and not to other Reserve Banks.

Notes to Financial Statements

In 2003, additional interest income of $61 million representing one day's interest on the SOMA portfolio, was accrued to reflect a change in interest accrual methods, of which $5 million was allocated to the Bank. Interest accruals and the amortization of premiums, and discounts are now recognized beginning the day that a security is purchased and ending the day before the security matures or is sold. Previously, accruals and amortization began the day after the security was purchased and ended on the day that the security matured or was sold. The effect of this change was not material; therefore, it was not included in the 2003 interest income.

Bank Premises, Equipment, and Software

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. 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. Costs incurred for software, either developed internally or acquired for internal use, during the application development stage are capitalized based on the cost of direct services and materials associated with designing, coding, installing, or testing software. Capitalized software costs are amortized on a straight-line basis over the estimated useful lives of the software applications, which range from two to five years.

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 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 (the Chairman of the Board of Directors of each Reserve Bank) 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 2003, the Federal Reserve Act was amended to expand the assets eligible to be pledged as collateral security to include all Federal Reserve Bank assets. Prior to the amendment, only gold certificates, special drawing certificates, U.S. government and federal agency securities, securities purchased under agreements to resell loans to depository institutions, and investments denominated in foreign currencies could be pledged as collateral. 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 par value of securities pledged for securities sold under agreements to repurchase is similarly deducted. 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 that 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 the Bank's Federal Reserve notes outstanding, reduced by its currency holdings of $15,685 million and $14,359 million at December 31, 2003 and 2002, respectively.

Notes to Financial Statements

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 percent 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 percent 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. Pursuant to Section 16 of the Federal Reserve Act, 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.

In the event of losses or a substantial increase in capital, 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 Costs 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.

Taxes

The Reserve Banks are exempt from federal, state, and local taxes, except for taxes on real property. The Bank's real property taxes were $3 million for each of the years ended December 31, 2003 and 2002, and are reported as a component of "Occupancy expense."

Recent Accounting Developments

In May 2003, the Financial Accounting Standards Board issued SFAS No. 150, "Accounting for Certain Financial Instruments with Characteristics of Both Liabilities and Equity." SFAS No. 150, which will become applicable for the Bank in 2004, establishes standards for how an issuer classifies and measures certain financial instruments with characteristics of both liabilities and equity and imposes certain additional disclosure requirements. When adopted, there may be situations in which the Bank has not yet processed a member bank's application to redeem its Reserve Bank stock. In those situations, this standard requires that the portion of the capital paid-in that is mandatorily redeemable be reclassified as debt.

2003 Restructuring Charges

In 2003, the System restructured several operations, primarily in the check and cash services. The restructuring included streamlining the management and support structures, reducing staff, decreasing the number of processing locations, and increasing processing capacity in the remaining locations.

Footnote 10 describes the restructuring and provides information about the Bank's costs and liabilities associated with employee separations and contract terminations. Costs and liabilities associated with enhanced pension benefits for all Reserve Banks are recorded on the books of the FRBNY as discussed in footnote 8 and those associated with the Bank's enhanced postretirement benefits are disclosed in footnote 9.

Notes to Financial Statements

4. U.S. Government and Federal Agency Securities

Securities bought outright are held in the SOMA at the FRBNY. An undivided interest in SOMA activity and the related premiums, discounts and income, with the exception of securities purchased under agreements to resell, 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 8.034 percent and 8.580 percent at December 31, 2003 and 2002, respectively.

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

	2003	2002
Par value:		
Federal agency	$ –	$ 1
U.S. government:		
Bills	19,671	19,449
Notes	25,980	25,558
Bonds	7,912	8,994
Total par value	53,563	54,002
Unamortized premiums	787	923
Unaccreted discounts	(72)	(90)
Total allocated to Bank	$ 54,278	$ 54,835

The total of SOMA securities bought outright were $675,569 million and $639,125 million at December 31, 2003 and 2002, respectively.

As mentioned in footnote 3, the FRBNY replaced MSP transactions with securities sold under agreements to repurchase in December 2002. At December 31, 2003 and 2002, securities sold under agreements to repurchase with a contract amount of $25,652 million and $21,091 million, respectively, were outstanding, of which $2,061 million and $1,810 million were allocated to the Bank. At December 31, 2003 and 2002, securities sold under agreements to repurchase with a par value of $25,658 million and $23,188 million, respectively, were outstanding of which $2,061 million and $2,366 million were allocated to the Bank.

Notes to Financial Statements

The maturity distribution of U.S. government and federal agency securities bought outright, which were allocated to the Bank at December 31, 2003, was as follows (in millions):

Maturities of Securities Held	U.S. Government Securities (Par value)	Securities Sold Under Agreement to Repurchase (Contract Amount)
Within 15 days	$ 3,835	$ 2,061
16 days to 90 day	11,196	
91 days to 1 year	13,182	
Over 1 year to 5 years	15,029	
Over 5 years to 10 years	4,123	
Over 10 years	6,198	
Total	$ 53,563	$ 2,061

At December 31, 2003 and 2002, U.S. government securities with par values of $4,426 million and $1,841 million, respectively, were loaned from the SOMA, of which $356 million and $158 million were allocated to the Bank.

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 purchased 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 10.360 percent and 10.839 percent at December 31, 2003 and 2002, respectively.

Notes to Financial Statements

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

	2003	2002
European Union Euro:		
Foreign currency deposits	$ 712	$ 605
Government debt instruments including agreements to resell	424	357
Japanese Yen:		
Foreign currency deposits	153	194
Government debt instruments including agreements to resell	760	668
Accrued interest	9	9
Total	$ 2,058	$ 1,833

Total investments denominated in foreign currencies were $19,868 and $16,913 million at December 31, 2003 and 2002, respectively.

The maturity distribution of investments denominated in foreign currencies which were allocated to the Bank at December 31, 2003, was as follows (in millions):

Maturities of Investments Denominated in Foreign Currencies	
Within 1 year	$ 1,890
Over 1 year to 5 years	134
Over 5 years to 10 years	34
Over 10 years	–
Total	$ 2,058

At December 31, 2003 and 2002, there were no outstanding F/X swaps or material open foreign exchange contracts.

At December 31, 2003 and 2002, the warehousing facility was $5,000 million, with no balance outstanding.

Notes to Financial Statements

6. Bank Premises and Equipment

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

	2003	2002
Bank premises and equipment:		
Land	$ 24	$ 24
Buildings	194	185
Building machinery and equipment	44	41
Construction in progress	5	8
Furniture and equipment	137	133
	404	391
Accumulated depreciation	(170)	(158)
Bank premises and equipment, net	$ 234	$ 233
Depreciation expense, for the years ended	$ 18	$ 19

Capitalized leases that are included in Bank Premises and Equipment at December 31 were not material.

The Bank leases unused space to outside tenants. Those leases have terms ranging from one to six years. Rental income from such leases was $1 million and $2 million for the years ended December 31, 2003 and 2002, respectively. Future minimum lease payments under noncancelable agreements in existence at December 31, 2003, were (in millions):

2004	$ 0.9
2005	0.9
2006	0.8
2007	0.2
2008	–
Thereafter	–
	$ 2.8

The Bank has capitalized software assets, net of amortization of $12 million and $10 million at December 31, 2003 and 2002, respectively. Amortization expense was $5 million and $2 million for the years ended December 31, 2003 and 2002, respectively.

Notes to Financial Statements

7. Commitments and Contingencies

At December 31, 2003, the Bank was obligated under noncancelable leases for premises and equipment with terms ranging from one to approximately two 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 $807 thousand and $937 thousand for the years ended December 31, 2003 and 2002, 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, 2003, were not material.

Under the Insurance Agreement of the Federal Reserve Banks dated 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 one percent of the capital paid-in of the claiming Reserve Bank, up to 50 percent 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, 2003 or 2002.

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"). In addition, certain Bank officers participate in a Supplemental Employee Retirement Plan ("SERP").

The System Plan is a multi-employer plan with contributions fully funded by participating employers. Participating employers are the Federal Reserve Bank, the Board of Governors of the Federal Reserve System, and the Office of Employee Benefits of the Federal Reserve Employee Benefits System. No separate accounting is maintained of assets contributed by the participating employers. The FRBNY acts as a sponsor of the Plan for the System and the costs associated with the Plan are not redistributed to the Bank. The Bank's projected benefit obligation and net pension cost for the BEP and SERP at December 31, 2003 and 2002, 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 $7 million each for the years ended December 31, 2003 and 2002, and are reported as a component of "Salaries and other benefits."

Notes to Financial Statements

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 costs are actuarially determined using a January 1 measurement date.

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

	2003	2002
Accumulated postretirement benefit obligation at January 1	$ 38.5	$ 38.8
Service cost-benefits earned during the period	1.2	1.0
Interest cost of accumulated benefit obligation	3.1	2.6
Actuarial loss	18.0	2.3
Curtailment loss	–	0.1
Special termination loss	0.1	0.1
Contributions by plan participants	0.5	0.4
Benefits paid	(3.5)	(3.9)
Plan amendments	–	(2.9)
Accumulated postretirement benefit obligation at December 31	$ 57.9	$ 38.5

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

	2003	2002
Fair value of plan assets at January 1	$ –	$ –
Actual return on plan assets	–	–
Contributions by the employer	3.0	3.5
Contributions by plan participants	0.5	0.4
Benefits paid	(3.5)	(3.9)
Fair value of plan assets at December 31	$ –	$ –
Unfunded postretirement benefit obligation	$ 57.9	$ 38.5
Unrecognized prior service cost	4.7	5.9
Unrecognized net actuarial gain/(loss)	(7.0)	11.0
Accrued postretirement benefit costs	$ 55.6	$ 55.4

Accrued postretirement benefit costs are reported as a component of "Accrued benefit costs."

At December 31, 2003 and 2002, the weighted average discount rate assumptions used in developing the benefit obligation were 6.3 percent and 6.8 percent, respectively.

Notes to Financial Statements

For measurement purposes, a 10.0 percent annual rate of increase in the cost of covered health care benefits was assumed for 2004. Ultimately, the health care cost trend rate is expected to decrease gradually to 5.0 percent by 2011, 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, 2003 (in millions):

	One Percentage Point Increase	One Percentage Point Decrease
Effect on aggregate of service and interest cost components of net periodic postretirement benefits costs	$ 3.0	$ (3.0)
Effect on accumulated postretirement benefit obligation	0.3	(0.3)

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

	2003	2002
Service cost-benefits earned during the period	$ 1.2	$ 1.0
Interest cost of accumulated benefit obligation	3.1	2.6
Amortization of prior service cost	(1.2)	(1.0)
Recognized net actuarial loss	–	(0.6)
Total periodic expense	3.1	2.0
Curtailment gain	–	(0.3)
Special termination loss	0.1	0.1
Net periodic postretirement benefit costs	$ 3.2	$ 1.8

Net periodic postretirement benefit costs are reported as a component of "Salaries and other benefits."

The recognition of a special termination loss in 2003 is the result of enhanced retirement benefits provided to employees during the restructuring described in Note 10.

Following the guidance of the Financial Accounting Standards Board, the Bank elected to defer recognition of the financial effects of the Medicare Prescription Drug Improvement and Modernization Act of 2003 until further guidance is issued. Neither the accumulated postretirement benefit obligation at December 31, 2003 nor the net periodic postretirement benefit cost for the year then ended reflect the effect of the Act on the plan.

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 Bank at December 31, 2003 and 2002 were $13 million for each year. This cost is included as a component of "Accrued benefit costs." Net periodic postemployment benefit costs included in 2003 and 2002 operating expenses were $2 million and $3 million, respectively.

Notes to Financial Statements

The Bank also accrued charges during the years ended December 31, 2003 and 2002 of about $1.7 million and $7 million, respectively, for severance benefits associated with voluntary and involuntary separations of 74 employees and almost 250 employees, respectively, that included separation pay and health benefits.

10. Restructuring Charges

In 2003, the Bank announced plans for restructuring to streamline operations and reduce costs, including staff reductions in various functions of the Bank. These actions resulted in the following business restructuring charges:

Major categories of expense (in millions):

	Total Estimated Costs	Accrued Liability December 31, 2002	Total Charges	Total Paid	Accrued Liability December 31, 2003
Employee separation	$ 1.7	$ –	$ 1.7	$ (0.5)	$ 1.2
Contract termination	–	–	–	–	–
Other	–	–	–	–	–
Total	$ 1.7	$ –	$ 1.7	$ (0.5)	$ 1.2

Employee separation costs are primarily severance costs related to reductions of approximately 74 staff and are reported as a component of "Salaries and other benefits." Contract termination costs include the charges resulting from terminating existing lease and other contracts and are shown as a component of "Other expenses."

Costs associated with enhanced pension benefits for all Reserve Banks are recorded on the books of the FRBNY as discussed in Note 8. Costs associated with enhanced postretirement benefits are disclosed in Note 9.

Future costs associated with the restructuring that are not estimable and are not recognized as liabilities will be incurred in 2004.

The Bank anticipates substantially completing its announced plans by December 31, 2004.

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