

FEDERAL RESERVE BANK OF CLEVELAND 2004 ANNUAL REPORT

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The Federal Reserve Bank of Cleveland, including its branch offices in Cincinnati and Pittsburgh and its check processing center in Columbus, serves the Fourth Federal Reserve District (Ohio, western Pennsylvania, the northern panhandle of West Virginia, and eastern Kentucky).

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Contents

President's Foreword	○	3
Can Economics Help to Save Our Schools?	○	7
A Message from the First Vice President	○	21
Management's Report on Responsibility for Financial Reporting	○	27
Report of Independent Accountants	○	28
Report of Independent Auditors	○	29
Comparative Financial Statements	○	30
Notes to Financial Statements	○	32
Officers and Consultants	○	40
Boards of Directors	○	42
Business Advisory Council and Community Bank Advisory Council	○	46



President's Foreword

What is the source of economic prosperity? I posed this very same question in our Bank's 2003 annual report, which examined economic development during the last several hundred years. In that report, we concluded that education and the flexibility to adapt to change are the most important factors in stimulating innovation and economic growth. Educated societies possess people who have the skills that enable them to induce change and then to successfully adapt.

It is one thing to tout the importance of our primary and secondary education systems—it is quite another to actually build and sustain these systems. Anyone who has read a newspaper during the past year knows that our education systems are under stress. Some people believe they are paying too much for education and receiving too little, while others argue we are not spending enough. Contention surrounds many issues—including the funding systems that support our schools, the measures we use to evaluate student achievement, the incentives and rewards we offer to school districts and their teachers, and competition from private education providers. Voters are refusing to pass school levies, parents are suing states, courts are battling their state legislatures, and state legislatures are arguing with the federal government.

If we truly want to discover why our schools are not meeting our expectations, we must reach a deeper understanding of the incentives and constraints facing the participants in our education system. Students are not widgets and teachers are not stamping presses, but that does not mean we cannot study education in the same way we study other industries. In the essay that follows, we bring an economic perspective to the topic of education in an effort to gain some fresh insights.

Our Bank has enjoyed a successful year, in which we made significant progress on our new strategic plan. We have greatly benefited from the insights and leadership of our boards of directors in the Cleveland, Cincinnati, and Pittsburgh offices, and the members of our advisory councils.

I offer a special measure of thanks to Robert W. Mahoney (retired chairman and chief executive officer, Diebold, Incorporated), who continues to serve the Bank as chairman of the board. I am also grateful to our two departing members of the Cleveland board, John R. Cochran (chairman and chief executive officer, FirstMerit Corporation) and Wayne R. Embry (former president and chief operating officer, Cleveland Cavaliers); and to the departing



(l-r): Charles E. Bunch, deputy chairman; R. Chris Moore, first vice president; Sandra Pianalto, president; and Robert W. Mahoney, chairman.

chairman of our Cincinnati board, Dennis Cuneo (senior vice president, Toyota Motor North America, Inc.). Each of these directors has provided invaluable service to the Bank, and I truly appreciate their commitment.

The unwavering dedication of the officers and staff of the Federal Reserve Bank of Cleveland has moved our Bank closer to achieving our strategic objectives: leadership in thought and deed, operational excellence, and external focus. We highlight a few examples of that leadership in the first vice president's message, which begins on page 21.

While our region continues to face many challenges, the Federal Reserve Bank of Cleveland strives to contribute to the well-being of our region and nation through our relationships with financial institutions, the U.S. Treasury, and the public. We will continue to conduct research on issues that are important to our region, and we have begun partnering with universities, foundations, and business groups that are engaged in economic growth and development.

It is an honor to serve this Bank, the Fourth Federal Reserve District, and the Federal Reserve System.



Sandra Pianalto

President and Chief Executive Officer



Can Economics Help to Save Our Schools?

When asked about their national priorities, Americans consistently put education at the top of the list. According to one recent survey, 55 percent of Americans ranked education as the most important issue facing our nation today—even more important than health care, jobs, Social Security, and terrorism. Moreover, we recognize that our educational system is going to require some tough financial decisions on our part: More than half of those polled said education should be spared from state budget cuts, even if that means increasing taxes.¹

What makes education a top public policy priority right now is our large and growing concern that our schools are failing us. We fear our kids are not getting the quality or equality of education that, as one of the world's richest nations, we should be able to provide. In some of our country's largest school districts, we are graduating barely half of our students. According to an ACT report, only 22 percent of the 1.2 million students who took the ACT test in 2003–04 were adequately prepared for college-level courses in English, math, and science. Business leaders see the results every day when their employees lack the basic skills they need to do their jobs: Nobel laureate James Heckman and coauthor Dimitriy Masterov estimate that more than 20 percent of the U.S. workforce is functionally illiterate and lacks an understanding of basic mathematical concepts—a much higher fraction than in some European countries, such as Germany and Sweden.²

Why is the Federal Reserve Bank of Cleveland interested in education? First, as an institution engaged in economic policy, we seek to promote conditions that foster the greatest potential for long-term economic growth. Education has a very real, measurable impact on individuals, on our workforce, and on our national economy. Countries with better-educated citizens generally enjoy higher standards of living than less-educated nations.

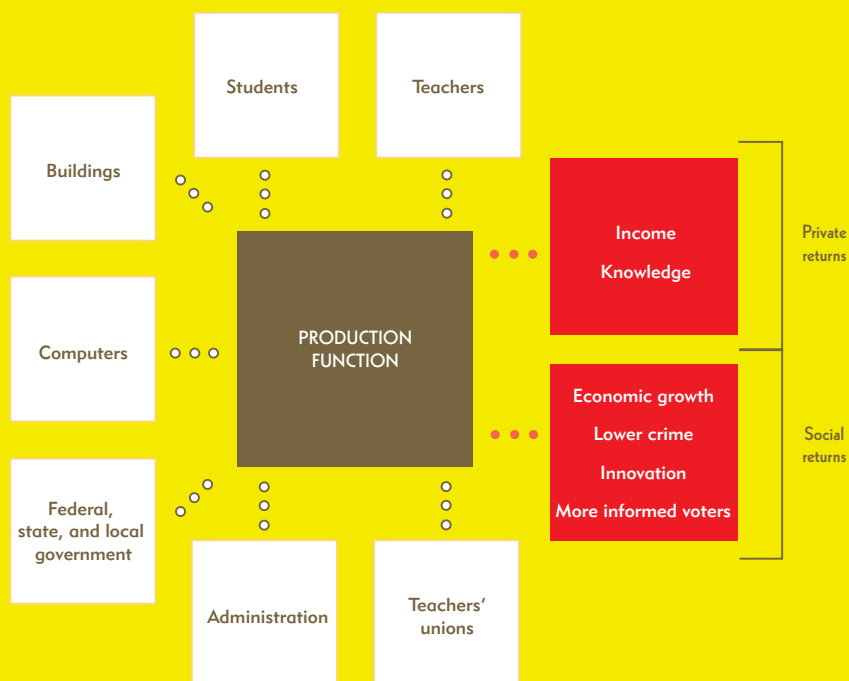
Second, because we employ economic analysis in our policy responsibilities, it seems natural to extend this analysis to the study of education. We believe that an “economic” approach to this volatile public policy debate will shed light on aspects that have been forgotten or ignored. Educators, taxpayers, families, and civic leaders all want better results, but better results seem hard to achieve. Economists teach us to pay attention to the incentives that individuals and institutions face as they make everyday decisions. Good public policies create incentives that will prompt us to use our resources in ways that will yield the highest possible social returns to education spending—given the monetary and other constraints we confront. By highlighting the differences between how we are *actually* using our resources and how they could *otherwise* be used, we believe the economic approach provides insights into possible solutions.

Surprisingly, it is useful to think about “producing” education in the same way we think about producing any other good or service, even though monetary profit is not the bottom line in public education (see “The Production of Education,” below). For some time, economists have studied the organization of industries—that is, how market forces guide the allocation of limited resources and when government intervention can improve the welfare of society.³ Analyzing education with economic tools can help us to define the best and most efficient way to combine inputs—such as teachers, students, classrooms, computers, or books—to produce better educational outcomes and channel scarce resources to their highest-valued use. It can help us see when more money might make a difference, and when changing public policy might yield the desired results. The fact is, a large body of economic research already suggests that there are ways to improve the social rate of return on our education investments.

The Production of Education

Economists use a “production function” to describe how raw materials and other inputs such as labor and services are transformed into the goods and services we consume. The production function, often referred to as a “black box,” tells us how best to combine them to produce output—in the education production function, this may occur through school administration. For education, the inputs include classrooms, teachers, computers, students, parents, maintenance staff, and so on. These inputs can be combined in different ways to produce an output—in this case, knowledge.

Some methods of combining inputs produce better outputs than others. For instance, if another producer is using the same inputs but producing more output at a lower cost, we’ll want to find out what’s inside their black box! Over time, businesses that adapt to new technologies or follow best practices in combining inputs will be the ones that succeed.



Measuring the Output of Education

Often, we sit up and take notice of our schools when the headlines tell us they are failing, when our school district falls behind our neighbor's in a particular test score, or when our city, state, or country ranks below others on some education measure.

Though it is difficult to measure knowledge—the output of education—standardized tests provide one way for us to compare the outputs of our national or local educational system to those of others. One such measure often used to direct education policy is the Trends in International Mathematics and Science Study (TIMSS), which compares the math and science achievement of fourth- and eighth-grade students in the United States with that of students in 45 countries. Another commonly cited comparison comes from the Program for International Student Assessment (PISA), which tests 15-year-olds in at least 58 countries not only on their mastery of reading, math, science, and problem solving, but also their ability to actually use these skills in real life. Though the United States' performance in the 2003 TIMSS study was respectable, if not impressive, we ranked below average in the PISA study⁴ (see figures 1–3).

Figure 1: Average TIMSS Scores of Fourth-Grade Students

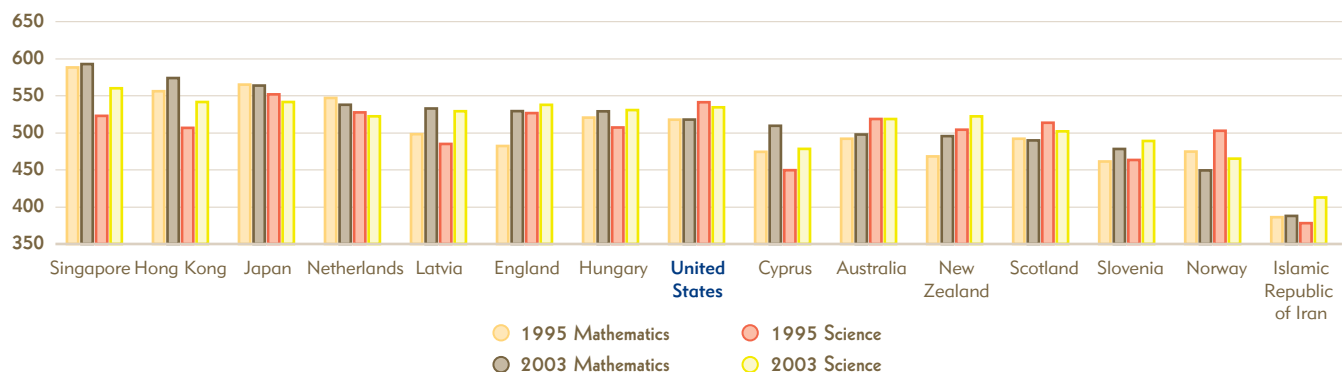
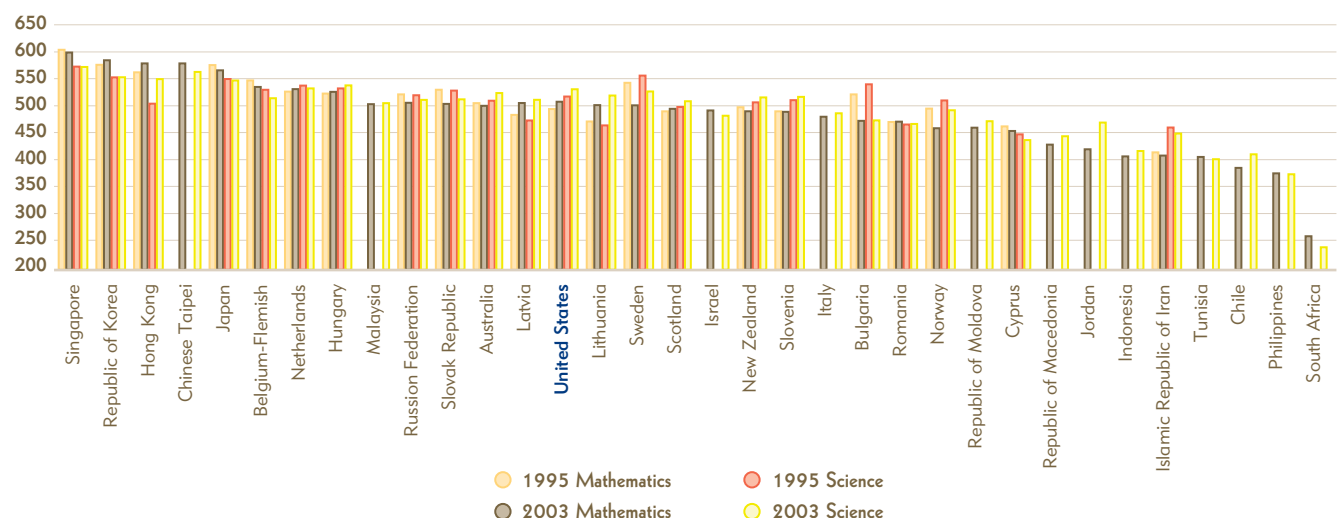
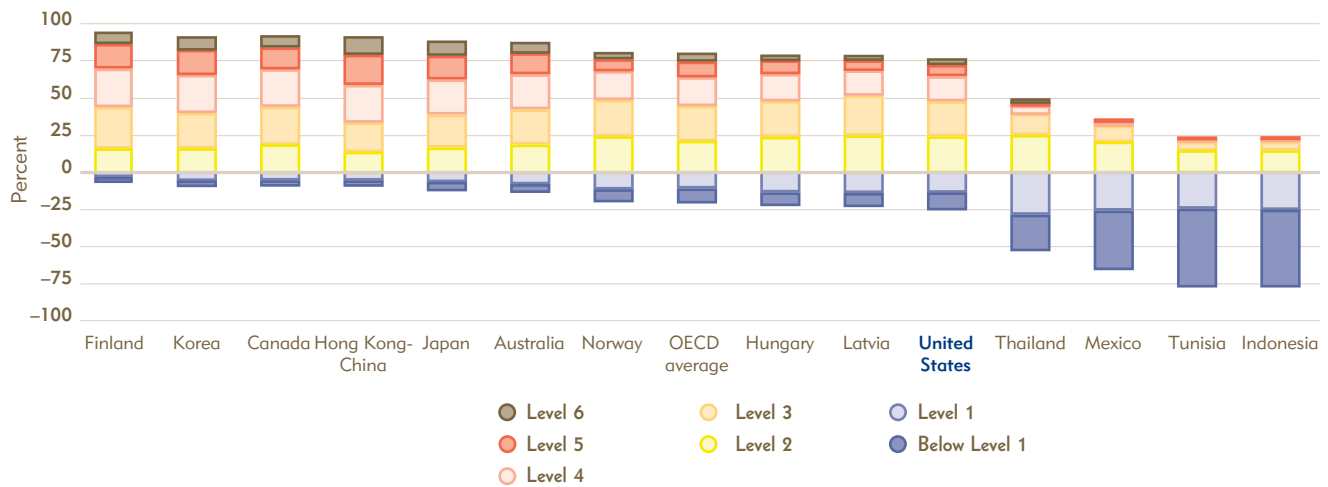


Figure 2: Average TIMSS Scores of Eighth-Grade Students



Note: Countries are ranked in descending order based on the 2003 average math score. In Figure 2, data not available for some countries in 1995.
Source: International Association for the Evaluation of Educational Achievement, Trends in International Mathematics and Science Study, 1995 and 2003.

Figure 3: Levels of Proficiency in Mathematics

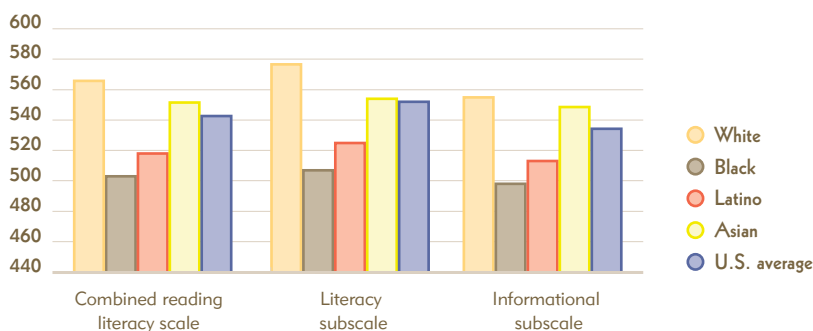


*Note: Countries are ranked in descending order based on the percentage of 15-year-olds in levels 2, 3, 4, 5, and 6.
Source: Organisation for Economic Co-operation and Development, Program for International Student Assessment, 2003 database.*

Far more troubling than our international performance, however, are the large and striking disparities in the quality and equality of education *within* the United States. For instance, the Progress in International Reading Literacy Study, which measures literacy and reading comprehension among young students, found in 2001 that African American and Latino students scored well below white and Asian students⁵ (see figure 4).

Graduation rates provide another indicator of differential educational progress within the United States. A new report from the Manhattan Institute for Policy Research shows that graduation rates for white and African American students vary tremendously by state. Nationally, the class of 2002 graduated 71 percent of students—78 percent of white students, but only 56 percent of African American students.⁶ New Jersey had the highest overall rate, at 89 percent, while South Carolina came in with the lowest rate, 53 percent. For states where minority graduation rates were available, the study reports a range of 42 percent to 70 percent for African American students. Here in the Fourth Federal Reserve

Figure 4: U.S. Fourth Grade Literacy and Reading Scores, 2001



Source: International Association for the Evolution of Educational Achievement, Progress in International Reading Literacy Study.

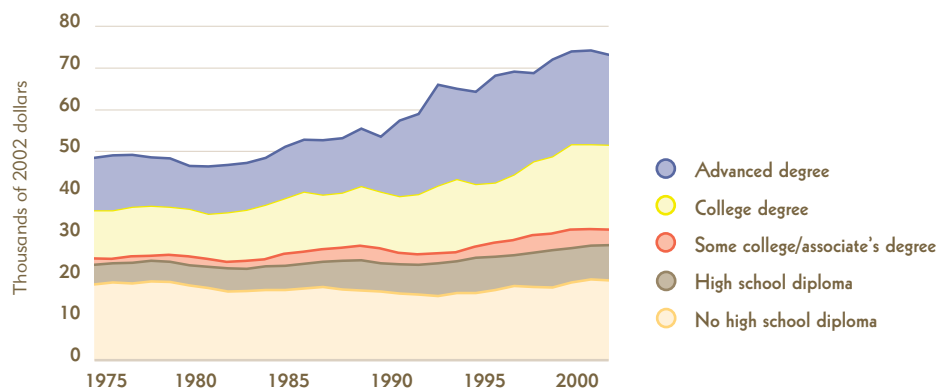
District, overall graduation rates for Ohio, Pennsylvania, West Virginia, and Kentucky ranged from 68 percent to 78 percent, and rates for African American students ranged from 55 percent to 67 percent.

Disparities also exist across cities. For example, among the 50 largest school districts in the United States, the Manhattan Institute study calculated that in 1998, the graduation rate of the best-performing district (nearly 90 percent) exceeded that of the worst-performing district (about 30 percent) by nearly three times.⁷

One of the many reasons these statistics are troubling is that individuals with no high school education have been falling farther and farther behind in terms of wages and income. Without the necessary educational foundation and skill sets, these individuals will have a much harder time finding jobs and will certainly earn much lower pay. We also know that parents' education and income have a significant effect on their children's educational attainment. Taken together, these facts create a situation in which some Americans are stuck in a low-education, low-income environment for generations (see figure 5).

Nationwide, our very best school districts are excelling and performing comparatively well—but our worst-performing districts are striking in their distance from the top. This suggests that in order to improve our overall graduation rates and test scores, much of the increase will have to come from the bottom of the distribution. How can we best increase educational attainment, especially among the poor? To find out, we examine the production of education to help us see the problem in a new light.

Figure 5: Real Average Annual Earnings by Educational Attainment



Source: U.S. Department of Commerce, Bureau of the Census.

The Production of Education

The production of education is like the production of any other good or service, such as a car or a financial service. We take raw inputs and combine them with buildings and machines and human effort to produce outputs. Some businesses combine the inputs in a more efficient way, producing output at a lower cost—and generating higher profits. When we view education as a business, then, we also must consider the efficiency of our production process and the rate of return on our investments.

One other factor that must be considered is the difference between the public and private returns to education. Individuals derive what economists refer to as “private returns to schooling”—in other words, gains that directly benefit the person receiving the education. These gains come in many forms. First, a strong positive correlation has been established between education and income. Second, there is a strong negative correlation between education and the probability of unemployment. Finally, those with more education are better able to adapt to changing technologies. Individuals or families face strong incentives to invest in their own and their children’s education because they stand to reap large benefits from doing so.

On a broader scale, the general public also receives “social returns to schooling”—that is, the gains society derives from education above and beyond the private returns to individuals. First, educated people produce ideas and contribute to innovation, a key driver of economic growth. Economists such as Claudia Goldin of Harvard University, for instance, believe the introduction of mass secondary education during the early twentieth century helped to push the United States to the forefront of economic growth by 1940.⁸ Furthermore, educating citizens produces more informed voters and improves public policy outcomes in areas such as public health and transportation. Higher education levels have also been linked to lower crime rates, in turn leading to lower spending on law enforcement and safer city streets.

It is no wonder, then, that every town, state, and nation seeks ways to increase the educational attainment of its citizens. The social returns on our investments in education are significant—in other words, the education of one person benefits all of us. As we will explore in this section, these social returns provide a role for governments to subsidize or mandate higher levels of education. Otherwise, we will individually spend less on education than we collectively should. Governments are uniquely positioned to ensure a socially optimal level of education through tax and spending programs.

How should governments use their fiscal and regulatory policies to promote the best use of resources, thus producing an optimal level of education? A half-century ago, Milton Friedman explained why it makes sense for government to finance general-purpose public education. But he also warned that when the government has a monopoly in the actual provision of education, public schools may not have incentives to operate as efficiently as possible because they face no competition. Again, we can understand this by looking to the business world. Businesses must continually respond to their customers' demands and change their strategies and practices when necessary. This is the nature of the competitive market. Firms that learn how to produce more output at a lower cost will garner a larger market share and drive other companies out of business. The firms that survive learn to combine their scarce resources most efficiently to produce the output customers demand.

Our education system, however, is not structured in such a competitive framework and differs from the marketplace in several ways. First, public schools do not have shareholders, and their goal is not to maximize profits. Instead, school districts use the funds available to them—usually from tax receipts—to provide education to the general public. Second, families' choice of public schools is dictated by their residence; therefore, families who want their children to attend a different public school must move to another location. For many of us, the decision about where to live is determined by the quality of the schools. True, we can exercise choice by voting for or against school board members and tax levies. Schools, however, do not worry about going out of business in the way that private firms do. Therefore, they may not have incentives to operate as efficiently or effectively as possible.

Given these economic realities and the history of U.S. public education policies, we outline two areas where taking an economic approach to education, such as we have described here, could improve educational outcomes, and each illustrates a different facet of this approach. The first example concerns the selection and compensation of teachers, and it demonstrates the difficulty school districts face in using their inputs efficiently, even if there is no difference between the private and social returns to education. We show that it may be possible to improve educational output without increasing resources.

The second example draws on research showing the large social returns to be gained from investment in early childhood education. In this case, we see that even if all of our education resources deliver consistent and appropriate private returns, additional gains may be “left on the table.” Private decisions do not necessarily produce the highest returns for society as a whole, and so they may cause us to under- or overproduce.

Private Efficiency: The Case of Teacher Selection and Compensation

Between 1970 and 2000, the United States more than doubled the amount of (inflation-adjusted) money spent on each student in our primary and secondary schools, yet student achievement did not change much during this period, and in fact even declined in science. This suggests that spending more money is not necessarily the answer to our education problems. Indeed, Eric Hanushek, an economist at Stanford University's Hoover Institution, argues there is little measurable benefit from increasing expenditures.⁹ Over the last 40 years or so, increased spending per pupil has largely been devoted to reducing class sizes—from 26 in 1960 to about 17 today—and providing more formal education for teachers—more than doubling the share of teachers with master's degrees. Rather than simply increasing the *quantity* of expenditures, Hanushek and others argue, it is necessary to give school districts incentives to improve the *quality* of the inputs to the education production process.

For instance, there is a growing body of literature on economics and education suggesting that school systems could significantly improve student outcomes by hiring better teachers and compensating them for results. Although this sounds intuitive and straightforward, school districts have a hard time implementing this practice. Most school boards, in conjunction with teachers' unions, implicitly define teacher quality as a function of the teacher's tenure and education, and pay them for more of each. Ideally teachers would be paid for the value and knowledge they impart to their students, but this has traditionally been difficult to measure because there are so many factors that influence students' learning.

Researchers such as Daniel Aronson of the Federal Reserve Bank of Chicago, though, are now able to take advantage of new data that give us the ability to link student achievement scores directly to specific teachers using administrative school records.¹⁰ This has allowed us to confirm that some teachers do, in fact, consistently deliver more value—in the form of their students' achievement gains—than others. However, Aronson finds, neither a teacher's tenure nor postgraduate education is a reliable predictor of his or her "quality." Therefore, school districts may benefit from redefining teacher quality, as Eric Hanushek argues:

*I use a simple definition of teacher quality: good teachers are ones who get large gains in student achievement for their classes; bad teachers are just the opposite. Looking at the range of quality for teachers within a single large urban district, teachers near the top of the quality distribution can get an entire year's worth of additional learning out of their students compared to those near the bottom. That is, a good teacher will get a gain of one and a half grade-level equivalents, whereas a bad teacher will get a gain of only half a year for a single academic year.*¹¹

These findings suggest that school districts could improve the overall quality of the education they deliver by retaining teachers for the long term only when they have enough data to evaluate their ability to improve student achievement. By the same reasoning, schools could use variable compensation—“pay for performance”—to link teacher performance with student achievement more directly. It would not be surprising if school districts found taxpayers willing to pay higher taxes to increase teacher salaries if they could see a direct link between pay and performance.

Social Efficiency: The Case for Public Investment in Early Childhood Education

Government also has a stake in the education process when individuals do not take into account the greater benefits to society when they make private decisions. One area that seems to promise large social returns, in addition to the private returns to individuals, is early childhood education.

Here we return to our business analogy. Before purchasing new equipment or hiring new employees, a business calculates the return on its investment: How much will the investment cost? How long will the investment generate returns? Are there other investments that may produce even greater returns? When private companies make these kinds of decisions, they account only for the costs and benefits that directly affect them. But often an investment comes with costs and benefits that affect others—economists call these effects “externalities,” and they may be positive or negative.

Should Teachers Get Paid for Performance?

As parents, school boards, and policymakers focus more on educational outcomes, some school districts are experimenting with alternative pay programs to boost teacher quality and to channel good teachers into low-performing schools. In fact, more than half the states have passed legislation requiring that at least a portion of teachers’ pay be based on performance.

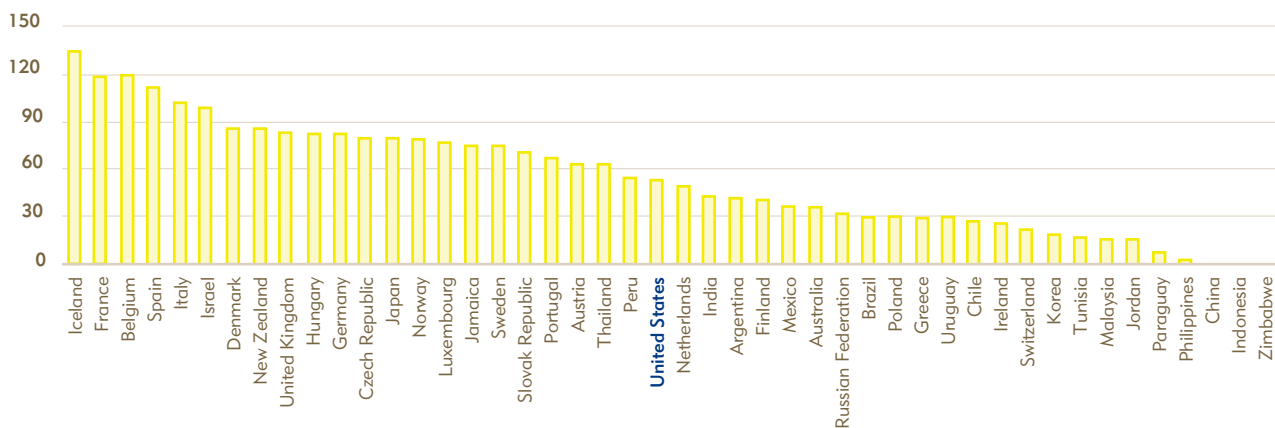
This approach seems to be succeeding in the Denver Public Schools, where the local school board and teachers’ union came together to launch a pay-for-performance pilot program that rewards teachers for improving student achievement, receiving high performance evaluations, working in low-performing schools, and furthering their own education. If the new system is implemented, teachers will exchange guaranteed annual increases based on years of experience—the hallmark of the traditional teacher pay system—for raises that are tied to performance, giving them a chance to earn higher salaries early in their careers.¹² The key to the program’s success seems to be the collaboration between the school board and the teachers’ union—similar pilots in cities like Cincinnati failed because they lacked union support.

Other programs focus on channeling teaching resources to the most academically needy schools. Often, poor and minority students in underperforming schools are assigned the least experienced teachers, according to a 2004 report from the Teaching Commission.¹³ In the Hamilton County, Tennessee, school district, which includes Chattanooga, administrators experimented with giving bonuses to high-performing teachers for working in low-performing schools and to faculties for schoolwide progress on test scores or other measures. Although the school board reported increases of 10–12 percent in reading and math scores since the new teachers arrived, the program’s funding may be gone after the 2004–05 school year.¹⁴

Positive externalities exist for education. For instance, when one person makes a private decision to continue his or her education—or a parent or the state makes that decision for a child—that decision has spillover effects to society as a whole. Economists studying early childhood education have found that investments in preschool programs for children aged three to four can generate social returns—that is, positive externalities—that may be even greater than the private returns. Clive Belfield of the City University of New York shows that in some preschool programs, the excess social return is as much as 8 percent annually, and even larger returns may be possible for children from severely disadvantaged households. The benefits of preschool education seem to come not so much from improved cognitive skills such as reading or math, but more often from improved social and emotional development, which, in the long run, have been shown to reduce spending on criminal justice and welfare programs.¹⁵

Here it may be helpful to illustrate the large returns to be gained from educating young children before they enter kindergarten. Belfield analyzes the impact of a proposal to double the number of children in Ohio receiving two years of publicly provided prekindergarten education, from 28 percent to 57 percent. Belfield calculates that providing this two-year education to about 42,000 additional children would cost approximately \$480 million—just under \$6,000 per pupil—but the investment would yield roughly \$780 million in cost savings. In other words, the state would get back \$1.60 for every dollar it invested. The returns show up in the form of reduced adult crime, greater tax revenue

Figure 6: Preschool Enrollment Rates



*Note: The rate represents students aged four and under as a percentage of all children aged three to four.
Source: Organisation for Economic Co-operation and Development, Education at a Glance 2.*

from higher earnings (because the children are more likely to attain higher educational levels), and, most important for the state's education budget, reduced future spending on special education, grade repetition, school security, and so on. The benefits of preschool education accumulate throughout the children's primary and secondary education.

Today, the United States actually lags many other developed countries in the share of children under age four who are enrolled in preschool (see figure 6). But more to the point, there is a strong, positive correlation between the enrollment of children under four in prekindergarten programs and increases in TIMSS scores. Prekindergarten education, then, seems a likely place to channel resources and a tremendous opportunity for improvement—it is hard to argue against a return on investment of nearly 60 percent.

An obvious question that arises is how to implement an early childhood program. Should it be universal or targeted? Although the returns are much higher when at-risk children are targeted, it is not always clear how well we are hitting the targets. A universal program has lower returns, and therefore public policy might find other endeavors with equal or higher returns. It is beyond the scope of this essay to answer such questions, but this is the kind of issue that needs to be addressed as we work to improve our educational outcomes.

If our nation is to improve its primary and secondary education systems, school administrators, families, teachers, and taxpayers will have to find better ways of doing business together. The challenges confronting us are large—but not as great as the cost of failure.

Some say we should be spending more on our education system, while others contend we are spending enough but need to allocate those resources more efficiently. Which argument is right? Both, in fact. It is likely that changing our allocation of resources—for instance, the way we compensate teachers—will have a payoff; it is also likely that devoting more resources to specific areas, such as early childhood education, will bring payoffs as well. As these two examples indicate, simple arguments that focus only on how much we are spending miss the point. Policy decisions must also consider the incentives for participants to use their resources most efficiently and whether the public could obtain greater returns on its tax dollars by putting them to use elsewhere.

Conclusion

For many of us, the subject of public education is emotionally charged and personally felt—after all, what is more important to us than our children? To those outside the economics profession, it may seem foreign to think about education in terms of efficiency and returns on investments. We know it will take time and money to achieve better educational outcomes. But progress also requires a willingness to think in new ways about our educational goals and the trade-offs that may be necessary to achieve them.

We have learned that the quality of our teachers is a key input to the production of education—but it is up to parents, school boards, community groups, and business leaders to find new ways of improving teacher quality. We have already begun to see innovation in this area in school districts that are experimenting with incentive-based pay systems that aim to promote excellence.

We have also learned that investments in prekindergarten education can have a tremendous impact on student achievement. Today, more than 40 states have invested in early childhood education programs, and states such as Ohio have more than tripled their expenditures in this category over the past decade. The growth of preschool programs is likely to return very large financial and social rewards.

Our public school systems are headed for a change. The real question facing states and local school districts is not whether they will change, but whether they can muster the political will to do so sooner rather than later, and in ways that make the best use of public resources that are already stretched to the limit. The rewards for schools that do will be significant and the losses for schools that do not—both for their students and their economies—are likely to be devastating.

Notes

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3. See Milton Friedman, “The Role of Government in Education,” in *Economics and the Public Interest*, ed. Robert A. Solo (New Brunswick, NJ: Rutgers University Press, 1955).
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10. Daniel Aronson, “Teacher and Student Achievement in the Chicago Public High Schools,” Paper presented at the Federal Reserve Bank of Cleveland, Conference on Education and Economic Development, November 18–19, 2004.
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A Message from the First Vice President

Please, take us for granted.

It's fair to say that when you go to a movie theater, the dry cleaner, or a fast food restaurant, you assume the prices you pay will be about the same as they were, say, a month ago. When you go to your local bank to make a deposit, you assume your money is safe and the bank well managed. And when you return to your bank to cash a check or to withdraw money from your savings account, you assume the currency will be available.

You can take all of these things for granted because the Federal Reserve System—the nation's central bank—is doing its job.

The Federal Reserve's job comprises three important functions:

- o *By conducting sound monetary policy, we keep inflation low and preserve the purchasing power of your money.*
- o *By supervising and regulating banks, we make sure the bank you trust is operating in a safe and sound manner.*
- o *By providing financial services to banking institutions and the U.S. government—such as clearing checks, providing cash, processing electronic payments, and providing Treasury services—we help the nation's payments system to work smoothly and efficiently.*

Each in its own way, these three functions contribute to the Federal Reserve's ultimate goal: to provide the nation with a safe, stable, and efficient monetary and financial system.

Maximizing the Efficiency of the Payments System

The Federal Reserve System has changed quite a bit since it was created by Congress in 1913. Some of the most visible changes have resulted from the Federal Reserve's ongoing efforts to keep the U.S. payments system safe, stable, and efficient.

For most of the Federal Reserve's history, maximizing efficiency has meant maintaining a large number of payments processing facilities throughout the United States. After World War II, the U.S. economy grew rapidly, and so did the public's demand for checks and cash. U.S. Treasury services—the sale and redemption of savings bonds and Treasury securities—were almost entirely paper based.

By 1980, the Federal Reserve System was operating 48 check processing facilities and providing cash and Treasury services at 35 of those locations. In the Fourth Federal Reserve District, three offices in Cleveland, Pittsburgh, and Cincinnati and a check processing facility in Columbus handled payments processing.

During the past two decades, technology, banking structure, and consumer preferences have reshaped the financial services industry. To keep pace, the Federal Reserve System has restructured its check, cash, and Treasury services to make them more efficient while assuring financial institutions equitable access, safety, and stability.

Banking Deregulation and Advances in Information Technology

Banking deregulation has allowed financial institutions to diversify their product offerings and to branch more freely within and across states, creating large national banking institutions. To serve these banks most effectively, the Federal Reserve System began to standardize its financial products and services, operating policies, data processing, and software application platforms.

These changes, together with advances in internet and electronic payments technology, have forced the Federal Reserve to rethink the way we deliver financial services—for instance, geographic proximity is no longer as important in the delivery of high-quality service to our customers. These shifts have transformed our relationships with the U.S. Treasury and with the nation's financial institutions—just as technology has changed our customers' relationships with their customers. The Federal Reserve has responded by adjusting our infrastructure, and the Federal Reserve Bank of Cleveland has been affected more than most districts.

Treasury Retail Securities

As the fiscal agent of the U.S. government, the Federal Reserve issues and redeems Treasury securities (bills, notes, and bonds) and U.S. savings bonds. These services were among the first to take advantage of the new economies of scale in the production and distribution of financial services. In the process, the number of savings bond processing sites was reduced from 22 to five during the early 1990s, and the sale of Treasury bills, notes, and bonds was centralized in three TreasuryDirect call centers. A second phase of consolidation occurred in 2004, with the remaining savings bond and TreasuryDirect operations consolidated into two Federal Reserve offices in Minneapolis and Pittsburgh.

The Federal Reserve Bank of Cleveland's Pittsburgh branch is responsible for the processing of Treasury retail securities. For instance, it prints and mails newly issued savings bonds, processes retired savings bonds, and staffs a TreasuryDirect call center. Employment at the Pittsburgh office increased throughout 2003 and 2004, and the office expects to add even more staff in 2005.

Check Operations

The Federal Reserve System's largest single operation is check clearing—that is, the means by which banks obtain payment for the checks they accept. Nationally, the Federal Reserve clears about 40 percent of the roughly 37 billion checks that consumers and business write each year. Though checks remain popular, a 2004 study found that electronic payments now exceed check payments. Declining check volumes, technological innovations such as check imaging and check-to-ACH conversion, and the recent Check 21 legislation have had a significant impact on the Federal Reserve's check clearing business.

As a result of these industry changes, the Federal Reserve System has begun to consolidate its check processing sites—from 45 in 2003 to 23 by mid-2006—and the Federal Reserve Bank of Cleveland is playing a key role in the effort. Our main office in Cleveland absorbed check operations from the Pittsburgh branch, boosting its average daily volume to 3.2 million checks. Over the next two years, the Cleveland office will take over the check operations of Federal Reserve offices in Detroit and Columbus. In addition, the Cleveland office now handles check adjustments for the entire Fourth District, as well as the Charleston, Louisville, and Indianapolis Federal Reserve offices, and maintains one of two large check image archives.

Consolidation of Federal Reserve Check Processing in the Fourth District



During 2004, the Bank's Cincinnati branch also took on work, absorbing check operations from Charleston, Indianapolis, and Louisville. Today, the Cincinnati office has nearly tripled its daily volume, processing more than 3.5 million checks each day and servicing about 800 financial institutions. These consolidation efforts have necessitated big changes in staff and job functions throughout the Federal Reserve; in the Fourth District, the volume of check business has increased significantly.

Cash Operations

The Federal Reserve System has a unique responsibility for the distribution, processing, and destruction of currency and the distribution of coin. Cash operations, of course, are paper based, and thus least conducive to consolidation. Nevertheless, the Federal Reserve has reduced its number of full-service cash operations from 35 to 31 sites. In the Fourth District, cash operations were relocated from the Pittsburgh branch to Cleveland in 1996, and from Louisville (a branch of the St. Louis Reserve Bank) to Cincinnati in 2004.

E-Government Operations

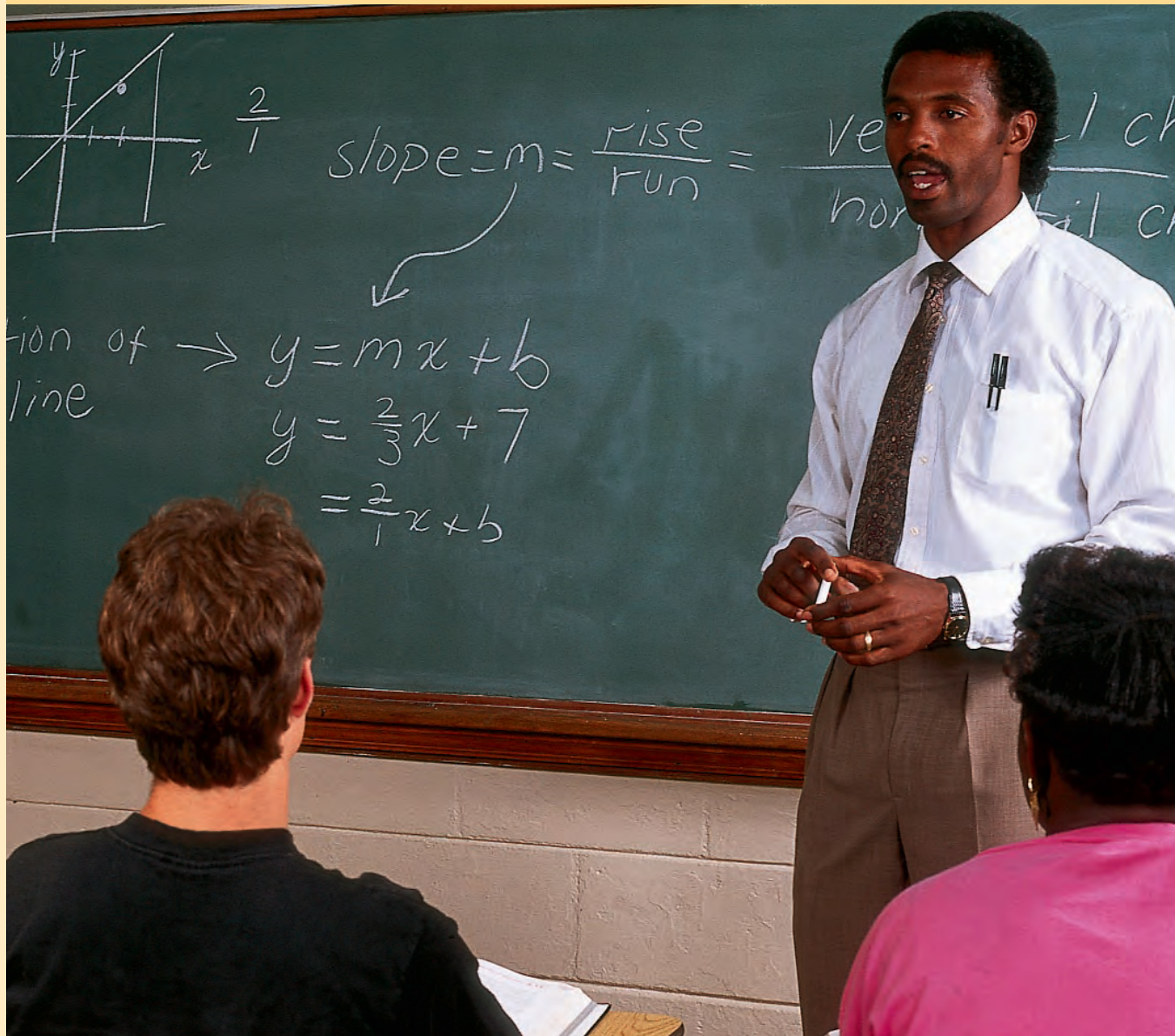
The Federal Reserve isn't the only organization working to make the payments system run better. The U.S. Treasury has also launched initiatives to make government operations more cost-effective and efficient through the use of electronic payments. As part of this effort, in 2000 the Federal Reserve Bank of Cleveland began work on a project, known as Paper Check Conversion, to help the Treasury convert checks written at government and military location into electronic debits, thereby speeding the collection of payments and improving financial control. Currently 99 agencies are using Paper Check Conversion, generating \$740 billion in transactions in 2004.

The Bank has also partnered with the Treasury on Pay.gov, an internet payment portal that allows businesses and consumers to make payments and submit forms to the government online, reducing the time and cost of completing paperwork manually. In 2004, Pay.gov processed \$4.1 billion in transactions for government agencies.

Ensuring the Efficiency of Payments in the Future

Throughout the Federal Reserve's history, external and internal forces have influenced the way the central bank formulates and implements monetary policy and supervises and regulates banking institutions. The largest and most visible changes have taken place in the way the Federal Reserve provides services to the U.S. government and to banking institutions.

Where once investors could visit a Federal Reserve office to purchase savings bonds or Treasury notes, today those transactions take place much more quickly by mail, by telephone, or online. In the future, the millions of checks that cross the country each day may be a thing of the past. We're confident those changes—like the changes that have already taken place—will occur seamlessly. We're also confident those changes will reflect and reaffirm the Federal Reserve's overarching goal: to maintain the safety, stability, and efficiency of our nation's payments system.



The firm engaged by the Board of Governors for the audits of the individual and combined financial statements of the Reserve Banks for 2004 was PricewaterhouseCoopers LLP (PwC). Fees for these services totaled \$2.0 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 2004, the Bank did not engage PwC for any material advisory services.

Management's Report on Responsibility for Financial Reporting

March 10, 2005

To the Board of Directors of the Federal Reserve Bank of Cleveland:

The management of the Federal Reserve Bank of Cleveland ("Bank") 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, 2004 ("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 Bank 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 Bank 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 the Bank maintained an effective process of internal controls over financial reporting including the safeguarding of assets as they relate to the Financial Statements.



President
and Chief Executive Officer
Federal Reserve Bank of Cleveland



First Vice President
and Chief Operating Officer
Federal Reserve Bank of Cleveland



Senior Vice President
and Chief Financial Officer
Federal Reserve Bank of Cleveland

Report of Independent Accountants

To the Board of Directors of the Federal Reserve Bank of Cleveland:

We have examined management's assertion, included in the accompanying Management Assertion, that the Federal Reserve Bank of Cleveland ("FRB Cleveland") maintained effective internal control over financial reporting and the safeguarding of assets as they relate to the financial statements as of December 31, 2004, based on criteria established in *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission. FRB Cleveland'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 FRB Cleveland maintained effective internal control over financial reporting and over the safeguarding of assets as they relate to the financial statements as of December 31, 2004 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 FRB Cleveland, 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.



March 16, 2005

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 Cleveland:

We have audited the accompanying statements of condition of the Federal Reserve Bank of Cleveland (the “Bank”) as of December 31, 2004 and 2003, 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 these 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 described in Note 3, these 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, 2004 and 2003, and results of its operations for the years then ended, on the basis of accounting described in Note 3.



March 16, 2005

Comparative Financial Statements

STATEMENTS OF CONDITION

(in millions)

	December 31, 2004	December 31, 2003
ASSETS		
Gold certificates	\$ 452	\$ 477
Special drawing rights certificates	104	104
Coin	52	33
Items in process of collection	814	595
U.S. government securities, net	31,004	31,655
Investments denominated in foreign currencies	1,757	1,665
Accrued interest receivable	217	237
Bank premises and equipment, net	183	180
Interest on Federal Reserve notes due from U.S. Treasury	234	—
Other assets	85	69
Total assets	\$ 34,902	\$ 35,015
LIABILITIES AND CAPITAL		
Liabilities:		
Federal Reserve notes outstanding, net	\$ 29,103	\$ 28,375
Securities sold under agreements to repurchase	1,315	1,202
Deposits:		
Depository institutions	1,272	1,260
Other deposits	3	4
Deferred credit items	505	521
Interest on Federal Reserve notes due U.S. Treasury	—	24
Interdistrict settlement account	495	2,103
Accrued benefit costs	65	61
Other liabilities	14	11
Total liabilities	\$ 32,772	\$ 33,561
Capital:		
Capital paid-in	1,065	727
Surplus	1,065	727
Total capital	2,130	1,454
Total liabilities and capital	\$ 34,902	\$ 35,015

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

STATEMENTS OF INCOME

(in millions)

	For the year ended December 31, 2004	For the year ended December 31, 2003
Interest income:		
Interest on U.S. government securities	\$ 963	\$ 1,097
Interest on investments denominated in foreign currencies	22	22
Total interest income	985	1,119
Interest expense:		
Interest expense on securities sold under agreements to repurchase	—	11
Net interest income	985	1,108
Other operating income:		
Income from services	61	56
Reimbursable services to government agencies	43	32
Foreign currency gains, net	88	227
Other income	3	4
Total other operating income	195	319
Operating expenses:		
Salaries and other benefits	103	93
Occupancy expense	13	13
Equipment expense	13	13
Assessments by Board of Governors	45	52
Other expenses	48	49
Total operating expenses	222	220
Net income prior to distribution	\$ 958	\$ 1,207
Distribution of net income:		
Dividends paid to member banks	\$ 45	\$ 42
Transferred to surplus	338	25
Payments to U.S. Treasury as interest on Federal Reserve notes	575	1,140
Total distribution	\$ 958	\$ 1,207

STATEMENTS OF CHANGES IN CAPITAL

(in millions)

For the years ended December 31, 2004 and December 31, 2003

	Capital Paid-in	Surplus	Total Capital
Balance at January 1, 2003 (14 million shares)	\$ 702	\$ 702	\$ 1,404
Transferred to surplus	—	25	25
Net change in capital stock issued (0.5 million shares)	25	—	25
Balance at December 31, 2003 (14.5 million shares)	\$ 727	\$ 727	\$ 1,454
Transferred to surplus	—	338	338
Net change in capital stock issued (6.8 million shares)	338	—	338
Balance at December 31, 2004 (21.3 million shares)	\$ 1,065	\$ 1,065	\$ 2,130

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

Notes to Financial Statements

1. STRUCTURE

The Federal Reserve Bank of Cleveland ("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 Cincinnati and Pittsburgh serve the Fourth Federal Reserve District, which includes Ohio and portions of Kentucky, Pennsylvania, and West Virginia. 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.

In performing fiscal agency functions for the U.S. Treasury, the Bank provides U.S. securities direct purchase (*TreasuryDirect*) and savings bonds processing services. In December 2003, the Treasury announced that these operations would be consolidated into two sites, one of which would be FRB Cleveland's Pittsburgh Branch. The consolidation schedule was announced on March 30, 2004, and the actual transfer of operations began immediately. As of December 31, 2004, the Pittsburgh consolidation site completed the transfer of work from FRB New York's Buffalo Branch. In addition, FRB Kansas City's savings bond print and mail operation was consolidated in Pittsburgh and they are now the sole FRB issuer of savings bonds. Pittsburgh also began processing FRB Boston's *TreasuryDirect* purchase tenders in October, as well as FRB Richmond's payroll-deduction-plan savings bond volumes.

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, 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 and to invest such foreign currency holdings ensuring adequate liquidity is maintained. In addition, FRBNY is authorized to 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 with the private sector. These accounting principles and practices are documented in the *Financial Accounting Manual for Federal Reserve Banks* ("Financial Accounting Manual"), which is issued by the Board of Governors. All Reserve Banks are required to adopt and apply accounting policies and practices that are consistent with the Financial Accounting Manual.

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 difference is the presentation of all security holdings at amortized cost, rather than at the fair value presentation requirements of GAAP. In addition, the Bank has elected not to present a Statement of Cash Flows. The Statement of Cash Flows has not been included because 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. A Statement of Cash Flows, therefore, 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: Audit Application Competency Center, National Billing Operations, Cash Automation and Materials Handling Software, National Check Restructure, Check 21, Electronic Treasury Financial Services, including Pay.Gov and Paper Check to ACH conversions, FedImage, Retail Payments Office, and Savings Bonds, including technology.

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 the prior year have been reclassified to conform to the current-year presentation. Unique accounts and significant accounting policies are explained below.

a. 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 \$42²/₉ a fine troy ounce. The Board of Governors allocates the gold certificates among Reserve Banks once a year based on average Federal Reserve notes outstanding in each District.

b. 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 SDR certificates, at the direction of the U.S. Treasury, for the purpose of financing SDR acquisitions or for financing 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 2004 or 2003.

c. 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 Bank. Borrowers execute certain lending agreements and deposit sufficient collateral before credit is extended. Loans are evaluated for collectibility. 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 Board of Directors of the Reserve Bank, subject to review by the Board of Governors. There were no outstanding loans to depository institutions at December 31, 2004 and 2003, respectively.

d. 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.

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 the 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 the FRBNY on a daily basis, with additional collateral obtained as necessary. The securities lent are 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 it may need for intervention operations to support the dollar and give the partner foreign central bank temporary access to dollars it may need to support its own currency. Drawings under the F/X swap arrangements can be initiated by either the FRBNY or the partner foreign central bank and must be agreed to by the drawee. The F/X swaps are structured so that the party initiating the transaction (the drawer) bears the exchange rate risk upon maturity. The FRBNY will generally invest the foreign currency received under an F/X swap in interest-bearing instruments.

Warehousing is an arrangement under which the FOMC agrees to exchange, at the request of the Treasury, U.S. dollars for foreign currencies held by the Treasury or ESF over a limited period of time. The purpose of the warehousing facility is to supplement the U.S. dollar resources of the Treasury and ESF for financing purchases of foreign currencies and related international operations.

In connection with its foreign currency activities, the FRBNY, on behalf of the Reserve Banks, may enter into contracts that 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 may 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 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. Securities sold under agreements to repurchase are accounted for as secured borrowing transactions with the associated interest expense recognized over the life of the transaction. Such transactions are settled by FRBNY. Interest income is accrued on a straight-line basis. 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. 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.

Activity related to U.S. government securities bought outright, securities sold under agreements to repurchase, securities loaned, investments denominated in foreign currency, excluding those held under an F/X swap arrangement, and deposit accounts of foreign central banks and governments above core balances are allocated to each Reserve Bank. U.S. government 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.

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 calculations, of which \$3 million was allocated to the Bank. The effect of this change was not material; therefore, it was included in the 2003 interest income.

e. 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 two to fifty years. Major alterations, renovations, and improvements are capitalized at cost as additions to the asset accounts and are amortized over the remaining useful life of the asset. 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.

f. 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."

g. 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.

Assets eligible to be pledged as collateral security include all Federal Reserve Bank assets. 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. To satisfy the obligation to provide sufficient collateral for outstanding 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 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 \$5,408 million, and \$4,740 million at December 31, 2004 and 2003, respectively.

h. 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 Reserve Bank stock must be adjusted. Member banks are 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.

The Financial Accounting Standards Board (FASB) has deferred the implementation date for SFAS No. 150, "Accounting for Certain Financial Instruments with Characteristics of both Liabilities and Equity" for the Bank. When applicable, the Bank will determine the impact and provide the appropriate disclosures.

i. 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 as interest on Federal Reserve notes 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 an increase in capital paid-in, payments to the U.S. Treasury are suspended and earnings are retained until the surplus is equal to the capital paid-in. Weekly payments to the U.S. Treasury may vary significantly.

In the event of a decrease in capital paid-in, the excess surplus, after equating capital paid-in and surplus at December 31, is distributed to U.S. Treasury in the following year. This amount is reported as a component of "Payments to U.S. Treasury as interest on Federal Reserve notes."

j. 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.

k. 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 \$2 million for each of the years ended December 31, 2004 and 2003, and are reported as a component of "Occupancy expense."

l. RESTRUCTURING CHARGES

In 2003, the System started the restructuring of several operations, primarily check, cash, and Treasury 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. These restructuring activities continued in 2004.

Footnote 10 describes the restructuring and provides information about the Bank's costs and liabilities associated with employee separations and contract terminations. The costs associated with the write-down of certain Bank assets are discussed in footnote 6. Costs and liabilities associated with enhanced pension benefits for all Reserve Banks are recorded on the books of the FRBNY.

4. U.S. GOVERNMENT 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 that occurs in April of each year. The settlement equalizes Reserve Bank gold certificate holdings to Federal Reserve notes outstanding. The Bank's allocated share of SOMA balances was approximately 4.273 percent and 4.686 percent at December 31, 2004 and 2003, respectively.

The Bank's allocated share of U.S. Government securities, net held in the SOMA at December 31, was as follows (in millions):

	2004	2003
Par value:		
U.S. government:		
Bills	\$ 11,237	\$ 11,472
Notes	15,418	15,152
Bonds	4,017	4,614
Total par value	30,672	31,238
Unamortized premiums	402	459
Unaccreted discounts	(70)	(42)
Total allocated to Bank	\$ 31,004	\$ 31,655

The total of the U.S. Government securities, net held in the SOMA was \$725,584 million and \$675,569 million at December 31, 2004 and 2003, respectively.

The maturity distribution of U.S. government securities bought outright and securities sold under agreements to repurchase, that were allocated to the Bank at December 31, 2004, was as follows (in millions):

Maturities of Securities Held	U.S. Government Securities (Par value)	Securities Sold Under Agreements to Repurchase (Contract amount)
Within 15 days	\$ 1,310	\$ 1,315
16 days to 90 days	7,621	—
91 days to 1 year	7,282	—
Over 1 year to 5 years	8,899	—
Over 5 years to 10 years	2,323	—
Over 10 years	3,237	—
Total	\$ 30,672	\$ 1,315

At December 31, 2004 and 2003, U.S. government securities with par values of \$6,609 million and \$4,426 million, respectively, were loaned from the SOMA, of which \$282 million and \$207 million were allocated to the Bank.

At December 31, 2004 and 2003, securities sold under agreements to repurchase with contract amounts of \$30,783 million and \$25,652 million, respectively, and par values of \$30,808 million and \$25,658 million, respectively, were outstanding. The Bank's allocated share at December 31, 2004 and 2003 was \$1,315 million and \$1,202 million, respectively, of the contract amount and \$1,316 million and \$1,202 million, respectively, of the par value.

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 8.220 percent and 8.381 percent at December 31, 2004 and 2003, respectively.

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):

	2004	2003
<i>European Union Euro:</i>		
Foreign currency deposits	\$ 498	\$ 576
Securities purchased under agreements to resell	176	172
Government debt instruments	316	171
<i>Japanese Yen:</i>		
Foreign currency deposits	127	123
Government debt instruments	630	615
<i>Accrued interest</i>	10	8
Total	\$ 1,757	\$ 1,665

Total System investments denominated in foreign currencies were \$21,368 million and \$19,868 million at December 31, 2004 and 2003, respectively.

The maturity distribution of investments denominated in foreign currencies which were allocated to the Bank at December 31, 2004, was as follows (in millions):

Maturities of Investments Denominated in Foreign Currencies	European Euro	Japanese Yen	Total
Within 1 year	\$ 738	\$ 756	\$ 1,494
Over 1 year to 5 years	247	—	247
Over 5 years to 10 years	16	—	16
Over 10 years	—	—	—
Total	\$ 1,001	\$ 756	\$ 1,757

At December 31, 2004 and 2003, there were no material open foreign exchange contracts.

At December 31, 2004 and 2003, the warehousing facility was \$5,000 million, with no balance outstanding.

6. BANK PREMISES, EQUIPMENT, AND SOFTWARE

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

	Maximum Useful Life (in years)	2004	2003
Bank premises and equipment:			
Land	N/A	\$ 7	\$ 7
Buildings	50	163	151
Building machinery and equipment	20	48	46
Construction in progress	N/A	6	4
Furniture and equipment	10	68	69
Subtotal		\$ 292	\$ 277
Accumulated depreciation		(109)	(97)
Bank premises and equipment, net		\$ 183	\$ 180
Depreciation expense, for the years ended		\$ 11	\$ 11

The Bank leases unused space to outside tenants. Those leases have terms ranging from one to 12 years. Rental income from such leases was \$1 million for each of the years ended December 31, 2004 and 2003. Future minimum lease payments under noncancelable agreements in existence at December 31, 2004, were (in millions):

2005	\$ 1
2006	1
2007	1
2008	1
2009	1
Thereafter	3
	<u>\$ 8</u>

The Bank has capitalized software assets, net of amortization, of \$39 million and \$40 million at December 31, 2004 and 2003, respectively. Amortization expense was \$8 million and \$6 million for the years ended December 31, 2004 and 2003, respectively.

Assets impaired as a result of the Bank's restructuring plan, as discussed in footnote 10, include building, leasehold improvements, furniture, and equipment. Asset impairment losses of \$2 million for each of the periods ending December 31, 2004 and 2003, were determined using fair values based on quoted market values or other valuation techniques and are reported as a component of "Other expenses."

7. COMMITMENTS AND CONTINGENCIES

At December 31, 2004, the Bank was obligated under noncancelable leases for premises and equipment with terms ranging from one to approximately 4 years. These leases provide for increased rental payments based upon increases in real estate taxes, operating costs, or selected price indices.

Rental expense under operating leases for certain operating facilities, warehouses, and data processing and office equipment (including taxes, insurance and maintenance when included in rent), net of sublease rentals, was \$1 million for each of the years ended December 31, 2004 and 2003. 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, 2004, were not material.

At December 31, 2004, the Bank, acting on its own behalf, had other commitments and long-term obligations extending through the year 2010 with a remaining amount of \$14 million. As of December 31, 2004, \$31 million of these commitments was recognized. Purchases of \$19 million and \$6 million were made against these commitments during 2004 and 2003, respectively. These commitments represent Electronic Treasury Financial Services, facilities-related expenditures, and Cash operations and have variable and fixed components. The variable portion of the commitment is primarily for Cash operations. The fixed payments for the next two years under these commitments are (in millions):

	Fixed Commitment
2005	\$ 8.5
2006	0.1

In addition, at December 31, 2004, the Bank, acting on behalf of the Reserve Banks, had contractual commitments extending through the year 2007 with a remaining amount of \$8 million. As of December 31, 2004, \$44 million of these commitments was recognized. Purchases of \$10 million were made against these commitments during each of the years ended December 31, 2004 and 2003. It is estimated that the Bank's allocated share of these commitments will be \$3 million. These commitments represent Check software and hardware license and maintenance fees and have only fixed components. The fixed payments for the next three years for these commitments are (in millions):

	Fixed Commitment
2005	\$ 3.9
2006	2.2
2007	1.6

Under the Insurance Agreement of the Federal Reserve Banks dated as of March 2, 1999, each of the Reserve Banks has agreed to bear, on a per incident basis, a pro rata share of losses in excess of 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, 2004 or 2003.

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 the 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 Banks, 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 costs for the BEP and the SERP at December 31, 2004 and 2003, and for the years then ended, are not material.

THRIFT PLAN

Employees of the Bank may also participate in the defined contribution Thrift Plan for Employees of the Federal Reserve System ("Thrift Plan"). The Bank's Thrift Plan contributions totaled \$3 million for each of the years ended December 31, 2004 and 2003, and are reported as a component of "Salaries and other benefits."

9. POSTRETIREMENT BENEFITS OTHER THAN PENSIONS AND POSTEMPLOYMENT BENEFITS

POSTRETIREMENT BENEFITS OTHER THAN PENSIONS

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

The Bank funds benefits payable under the medical and life insurance plans as due and, accordingly, has no plan assets. Net postretirement benefit 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):

	2004	2003
Accumulated postretirement benefit obligation at January 1	\$ 56.1	\$ 44.5
Service cost-benefits earned during the period	1.8	1.3
Interest cost of accumulated benefit obligation	4.1	2.9
Actuarial loss	20.2	9.9
Special termination loss	0.1	—
Contributions by plan participants	0.2	0.2
Benefits paid	(2.8)	(2.7)
Plan amendments	(13.4)	—
Accumulated postretirement benefit obligation at December 31	\$ 66.3	\$ 56.1

At December 31, 2004 and 2003, the weighted-average discount rate assumptions used in developing the postretirement benefit obligation were 5.75 percent and 6.25 percent, respectively.

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):

	2004	2003
Fair value of plan assets at January 1	\$ —	\$ —
Actual return on plan assets	—	—
Contributions by the employer	2.6	2.5
Contributions by plan participants	0.2	0.2
Benefits paid	(2.8)	(2.7)
Fair value of plan assets at December 31	\$ —	\$ —
Unfunded postretirement benefit obligation	\$ 66.3	\$ 56.1
Unrecognized prior service cost	12.5	0.8
Unrecognized net actuarial loss	(23.1)	(3.7)
Accrued postretirement benefit costs	\$ 55.7	\$ 53.2

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

For measurement purposes, the assumed health care cost trend rates at December 31 are as follows:

	2004	2003
Health care cost trend rate assumed for next year	9.00%	10.00%
Rate to which the cost trend rate is assumed to decline (the ultimate trend rate)	4.75%	5.00%
Year that the rate reaches the ultimate trend rate	2011	2011

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, 2004 (in millions):

	One Percentage Point Increase	One Percentage Point Decrease
Effect on aggregate of service and interest cost components of net periodic postretirement benefit costs	\$ 0.7	\$ (1.3)
Effect on accumulated postretirement benefit obligation	9.6	(7.9)

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

	2004	2003
Service cost-benefits earned during the period	\$ 1.8	\$ 1.3
Interest cost of accumulated benefit obligation	4.1	3.0
Amortization of prior service cost	(0.6)	(0.1)
Recognized net actuarial loss/(gain)	0.8	(0.1)
Total periodic expense	\$ 6.1	\$ 4.1
Curtailment gain	(1.1)	—
Special termination loss	0.1	—
Net periodic postretirement benefit costs	\$ 5.1	\$ 4.1

At December 31, 2004 and 2003, the weighted-average discount rate assumptions used to determine net periodic postretirement benefit cost were 6.25 percent and 6.75 percent, respectively.

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

A plan amendment that modified the credited service period eligibility requirements created curtailment gains. The recognition of special termination losses is primarily the result of enhanced retirement benefits provided to employees during the restructuring described in footnote 10.

The Medicare Prescription Drug, Improvement and Modernization Act of 2003 (the "Act") was enacted in December 2003. The Act established a prescription drug benefit under Medicare ("Medicare Part D") and a federal subsidy to sponsors of retiree health care benefit plans that provide benefits that are at least actuarially equivalent to Medicare Part D. Following the guidance of the Financial Accounting Standards Board, the Bank elected to defer recognition of the financial effects of the Act until further guidance was issued in May 2004.

Benefits provided to certain participants are at least actuarially equivalent to Medicare Part D. The estimated effects of the subsidy, retroactive to January 1, 2004, are reflected in actuarial loss in the accumulated postretirement benefit obligation and net periodic postretirement benefit costs.

Following is a summary of the effects of the expected subsidy (in millions):

	2004	
Decrease in the accumulated postretirement benefit obligation	\$	9.8
Decrease in the net periodic postretirement benefit costs	\$	1.4
Expected benefit payments:	Without Subsidy	With Subsidy
2005	\$ 2.5	\$ 2.5
2006	2.7	2.5
2007	2.8	2.6
2008	3.0	2.7
2009	3.2	2.9
2010–2014	18.5	16.6
Total	\$ 32.7	\$ 29.8

POSTEMPLOYMENT BENEFITS

The Bank offers benefits to former or inactive employees. Postemployment benefit costs are actuarially determined using a December 31, 2004, measurement date and include the cost of medical and dental insurance, survivor income, disability benefits, and self-insured workers' compensation expenses. For 2004, the Bank changed its practices for estimating postemployment costs and used a 5.25 percent discount rate and the same health care trend rates as were used for projecting postretirement costs. Costs for 2003, however, 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, 2004 and 2003, were \$8.6 million and \$7 million, respectively. This cost is included as a component of "Accrued benefit costs." Net periodic postemployment benefit costs included in 2004 and 2003 operating expenses were \$3 million and \$1 million, respectively.

10. BUSINESS RESTRUCTURING CHARGES

In 2003, the Bank announced plans for restructuring to streamline operations and reduce costs, including consolidation of Check operations and staff reductions in various functions of the Bank. In 2004, additional consolidation and restructuring initiatives were announced in Check operations, Check Automation Services, and Marketing. These actions resulted in the following business restructuring charges:

Major categories of expense (in millions):

	Total Estimated Costs	Accrued Liability 12/31/03	Total Charges	Accrued Total Paid	Accrued Liability 12/31/04
Employee separation	\$ 1.8	\$ 0.7	\$ 1.0	\$ 0.5	\$ 1.2
Contract termination	—	—	—	—	—
Other	0.2	—	0.2	0.2	—
Total	\$ 2.0	\$ 0.7	\$ 1.2	\$ 0.7	\$ 1.2

Employee separation costs are primarily severance costs related to identified staff reductions of approximately 128, including 58 staff reductions related to restructuring announced in 2003. These costs 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."

Restructuring costs associated with the write-downs of certain Bank assets, including buildings, leasehold improvements, furniture, and equipment are discussed in footnote 6. Costs associated with enhanced pension benefits for all Reserve Banks are recorded on the books of the FRBNY as discussed in footnote 8. Costs associated with enhanced postretirement benefits are disclosed in footnote 9.

Future costs associated with the restructuring that are not estimable and are not recognized as liabilities will be incurred in 2005 and 2006.

The Bank anticipates substantially completing its announced plans by March 2006.



Officers and Consultants *(as of December 31, 2004)*

Sandra Pianalto

President and Chief Executive Officer

R. Chris Moore

First Vice President and Chief Operating Officer

Andrew C. Burkle, Jr.

Senior Vice President
Supervision and Regulation, Credit Risk Management,
Statistics and Analysis

Lawrence Cuy

Senior Vice President
Financial Management Services, Strategic Planning,
Information Technology, Risk Management

Robert W. Price

Senior Vice President
Retail Payments Office, National Check Automation and
Operations, National Product Development

Susan G. Schueller

Senior Vice President and General Auditor
Audit

Samuel D. Smith

Senior Vice President
Cash, Treasury Retail Securities, Facilities, Information Security,
Protection, Business Continuity, e-Government, Payments
System Research

Mark S. Sniderman

Senior Vice President and Director of Research
Research, Economic Policy and Strategy

Peggy A. Velimesis

Senior Vice President
Human Resources, Payroll, Internal Communications,
Quality Process, EEO Officer

Andrew W. Watts

Senior Vice President and General Counsel
Legal, Ethics Officer

David E. Altig

Vice President and Associate Director of Research
Research

Douglas A. Banks

Vice President and Consumer Affairs Officer
Supervision and Regulation

Terry N. Bennett

Vice President
Information Technology

James A. Blake

Senior Consultant
Check Automation Services

Raymond L. Brinkman

Vice President
Treasury Retail Securities

Michael F. Bryan

Vice President and Economist
Research

Ruth M. Clevenger

Vice President and Community Affairs Officer
Community Affairs

Cheryl L. Davis

Vice President and Corporate Secretary
Community Affairs, Public Information, Communications
Support, Office of the Corporate Secretary

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Vice President and Associate General Counsel
Legal

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Vice President
Cincinnati Location Officer, Protection, Business Continuity

Suzanne M. Howe

Vice President
e-Government Operations, Treasury Electronic Check Processing

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Vice President
Cash, e-Government

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Vice President
Supervision and Regulation

Jon C. Jeswald

Vice President
Retail Payments Office

Rayford P. Kalich

Vice President
Accounting, Budget Procurement, Strategic Planning,
Risk Management

Stephen J. Ong

Vice President
Credit Risk Management, Statistics and Analysis

David E. Rich

Senior Consultant
Information Technology

Edward E. Richardson

Vice President
Marketing, Sales, Product Management, Customer Satisfaction,
Electronic Payments, Electronic Delivery Services

Terrence J. Roth

Vice President
Retail Payments Office, Check Products

Robert B. Schaub

Vice President
Pittsburgh Location Officer, Protection, Business Continuity

Gregory L. Stefani

Vice President
Supervision and Regulation

Edward J. Stevens

Senior Consultant and Economist
Research

James B. Thomson

Vice President and Economist
Research

Joseph C. Thorp

Vice President
Facilities, Business Continuity

Anthony Turcinov

Vice President
Check Operations, Check Adjustments

Jeffrey R. Van Treese

Vice President
Cincinnati Check Operations

Darell R. Wittrup

Vice President
Accounting, System Billing

Officers and Consultants *(as of December 31, 2004)*

Kelly A. Banks

Assistant Vice President and Public Information Officer
Public Information, Communications Support

Tracy L. Conn

Assistant Vice President
Supervision and Regulation

Stephen J. Geers

Assistant Vice President
Regional Account Management

Patrick J. Geyer

Assistant Vice President
e-Government Operations

Kenneth J. Good

Assistant Vice President
Check Adjustments, Image Services System Operations

Felix Harshman

Assistant Vice President
Accounting, Budget

Joseph G. Haubrich

Consultant and Economist
Research

Amy J. Heintl

Assistant Vice President
Treasury Retail Securities

Paul E. Kaboth

Assistant Vice President
Supervision and Regulation

Kenneth E. Kennard

Assistant Vice President
Protection

Susan M. Kenney

Assistant Vice President
e-Government Technical Support, Pay.gov

Dean A. Longo

Consultant
Information Technology

Martha Maher

Assistant Vice President
Retail Payments Office

William Mason

Assistant Vice President
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Mark S. Meder

Assistant Vice President
Supervision and Regulation

James J. Miklich

Assistant Vice President
Check Automation Services

James W. Rakowsky

Assistant Vice President
Facilities, Business Continuity

Robin R. Ratliff

Assistant Vice President and Assistant Corporate Secretary
Office of the Corporate Secretary

John P. Robins

Consultant
Supervision and Regulation

Elizabeth J. Robinson

Assistant Vice President
Human Resources

Thomas Schaadt

Assistant Vice President
Check Automation Services

Mark E. Schweitzer

Assistant Vice President and Economist
Research

Jerome J. Schwing

Assistant Vice President
Cincinnati Check Operations

James P. Slivka

Assistant Vice President
Information Systems Audit Function, Audit Application
Competency Center

Diana C. Starks

Assistant Vice President
Check Operations

Henry P. Trolie

Assistant Vice President
Information Technology

Michael Vangelos

Assistant Vice President
Information Security

Lisa M. Vidacs

Assistant Vice President
Cleveland, Pittsburgh Cash Operations

Nadine M. Wallman

Assistant Vice President
Supervision and Regulation

Federal Reserve Banks each have a board of nine directors. Directors supervise the Bank's budget and operations, make recommendations on the primary credit rate, and, with the Board of Governors' approval, appoint the Bank's president, first vice president, and officers.

Class A directors are elected by and represent the interests of Fourth District member banks. Class B directors also are elected by member banks but represent the public interests of agriculture, commerce, industry, services, labor, and consumers. Class C directors are selected by the Board of Governors and also represent these public interests.

Directors serve for three years. Two Class C directors are designated by the Board of Governors as chairman and deputy chairman of the board. Directorships generally are limited to two successive terms to ensure that the individuals who serve the Federal Reserve System represent a diversity of backgrounds and experience.

The Cincinnati and Pittsburgh branch offices each have a board of seven directors who serve three-year terms. Board members are appointed by the Federal Reserve Bank of Cleveland and the Board of Governors.

Board of Directors *(as of December 31, 2004)*

Cleveland

Robert W. Mahoney

Chairman

Retired Chairman and Chief Executive Officer
Diebold, Inc., Uniontown, Ohio

Charles E. Bunch

Deputy Chairman

President and Chief Operating Officer
PPG Industries, Inc., Pittsburgh, Pennsylvania

John R. Cochran

Chairman and Chief Executive Officer
FirstMerit Corporation, Akron, Ohio

Phillip R. Cox

President and Chief Executive Officer
Cox Financial Corporation, Cincinnati, Ohio

Tanny Crane

President and Chief Executive Officer
Crane Group Company, Columbus, Ohio

Wayne R. Embry

Former President and Chief Operating Officer
Cleveland Cavaliers, Cleveland, Ohio

V. Ann Hailey

Executive Vice President and Chief Financial Officer
Limited Brands, Columbus, Ohio

Bick Weissenrieder

Chairman and Chief Executive Officer
Hocking Valley Bank, Athens, Ohio

Stephen P. Wilson

President and Chief Executive Officer
Lebanon Citizens National Bank, Lebanon, Ohio



Federal Advisory Council Representative

Martin G. McGuinn

Chairman and Chief Executive Officer
Mellon Financial Corporation
Pittsburgh, Pennsylvania



(l-r): Wayne R. Embry, Bick Weissenrieder, Charles E. Bunch, Phillip R. Cox, Robert W. Mahoney, V. Ann Hailey, John R. Cochran, Tanny Crane, and Stephen P. Wilson.

Board of Directors *(as of December 31, 2004)*

Cincinnati

Dennis C. Cuneo

Chairman

Senior Vice President
Toyota Motor North America, Inc.
New York, New York

James H. Booth

President
Czar Coal Corporation
Lovely, Kentucky

Herbert R. Brown

Senior Vice President
Western and Southern Financial Group
Cincinnati, Ohio

Glenn D. Leveridge

President
Bank One, NA
Lexington, Kentucky

Charlotte W. Martin

President and Chief Executive Officer
Great Lakes Bankers Bank
Gahanna, Ohio

V. Daniel Radford

Executive Secretary–Treasurer
Cincinnati AFL-CIO Labor Council
Cincinnati, Ohio

Charles Whitehead

Retired President
Ashland Inc. Foundation
Villa Hills, Kentucky



(l-r): V. Daniel Radford, Herbert R. Brown, Dennis C. Cuneo, Charlotte W. Martin, Glenn D. Leveridge, Charles Whitehead, and James H. Booth

Board of Directors *(as of December 31, 2004)*

Pittsburgh

Roy W. Haley

Chairman
Chairman and Chief Executive Officer
WESCO International, Inc.
Pittsburgh, Pennsylvania

Robert O. Agbede

President and Chief Executive Officer
ATS—Chester Engineers
Pittsburgh, Pennsylvania

Ronnie L. Bryant

President and Chief Operating Officer, CEcD
Pittsburgh Regional Alliance
Pittsburgh, Pennsylvania

Michael J. Hagan

President and Chief Executive Officer
Iron and Glass Bank
Pittsburgh, Pennsylvania

James I. Mitnick

Senior Vice President
Turner Construction Company
Pittsburgh, Pennsylvania

Kristine N. Molnar

Executive Vice President
WesBanco Bank, Inc.
Wheeling, West Virginia

Georgiana N. Riley

President and Chief Executive Officer
TIGG Corporation
Bridgeville, Pennsylvania



(l-r): Ronnie L. Bryant, Georgiana N. Riley, Robert O. Agbede, Roy W. Haley, James I. Mitnick, Kristine N. Molnar, and Michael J. Hagan.

The Business Advisory Council is a diverse group of Fourth District businesspeople who advise the president and senior officers on current business conditions. The Community Bank Advisory Council comprises bankers from small financial institutions who advise the president and senior officers on current banking conditions in the Fourth District.

Each council meets with senior Bank leaders at least twice yearly. These meetings provide anecdotal information that is useful in the consideration of monetary policy directions and economic research activities.

Business Advisory Council *(as of December 31, 2004)*

William E. Adams

Chairman and Chief Executive Officer
Adams Manufacturing Corporation
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FEDERAL RESERVE BANK OF CLEVELAND 2004 ANNUAL REPORT

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