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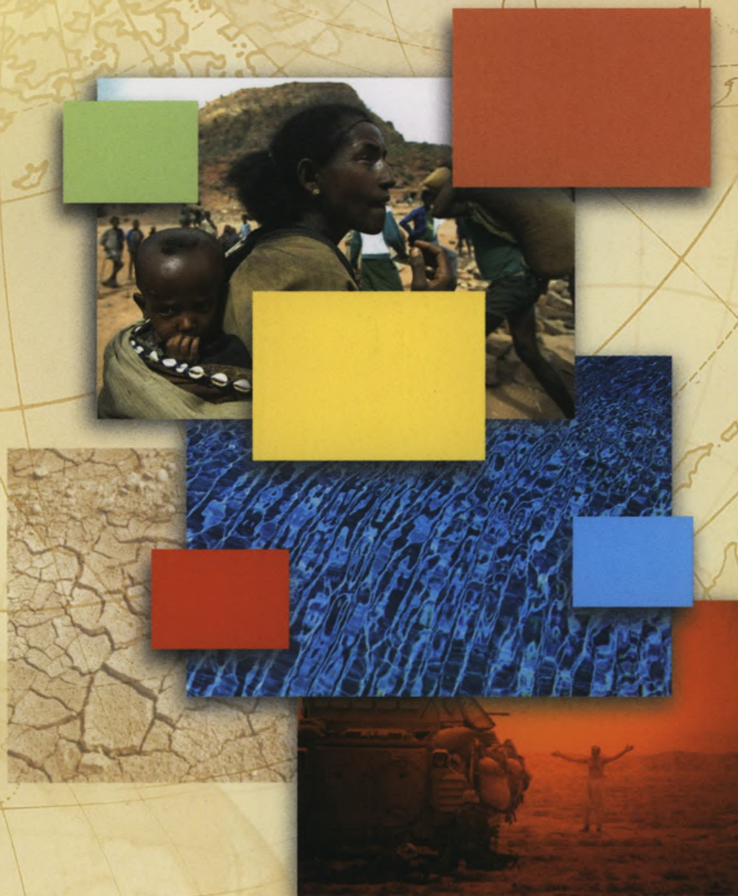
The Region

Giving Aid Effectively



Nancy L. Stokey

Federal Reserve Bank of Minneapolis

2005 Annual Report

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Message from the President

One can hardly pick up a newspaper today, watch a television news program or read an online news service without encountering a number of stories about large, complex problems affecting part or all of the earth's population. From disease pandemics to hunger, civil strife, educational needs, pollution and global warming, among others, there are a host of issues that vie for attention and demand resources. However, as we all know, those resources are limited, which suggests the question: How best to allocate limited resources to return the highest benefit?

For some, this type of benefit/cost question may seem inappropriate for these sorts of problems, especially when we are talking about life-and-death issues. How can we possibly decide that people whose lives are plagued by hunger are more or less worth helping than those who are faced with a life-threatening disease? But the fact is, we have to decide because we can't aid every afflicted person or solve every problem—at least not at the same time. We have to prioritize.

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That's where economics comes in. As Nancy Stokey explains in the following essay, economics can help us answer these questions because it offers an analytical tool—benefit/cost analysis—that helps people make choices about these very important matters. It's not perfect, but it's a tool for helping to refine choice. "Benefit/cost analysis ... organizes the quantitative evidence within a systematic framework," Nancy writes. "Even if the final B/C ratio does not tell the whole story, the assumptions used to construct that ratio must be made explicit, the omissions and short-cuts are exposed, and the issues being left out can be identified and discussed in parallel with the quantitative analysis."

As you will learn from the following essay, Nancy was part of a select group of economists—the Copenhagen Consensus—called together to determine how $50 billion could best be spent to address the world's most demanding problems. Readers will gain insight not only into those issues, but also into how economists go about analyzing such seemingly intractable problems. Nancy has served as a consultant to the Minneapolis Fed in recent years, and we have benefited from her insights and contributions to our work here at the bank; I am pleased that you will also benefit from her thoughtful analysis and clear presentation of the choices that were put before her group—and before all of us.

Gary H. Stern
President

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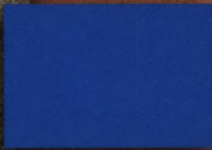
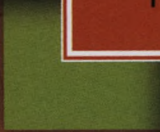


The Copenhagen Consensus



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Giving Aid Effectively

Nancy L. Stokey
Frederick Henry Prince Professor of Economics
University of Chicago

Over the last half century, the World Bank, various U.N. agencies and a host of nongovernmental organizations have made heroic efforts to combat hunger, treat and prevent disease, promote literacy and stimulate economic development. Hundreds of billions of dollars, much in the form of voluntary charitable contributions, have been spent on a vast array of projects. One wonders why, after so much well-intentioned time, effort and money have been expended, more has not been accomplished.

At least, one might suppose, earlier experiences would inform subsequent efforts, prompting donors to direct resources toward projects that have a substantial chance for success and would produce large benefits relative to their costs. Unfortunately, this is not always the case. Some of the donor agencies surely have political agendas as well, so other motives come into play. But many do not, and even in these quarters the idea of systematically evaluating alternative projects is sometimes viewed as heretical. It is as if a careful examination of evidence, with the potential for concluding that some types of projects are less successful than others, is simply unacceptable. Charitable endeavors are like the children of Lake Wobegon: They are all above average.

The Copenhagen Consensus project was conceived to challenge that taboo head on, with the classic method of benefit/cost analysis as its major weapon. The project was framed in terms of the following question: If one had $50 billion to spend over the next five years to make the world a better place, what would be the best way to use it? The Copenhagen Consensus did not itself have funds to allocate. Instead, its goal was methodological—to demonstrate that alternative projects could be prioritized. The objective was to show that a group of economists, informed by experts in various areas and using the tools of benefit/cost analysis, could compare potential uses for funds and, at least to some extent, rank them in a way that reflected economic reasoning. Consensus would be success: If the expert opinions at the end displayed considerable agreement, that agreement could be interpreted as a reflection of economic science.

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Before proceeding, it may be useful to describe the basic idea behind benefit/cost analysis. Briefly, the method involves comparing the total value of the benefits (B) the project produces with its total cost (C). If the benefits fall short of the costs (B < C), then the ratio B/C is less than one. In this case, the project should not be undertaken. If the benefits exceed the costs (B > C), then the ratio B/C exceeds one, and the project is worthwhile if there are no financing constraints. Notice that the ratio B/C measures the value of the benefits per dollar of expenditure, so projects with higher B/C ratios provide more "bang for the buck." Thus, if the budget is limited and many projects are competing for funds, the B/C ratios can be used to rank them. Those with higher ratios should get priority.

For example, suppose there are five potential projects: A, B, C, D and E, each with a cost of $10 million and benefits of $120, $8, $200, $30 and $90 million, respectively. Then their B/C ratios are 12, 0.8, 20, 3 and 9. Project B has a B/C ratio below unity and should be dropped from consideration. The others can be ranked: C, A, E, D. If the available budget is $10 million, then project C should be funded; if it is $20 million, then both C and A should be funded, and so on.

Costs and returns that accrue in later years must be appropriately discounted (more on this below), and the accounting must be complete—managers' time, interest costs, effects on other projects and so on must be included. Although the basic concept is straightforward, implementing it is not always easy. For many public-sector projects, the returns are goods or services or outcomes that are not priced in the market. In this case, the economist must try to impute shadow prices to the outcomes.

Benefit/cost analysis is an imperfect tool. Implementing it typically requires making assumptions, taking shortcuts and omitting some important factors. Nevertheless, it provides a useful framework for comparing projects, allowing us to organize the quantitative evidence within a systematic framework. Even if the final B/C ratio does not tell the whole story, the assumptions used to construct that ratio must be made explicit, the omissions and shortcuts are exposed, and the issues being left out can be identified and discussed in parallel with the quantitative analysis.

Above all, it dispels the notion that a $15 billion health care project simply cannot be compared with a $10 billion project to provide irrigation or a $12 billion project to finance schools. They can be compared. Honest, intelligent people may still disagree at the end, but the discussion is improved by making the comparison more orderly.

The stated goal of the Copenhagen Consensus was to identify the *best* ways to spend $50 billion. This meant coming up with a list of specific projects, ranked from highest to lowest in terms of their B/C ratios, and providing justification for the ranking. This process necessarily identifies some projects as having B/C ratios that exceed one but are too low to justify funding given the budget constraint. It may also conclude that some projects have costs that exceed their benefits.

The first step was to identify broad areas with problems that are important and that might offer opportunities for useful action. A very long initial list of global problems was assembled. The panel of economists then narrowed that list to 10 Challenges: climate change, communicable diseases, civil conflict, access to education, financial instability, governance and corruption, malnutrition and hunger, migration, sanitation and access to clean water, and subsidies and trade barriers.

For each Challenge, a specialist was commissioned to write a paper identifying several specific proposals for useful intervention, and two additional specialists were commissioned to prepare comments. The panel of economists read the 10 papers and 20 comments, and then met for a week to hear presentations from the 30 specialists.

Overall, the Challenge papers were excellent, as were the comments. The experts were well chosen, and they took their assignments seriously. The proposals were diverse, and the discussions they provoked during the panel's week in Copenhagen were wide ranging, stimulating and informative. The schedule was tight, a three-hour session in the morning and another in the afternoon, for five hectic days, writing up notes and making calculations during lunch and at the end of each day. The discussions ranged far and wide, including digressions on demography, medicine, history, politics, institutional change and other topics. It's a pity that a hidden tape recorder wasn't taking it all down. Anyone who fears that a group of economists doing benefit/cost analysis will not take their eyes off the numbers long enough to consider the whole picture should rest easy. Economists like numbers, but we seem to enjoy even more a spirited debate of the issues surrounding the numbers.

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The first step was to identify broad areas with problems that are important and that might offer opportunities for useful action. A very long initial list of global problems was assembled. The panel of economists then narrowed that list to 10 Challenges:

1. Climate change
2. Communicable diseases
3. Civil conflict
4. Access to education
5. Financial instablility
6. Governance and corruption
7. Malnutrition and hunger
8. Migration
9. Sanitation and access to clean water
10. Subsidies and trade barriers

Copenhagen Consensus

The Copenhagen Consensus project was organized in 2002–03 by Bjørn Lomborg, the author of the controversial book *The Skeptical Environmentalist*. The project was funded by the Danish Ministry of the Environment, the Tuborg Foundation, the Carlsberg Bequest to the Memory of Brewer I.C. Jacobsen and *The Economist*.

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The discussions and debates notwithstanding, in the end the individual and group rankings did show considerable agreement. For example, there was a strong consensus about the four top-ranked proposals: to control HIV/AIDS, to provide micronutrients where deficiencies exist, to liberalize world trade and to control malaria. Three of these proposals were targeted directly at saving lives and improving health. There was also strong consensus about the bottom-ranked proposals, which involved emissions abatement. These proposals involved extremely costly measures in the near term and produced benefits in the distant future.

The top- and bottom-ranked proposals reflect two general issues that arose in calculating cost and benefit figures: choosing a discount rate and valuing lives. The discount rate was the easier task. It is an issue that arises in evaluating any type of investment project. The basic idea is simple: \$100 in the future is not the same as \$100 right now, with the difference depending on the interest rate. For example, if \$100 is invested at an interest rate of 5 percent, in three years it is worth \$100 x 1.05 x 1.05 x 1.05 = \$115.76. By the same token, a claim to \$100 three years from now is worth only \$100/(1.05 x 1.05 x 1.05) = \$86.38 today.

Consequently, if a project has costs and benefits that arrive over a number of years, those values must be appropriately discounted to make them comparable to each other. If all of the costs and benefits accrue within a fairly short time span, the choice of the discount factor is not terribly important, but if the benefits arrive in the distant future, the discount factor is critical. An example illustrates why this is so. Suppose a project has a cost of \$100, paid in the first year, and produces benefits of \$100 per year in each of the next five years. At discount rates of 0 percent, 2 percent and 5 percent, the resulting B/C ratios are 5, 4.7 and 4.3. If the benefits arrive after 100 years, the ratios are 5, 0.62 and 0.025. In the first case, the B/C ratios are different, but in the second, they are wildly different. At a discount rate of 0 percent, the ratio exceeds one and the project looks appealing. At discount rates of 2 percent and 5 percent, the ratio falls below one, indicating that the costs exceed the benefits and the project should not be undertaken.

Most of the panel members, including me, adopted a 5 percent discount rate. It is a reasonable figure, falling within the range of various market interest rates, and it had the practical advantage of being the one used in most of the proposals.

The problem of valuing lives was a harder one. Many of the projects involved measures to save lives or, to use the technical term, avert premature deaths. To compare these projects with each other and with projects involving other types of benefits, the panel needed to choose a consistent method for valuing lives or life-years. Many of the Challenge paper authors valued life-years using average annual per capita income in the relevant country or region, usually around \$1,000. This approach sets the value of a life at the value of the economic goods and services that person produces or consumes. The panel of economists quickly agreed that this figure was far too low. A principle suggested by one panel member was adopted instead, to value a life as the individual would value it. To arrive at a figure, one estimates how much people are willing to spend, out of their own pockets, to reduce the risk of accidental death. For example, people are willing to pay more for cars with airbags and other protective features. Although estimates of this willingness to pay are imprecise, evidence from developed countries suggests that individuals value life-years at around five times annual per capita income. For an annual income of \$1,000 and a discount rate of 5 percent, this leads to a figure of approximately 5 x \$1,000/.05 = \$100,000 for the value of a life saved.

Since the goal was to show that projects can be prioritized in a meaningful way, it is illuminating to look at the whole range of proposals considered and to examine some of the cost and benefit figures put forward by the authors. These figures vary greatly in terms of reliability, with some based on extensive previous research and others put together for this project on the basis of available information. All of the figures should be viewed as rough estimates. In some cases, too little quantitative information was available, and no B/C ratios were offered. The next section describes the proposals and reports the B/C ratios calculated by the authors. The final rankings are then discussed in more detail.

The Challenges

Climate change Global warming is an important issue for the developing world as well as the developed one. Estimates of the eventual losses if nothing is done are in the range of 0.75–1.0 percent of gross domestic product (GDP) for the United States, but the effects

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Climate change

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could be catastrophic in some developing countries, especially those in warm, dry regions. Agricultural areas in Africa and Asia that are marginal now could become true disasters. And while the economic losses in the developed world may be larger in absolute value, the poorer regions of the world will be less able to cope with declines in income.

Evidence is building that human activity alters the climate, that it is noticeable already and that it will worsen over the next century or two. But while there is widespread agreement among scientists that higher levels of carbon dioxide and other greenhouse gases in the atmosphere trap heat, the quantitative relationship is still uncertain. The effect of doubling the atmospheric concentration of greenhouse gases is thought to be an increase in global temperature of around 1.5–4.5 degrees C, but it could be higher. The economic effects are unlikely to be substantial in the near term, however. Even the author of the Challenge paper, a strong advocate of immediate action, noted that the standard time horizon for calculating the economic consequences of rising temperatures is at least one century.

Three proposals were put forward: a global emissions tax; implementation of the Kyoto protocol, which allocates an emissions "quota" to each developed country (although it leaves developing countries, including China and India, unrestricted); and a policy similar to Kyoto in structure but with much lower quotas. The third proposal was based on a pessimistic forecast about the climate consequences of doubling the atmospheric concentration of greenhouse gases: a temperature increase of 9.3 degrees C instead of 1.5–4.5 degrees C.

All three proposals entailed extremely high costs in the near term and benefits arriving after a century or more. Thus, the key issue for this Challenge was the choice of a discount rate. At a discount rate of 0 percent, the number favored by the author, the three proposals had B/C ratios of 2.1, 1.8 and 3.8. At a discount rate of 3 percent, also reported in his paper, the ratios were 0.3, 0.2 and 0.3. At a 5 percent discount rate, the ratios would have been even lower: All of the proposals had costs exceeding benefits by wide margins. The panel's overall conclusion was that climate change is a problem and it should not be ignored, but given current technology, reducing emissions drastically over the next few years is far too costly relative to the benefits it would produce.

In addition to the proposals offered by the Challenge paper, the panel discussed research and development to improve the science about links between greenhouse gases and climate, to improve technologies for reducing emissions and to develop alternative ways to reduce the climate effects of greenhouse gases. The notion of a small tax was also discussed, one designed to raise public awareness and to start building institutions to coordinate international efforts to reduce greenhouse gases.

Communicable diseases Enormous strides were made in improving health during the 20th century, in poor countries as well as rich ones. Nevertheless, poor countries still have significantly higher mortality rates. Both of these facts are displayed in Figure 1 (right), which plots life expectancy at birth against per capita GDP for about 100 countries, for 1962 and 2002. In each year, life expectancy increases with income per capita, especially at low income levels. In addition, it rises significantly at every income level over the four-decade period. For most countries, improvements in life expectancy came from both factors. Higher incomes led to better nutrition and health care and, in addition, technological improvements in health care—better vaccines and better treatments for infectious diseases—improved survival rates even at constant income levels.

In low-income countries, much of the improvement came from reductions in the mortality rate for children under five, but in some regions, the mortality rate for this group remains high. As Table 1 (right) shows, three communicable diseases are among the leading causes of death in children in developing countries: malaria, measles and HIV/AIDS. (Diarrhea is also an important problem, but the most important weapon against it is access to clean water. A proposal along these lines is put forward in the Challenge paper on sanitation and water.)

Additionally, in some countries of sub-Saharan Africa (SSA), the arrival of HIV/AIDS, the appearance of resistant strains of tuberculosis and a resurgence of malaria have eroded much or all of the earlier gains in life expectancy.

Three proposals were put forward: for control of malaria, for control of HIV/AIDS and for strengthening basic health services. These proposals illustrate the range of opportunities available for reducing mortality and improving health. Malaria affects

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Communicable diseases

Figure 1 Life Expectancy vs. GDP

Sources: GDP per capita is from the Penn World Tables 6.1. It is a chain index that uses 1996 international prices. Life expectancy is from the U.N. World Development Indicators.

Table 1 Leading causes of death in children in developing countries, 2002

Cause	Number (000)	% of all deaths
Perinatal conditions	2,375	23.1
Lower respiratory infections	1,856	18.1
Diarrheal diseases	1,566	15.2
Malaria	1,098	10.7
Measles	551	5.4
Congenital abnormalities	386	3.8
HIV/AIDS	370	3.6
Pertussis	301	2.9
Tetanus	185	1.8
Protein-energy malnutrition	138	1.3
Other causes	1,437	14.0
Total	10,263	100.0

Source: Lomborg (2004, Table 2.1)

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people of all ages but is an important cause of death mainly for young children. HIV/AIDS affects adults of working age, so an important part of its cost is the loss of a wage earner suffered by the family. Improving basic health services—community health centers, clinics and local hospitals—has broad benefits. Health centers provide important services for vulnerable groups like pregnant women, infants and young children, and they also provide the infrastructure needed to implement disease-specific programs like the malaria and HIV/AIDS initiatives.

It is difficult to measure the cost of illness with precision. In poor countries, many health costs must be paid out of pocket. The income of the ill individual is lost, and additional income is lost from time required by family and friends to care for the ill individual. Thus, the value of saving a life is a conservative estimate of the benefit from intervention.

Efforts during the last century were effective in eliminating malaria from large parts of the world, but more recently the situation has stagnated or worsened. The earlier gains were made in regions where control—often by draining swamps and eradicating mosquitoes—was easier. In the areas where malaria remains, mainly SSA, those measures are impractical. The problem has also become more difficult as the *Anopheles* mosquito has developed resistance to older insecticides and the malaria parasite has become resistant to earlier drug therapies.

Typically, people in malarial regions are infected when they are young. If they survive into adulthood, the parasite remains in their bodies, causing periodic episodes of illness. These episodes are not usually fatal for adults, but they are incapacitating.

SSA has 90 percent of remaining malaria cases, and in that region malaria causes 20 percent of deaths in children under five. A recent and highly successful program in the KwaZulu-Natal province of South Africa served as a model for the proposal here. The program has three parts: provision of insecticide-treated bed nets, treatment for pregnant women and the use of a combination drug therapy (ACT) to treat symptoms in adults. Bed nets are especially important for young children, for whom malaria is often fatal. Treatment of pregnant women is useful because of the vulnerability of the unborn child. And ACT drug therapy, while more expensive than the older drugs, is much more effective in controlling symptoms when they occur. The reported B/C ratio for the entire package of malaria control measures was 39, but this figure valued life-years using per capita income.

HIV/AIDS was the cause of around 3 million deaths in 2003. About 40 million people were infected at that time, and there are about 5 million new infections per year, the vast majority in developing countries. And unless action is taken soon, infection rates will surely rise. The cost of prevention is much lower than the cost of treatment, and prevention itself is less costly if it is undertaken before infection rates explode in the general population.

Infection rates are not well measured, but they are very high, over 5 percent, in southern and eastern Africa and in a few countries in West Africa. In some areas, rates are perhaps as high as 40 percent. A large proportion of transmission is in the sex industry, and the highly successful 100 percent condom program in Thailand is a model for reducing that channel of transmission.

The HIV/AIDS proposal involved condoms and treatments for sexually transmitted diseases for sex workers, female condoms for a much broader group, programs for blood safety and prevention of mother-to-child transmission. The cost for these various initiatives was about $6 billion per year over five years, and the benefit would be to avert about 2.5 million new infections per year. The authors estimate the B/C ratio for the entire package to be 43.

The benefits from expanding basic health services are particularly hard to quantify. Local clinics and hospitals can provide inoculations and vitamin supplements, as well as primary medical care. They also facilitate the delivery of specific interventions like the malaria and HIV/AIDS programs just discussed. In regions that lack a network of basic health services, delivery of other programs may be impossible. The B/C ratios were estimated to be in the range of 2.5–5.8.

Civil conflict Wars are very costly. In addition to the direct financial burden and loss of life, they also exact large tolls in other dimensions. Displaced civilians who lack adequate food, shelter and clean water suffer high rates of disease and increased mortality. Investment is deterred, retarding growth. And the social fabric is torn in other areas as well: Education suffers, infrastructure deteriorates and so on. In recent decades, civil wars have been the most common type of conflict, and they were the focus of the proposals here.

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Civil conflict

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Access to education

Table 2 Primary school enrollment

	Enrollment rate (net)
Low income	85
Middle income	88
High income	95
SSA	56
South Asia	83
Middle East/North Africa	84
East Asia	93
Latin America	97
East Europe/FSU	88
OECD	97

Source: Lomborg (2004, Table 4.1)

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Civil wars have consequences that radiate like ripples in a pond, affecting neighboring countries as well as the nation at war. Regional costs include economic consequences from reduced trade, and social and health costs from the inflow of refugees. In addition, high military spending in a country suffering a civil war often makes its neighbors feel less secure and leads them to raise their own military spending as well. The resulting "neighborhood arms race" siphons off resources and increases the risk of across-border conflict. A rough estimate is that total regional costs may be two or three times the annual GDP of the country with the civil war. Global costs include the fact that war-torn countries can provide safe havens for illegal drugs or terrorists.

Three broad categories of intervention were considered: to prevent conflicts, to shorten their duration and to reduce the risk of relapse in situations where conflict has ceased. Of the three, the last seemed to offer the most promising prospects for intervention.

The risk of relapse is high after a conflict has ended, and it remains high for a decade. Half of all civil wars are relapses that occur within the first decade after the last war ended, and typically there are about 12 countries in this one-decade window. Outside military intervention is an attractive option for reducing the risk of relapse.

After a conflict ends, an important concern is maintaining stability. One way to do this, or at least one way that appears attractive, is with a strong military. But high military spending in this situation raises the probability of relapse, suggesting that there is a useful role for outside peace-keepers. A successful example is the British intervention in Sierra Leone in 2000, after the end of the civil war. The British force was brought in at the request of the government, and it was effective in establishing and maintaining peace. The cost was quite modest, $50 million per year.

One specific opportunity with promise is to promote greater transparency and better tracking in resource markets. An international agreement that involves certification to the purchaser that rough diamonds are from a legitimate source has almost eliminated the market for "conflict diamonds." In earlier years, profits from these diamonds had financed rebel movements and contributed to devastating civil conflicts in Angola, Côte d'Ivoire, the Democratic Republic of Congo and Sierra Leone. Similar tracking in other markets might reduce the funds available to potential combatants.

Access to education Large urban school districts in the United States have found it difficult to raise the quality of education at failing schools. The public school systems in Chicago, New York, Los Angeles and elsewhere have struggled to reduce dropout rates and raise achievement. Schools in developing countries also face these problems, and others as well.

Table 2 (left) displays primary school enrollment rates for various groups of countries, sorted by average income (top panel) and geography (bottom panel). As the top panel shows, even for low-income countries, the average enrollment rate is fairly high. But as the bottom panel shows, the average masks very low rates in certain regions, notably SSA and South Asia. In addition, enrollment rates for girls are substantially lower than those for boys in a number of countries.

In some places, physical expansion of facilities is needed: The closest school is too far away to be easily accessible. Instructional material—paper, pencils, books and chalk—are woefully lacking in some places, and teachers are often poorly trained and poorly motivated. But in most places, the more important problems are that children never enroll at available schools, they enroll but drop out too soon or they attend but fail to achieve. Thus, improving quality is more important than expanding scope.

The author of the Challenge paper offered only one serious proposal, a call for "systemic reform." His view was that extensive research on the relationship between expenditures and student achievement has been unable to establish a close link. Thus, absent more fundamental reforms, increasing spending levels may do nothing to improve performance. In a general sense, lack of accountability is the underlying problem.

But "systemic reform" and "increased accountability" are not easy to define or implement even in the United States, in settings with well-functioning, well-intentioned local and state governments. In developing countries, the situation is even bleaker. Can anything be done within the current (very poor) institutional environment in those countries?

The panel members and discussants were more optimistic than the Challenge paper author. One

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interesting proposal was offered by a discussant. School fees are common in many developing countries, and though they seem low by developed-country standards, for poor households they are prohibitive. School fees were eliminated in Malawi in 1994 and in Uganda in 1997, and in both places, school enrollment and attendance rose quickly and substantially.

A back-of-the-envelope benefit/cost calculation was made for the program in Uganda. The median cost of primary education in SSA is $45 per pupil per year. (The figure for Uganda is much lower.) One major benefit from higher educational attainment is the increased lifetime earning of the individual. Psacharopoulos and Patrinos (2004) estimate that for SSA as a whole, the average rate of return to each additional year of primary education is 11.7 percent. (The estimate for Uganda is actually higher.) Using per capita income figures for SSA, this implies that an additional year of schooling raises income by $64 per year. Thus, for an interest rate of 5 percent and a working lifetime of 25 years, it raises the present value of lifetime earnings by $900. (Using per capita income in Uganda would almost double this figure.) Thus, a conservative estimate of the B/C ratio from eliminating primary school fees in Uganda is 900/45 = 20.

Other evidence confirms that school attendance responds to economic incentives. For example, Miguel and Kremer (2004) found that an experimental program in Kenya offering meals and a deworming program raised attendance, and Schultz (2004) concluded that the Progresa program in Mexico, which offered modest cash incentives, was effective in persuading families to keep their children in school.

Financial instability Financial crises are not typically a problem in low-income countries, where financial markets are too poorly developed—and in some places repressed altogether—to permit crises. Instead, financial instability is, for the most part, a problem of middle-income countries like Argentina, Bolivia, Mexico, Korea, Thailand and Indonesia.

What are the sources of these crises? Unsustainable fiscal policy is one. Governments that routinely spend more than they collect in tax receipts must borrow to cover the deficit. As their debt accumulates, the pressure to escape it grows as well, and they become susceptible to mounting investor skepticism about the government's ability or willingness eventually to repay. A financial crisis occurs when the government finds itself unable to roll over the outstanding debt at a tolerable interest rate.

Institutional weaknesses may also contribute. Balance sheet vulnerabilities in the banking sector, such as mismatches of assets and liabilities in terms of their maturity structure or the currency in which they are denominated, may contribute. Weak regulation of the banking sector and poor corporate governance may lead to excessive risk taking and increased vulnerability.

Most of these problems are not readily addressed by intervention from outside, however. The proposal offered by the Challenge paper author instead addressed the issue of "currency mismatch." Borrowers in emerging markets usually are forced to write contracts in hard currencies, such as U.S. dollars, euros, pounds sterling or yen. Consequently, exchange rate movements can wreak havoc on their financial position.

The proposal was to have the World Bank and other international financial institutions create a new set of financial instruments to address currency mismatch. These new instruments would consist of debt denominated in an inflation-indexed basket of emerging market currencies, an EM index. To create a "thick" market, the World Bank and the G-10 countries would issue EM-denominated debt as a substitute for issues that they would have made in hard currencies.

The cost of this proposal is the premium that investors would demand from these high-quality borrowers for debt denominated in the EM index rather than in dollars or other hard currencies. This premium would depend on the expected change in the exchange rate between the EM index and the dollar, the risk premium for holding EM-denominated debt and a premium for holding debt in a (presumably) less liquid market. The benefits for emerging-market borrowers would be the avoidance of currency mismatch and the consequent avoidance of financial crises. The author estimated the annual costs to be $0.5 billion and the benefits to be $107 billion, for a B/C ratio of 214.

The logic of this proposal is appealing, but nothing like this has ever been tried, and several questions arise. First, if the gains from creating this new financial instrument are large, why isn't it a good profit opportunity for the private sector? The pro-

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posal assumes that transaction costs and network externalities, the need for a "thick" market, are the key problems that prevent private parties from creating the missing markets. But similar transaction costs have not impeded private-market solutions in similar areas. For example, private markets have been the vehicle for the growing share of EM stocks in developed-country portfolios, without any encouragement from the outside.

In addition, any country can avoid the currency mismatch problem by simply dollarizing or euroizing on its own. The costs of doing so would be the forgone seigniorage and an inability to conduct monetary policy. If currency mismatch is an important source of financial crises, this route should be attractive to sovereign states, without any intervention. The fact that to date no country has taken this route suggests that currency mismatch may not be a major factor behind financial crises.

To the extent that the problem arises from poor government policy in EM countries, the new market instrument proposed here would not help much. Countries that find it difficult to borrow are often those that have a history of inflating away their debts or engaging in outright default, and financial engineering cannot help a government that lacks the ability or will to meet its debt obligations.

Governance and corruption According to researchers at the World Bank, bribery totals roughly $1 trillion per year worldwide. Moreover, outright bribery is only part of the broader problem of corruption and poor governance, and perhaps not even the largest part.

Clearly, there is no single solution to this problem. Five options were offered here: improving accountability at the grass-roots level, benchmarking cost estimates for public projects, simplifying tax systems and implementing incentive-based reform, streamlining business regulations, and increasing transparency in international contracts for natural resources and tracking assets of corrupt officials. (The last echoes one of the proposals on civil conflict.)

The benefits of improving governance are potentially large. For example, higher levels of corruption are associated with lower levels of investment and lower expenditures on education, so it is likely that poor institutions hamper growth. Nevertheless, it is not clear what tools are available to reduce corruption or strengthen weak institutions. Military intervention from the outside is an extreme option, very costly and with no guarantee of success. Revolution from the inside is sometimes the solution, and outsiders can provide financial and other assistance to internal reformers.

Less extreme measures may be of some use, but even the methods that work against pockets of corruption in a generally well-functioning government are unlikely to be effective when corruption is extreme and permeates the entire political system. The groups that benefit from bribes and corruption usually have considerable political power and resist change. Outsiders can advocate reform, calling for more accountability, enhanced transparency, tax reform, less red tape and so on. Doing so is inexpensive but probably not very effective. Providing cost benchmarks for public projects could be useful, and increasing transparency in international transactions involving natural resources may be worthwhile.

Malnutrition and hunger While the United States fights an epidemic of obesity, chronic hunger and malnutrition affect 800 million people worldwide. The costs of chronic malnutrition are large in terms of both financial losses and human suffering. Poorly nourished populations are less productive, more susceptible to infectious disease and more likely to suffer premature mortality. Although hungry people can be found around the globe, the problem is especially acute in Asia, with 500 million malnourished people, and in SSA, with 200 million.

Four proposals were offered: reducing the prevalence of low birth weight, promoting infant and child nutrition and exclusive breast-feeding, reducing deficiencies of micronutrients (iodine, vitamin A, iron and zinc) and investing in technology for developing-country agriculture.

Malnutrition often begins *in utero*. Low birth weight (LBW) babies suffer a plethora of problems, including higher mortality rates, increased susceptibility to infectious diseases, physical stunting and impaired cognitive development. Thus, maternal malnutrition is an important issue.

After birth, the first two or three years of life are also critical. More than half of child deaths in developing countries can be attributed, directly or indirectly, to poor nutrition. In addition, severe malnutrition early in life leads to lower activity levels, impaired cognitive development, poorer fine motor skills, slower learning and lower ultimate attainment in school.

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Malnutrition and hunger

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The first two proposals address these problems. One involves interventions targeted at pregnant women: preventing and treating various microbial and parasitic diseases, providing iron/folate supplements and providing targeted food supplements. It also involves raising awareness of the effects of close birth spacing and early motherhood on the risk for LBW. The other involves improving information about the positive effects of breast-feeding and about complementary foods for young children. The B/C ratios for these projects were 4 and 3.

The third proposal addresses a somewhat different problem. Deficiencies in certain micronutrients have particularly severe effects, even if calorie intake is adequate. Iodine deficiency in pregnant women increases the risk of LBW and infant mortality. In infants, it affects development of the central nervous system and reduces cognitive ability. Iron deficiency *in utero* and in infants and young children also affects development of the brain. Vitamin A deficiency leads to higher risk of infant and child mortality and can lead to blindness at any age. Zinc deficiency results in slower physical growth, measured by either height or weight.

The proposal to reduce micronutrient deficiencies involved two approaches, provision of supplements and food-based programs. The latter includes fortifying foods already in the diet and promoting consumption of specific nutrient-rich foods. The overall B/C ratio was 36.

For iodine, fortifying table salt is a cheap and effective method that produces striking effects very rapidly. A program in China reduced the fraction of school children with iodine deficiency by 75 percent in five years. In regions where fortifying salt is impractical, an alternative is capsule distribution. This approach is much more expensive, but the high cost may be justified for targeted groups, like women in their childbearing years.

Vitamin A supplements are inexpensive and can be given in large doses. A program providing two doses per year is quite effective and costs about $1 per person per year when implemented as an add-on to an existing health program. Children can receive supplements at school. Fortification of flour, sugar, oil or margarine can also be effective, although fewer data are available for programs of this type. Fortification may be less costly, but its coverage may also be lower, since people may continue to buy unfortified products if they are available and cheaper.

Megadoses are not suitable for iron, so supplements must be given on a weekly or daily basis. For children, they can be provided at school. In an experimental program in Kenya, providing deworming medicine and daily supplements in school was effective in reducing iron deficiency anemia (and raising school attendance). For pregnant women, iron supplements can be implemented as an add-on to other programs targeted at that group. For the general population, the fact that daily doses are most effective means that fortification (of flour, rice or salt) is an attractive alternative. A program in Ethiopia that distributed iron cooking pots was also quite effective.

The fourth proposal was for investment to improve crop varieties, producing varieties with higher yields, higher levels of micronutrients, improved responsiveness to fertilizer and water, reduced need for pesticides, higher resistance to pests and drought or shorter time to maturity (to allow double or triple crops per year). Assessments of previous investments of this type, such as those that led to the green revolution and "golden rice," suggest that the returns on projects of this type are high. The B/C ratio was estimated to be 15.

Migration A total of 175 million people, about 3 percent of the world's population, live outside their country of birth. Although political and ethnic/religious persecution play some role, most migration is economically motivated: People move to improve their earning prospects. About 60 percent of migrants are found in the developed countries. Potential migrants face formidable barriers, however. Many destination countries tightly restrict legal migration and make illegal entry expensive or dangerous or both.

Three proposals were offered for managing migration. The first was a selective policy, designed to target "successful" migrants. The idea is that high-skill migrants are more easily assimilated and create less social tension. The models for this proposal are the policies in Canada and New Zealand, where potential immigrants are screened on the basis of education, language skills and other attributes. These policies have been successful in the sense that they have permitted a significant number

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of immigrants (around 220,000 per year in Canada, a country of 30 million people) while minimizing resistance among the native born.

The second was a guest worker policy, targeted toward unskilled workers. An important question with such programs is whether it is feasible—or desirable—to encourage short-term migration. In the past, many migrants of this type have eventually settled permanently, despite rules designed to make them temporary. Even if their temporary status could be enforced, it is not obviously better for either the migrant or the receiving society. Explicitly temporary workers have less incentive to develop language skills, bring families or otherwise become assimilated into their new environment, and the lack of assimilation may exacerbate social tension and political backlash.

A third proposal involved various special taxes and transfers with two goals in mind: to encourage workers on explicitly temporary visas to return home at the end of their stays and to redistribute some of the economic gains from migration to the sending countries. An expanded role for the state in managing the types of migrants, where they work and how long they stay creates problems of its own, however. An additional bureaucracy would be needed to collect special taxes on immigrants, and allocating those revenues would create political pressures.

What are the benefits and costs of lowering the barriers to migration, and how are they distributed across various interest groups? Clearly, the movers themselves benefit. Data for U.S. immigrants indicate that on average their earnings increase by 85 percent compared with the year before they move. Moreover, the probability of finding work and the proportionate wage gain conditional on employment are about the same at every educational level. In the receiving country, owners of capital also benefit, but native-born workers who must compete with the immigrants suffer. Both of these effects are reversed in the sending country.

If employed, immigrants pay taxes and add to social security contributions in the receiving countries. They also increase the demand on public schools and other social services, and they may strain the welfare system if too many are unemployed. The modern welfare state makes the cost high if immigrants fail to find jobs, and the extension of social welfare benefits may encourage jobless, welfare-dependent migrants. This group is exactly the one that creates social and political backlash. The problem is exacerbated if legal migrants face competition from (lower-wage) illegal migrants, and periodic amnesties encourage the latter.

The appropriate policies may differ across developed countries. U.S. labor markets are more flexible than those in Europe, and U.S. society is more open. Thus, the United States may be in a better position than Europe to admit immigrants of all types.

Sanitation and access to clean water At the turn of the millennium, 1.1 billion people worldwide lacked access to clean water and 2.4 billion lacked access to basic sanitation.

Lack of clean water and basic sanitation results in 2 million deaths per year, 90 percent of them young children, from diarrheal diseases. It is also a factor in other diseases, like malaria, schistosomiasis and Guinea worm. Over 2 billion people are infected by schistosomiasis, with 300 million suffering serious illness. Well-designed water and sanitation investments reduce these infections by three-quarters. Pollutants like heavy metals and pesticides are also a problem: Over 50 million people in Asia drink water with high levels of arsenic.

At the same time, 800 million people living in rural areas lack access to adequate water for agriculture. Since green revolution crop varieties require more water, farmers who cannot afford wells and pumps cannot take advantage of these improved crops.

The proposals here included investment in community-based water and sanitation systems (standpipes and latrines), investment in small-scale water technologies for agriculture and investment in research to improve water productivity in food production.

The magnitude of the problem at first seems overwhelming, but the situation is less dire than the numbers suggest. About half of those without clean water and basic sanitation live in China and India, countries that have enjoyed rapid economic growth over the last two decades. Both of these countries are well poised to make the necessary investments on their own, and the same is true in a number of other countries. In South Asia, there has also been a spontaneous rise in the use of groundwater or pump irrigation systems powered by small engines.

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Sanitation and access to clean water

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Sub-Saharan Africa, with around 360 million unserved people, is another story. Here there is little reason to think that the problem will be solved without outside assistance. Intervention should be focused on this region and a few others, where growth is stalled and internal investment will probably not be forthcoming anytime soon.

Carrying dirty water from streams and rivers requires substantial time and energy, so even the very poor are willing to pay for easy access to clean water for drinking, cooking and so on. The benefits from basic sanitation, on the other hand, are largely public, and the private willingness to pay is correspondingly less. Many of the health benefits derive from better sanitation, however. A successful strategy is to fund linked projects that make initial investments in both types of infrastructure. Subsequently, user fees for water can be employed to finance maintenance for both systems. The B/C ratio was reported to be 5, but that figure did not include any provision for lives saved through reduction of diarrheal and other diseases.

The proposal for water for agriculture involved investments in small-scale projects: small, low-cost electric and diesel pumps, treadle pumps, bucket and drip lines, rainwater harvesting, micro-sprinkler systems, drip irrigation lines and low- or zero-till agricultural techniques. Costs for these technologies are already low—at most a few hundred dollars and much less for some—and are falling further. In some areas, spontaneous markets for these technologies are already growing. In other areas, social marketing, micro-credit lending and programs for training and technical support can be useful in spurring adoption. The benefits from these investments take the form of higher yields from crops currently under cultivation and the ability to switch to high-yield varieties or to high-value cash crops. The B/C ratio was estimated to be 7.

The third project was funding of further research to develop crop varieties that are less water-dependent, an idea that has substantial overlap with one of the hunger and nutrition projects. The B/C ratio was estimated to be in the range of 15–20.

Subsidies and trade barriers Liberalizing world trade is the closest thing to a free lunch that one can imagine. Reducing subsidies and lowering trade barriers would cost little in terms of direct outlays—indeed, reducing subsidies would save money—and doing so would raise income levels and growth rates around the globe.

The potential gains from liberalizing world trade are enormous. Using large-scale models, various research teams have calculated gains that range from $254 billion to $2,080 billion per year (in 1995 U.S. dollars). As shown in Table 3 (right), low-income countries would reap about 43 percent of the total gains.

Many of the gains from lowering trade barriers would accrue from unilateral action. Own-country reforms lower prices for consumers and shift the allocation of resources toward more efficient producers. The effect is especially strong for small economies, which have the most to gain from the ability to purchase in the global marketplace.

Given the magnitude of these potential gains, why hasn't progress toward free world trade been faster? Only a small number of low-income countries depend on tariffs as an important source of government revenue, but trade taxes are widespread. The purpose of these taxes is typically to protect producers, both workers and owners of capital, in certain industries or sectors. Since protection arises for political reasons, any attempt at reform must confront the fact that protective tariffs arise as the equilibrium of a political process. Nevertheless, better information about the potential benefits can help to change the outcome of this process, as can programs that offer temporary assistance to those who will lose when tariff protection ends.

At present, the World Trade Organization's efforts to expand the scope of nonpreferential trade agreements offer the most promising steps toward general liberalization of world trade. Other avenues are reciprocal, preferential agreements, like the North American Free Trade Agreement and the proposed Free Trade Area of the Americas, and nonreciprocal preferential agreements like the one proposed by the Organization for Economic Cooperation and Development to allow free market access to a specific list of least-developed countries. But preferential agreements generate much smaller gains, and they lead to trade diversion as well as trade creation, imposing losses on the excluded economies that can completely offset the gains to the insiders.

Openness also seems to stimulate growth. The data are not entirely clear, since lower trade barriers and faster growth may both simply result from

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Subsidies and trade barriers

Table 3 **Regional gains from trade**
(% of total gains)

	Liberalizing region		
	Low-income	High-income	Total
Low-income	25.6	16.9	42.5
High-income	19.5	38.0	57.5
Total	45.1	54.9	100.0
Benefiting region			

Source: Lomborg (2004, Table 10.2)

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better overall government policy. Nevertheless, both economic reasoning and evidence suggest that a direct link is plausible. For example, in many countries, the ability to purchase imported capital equipment at reasonable prices is an important factor in investment decisions. Chile and China, which liberalized in the 1980s, and India, which followed suit a little later, all enjoyed rapid growth afterward.

If lowering trade raises growth rates by even a modest amount, the gains will be enormous. Aggregating over time, and allowing a modest impact of trade on growth rates, the present discounted value of the total net gain from a complete liberalization is a staggering $44 trillion (in 2002 U.S. dollars). A more modest reform has about half those benefits, with a B/C ratio of 24.

The Rankings

In total, about 30 serious proposals were put forward. Given the overall goal of the project, the big question was then: Was there consensus? That is, did the panel members agree—more or less—on which projects should be given the highest priority? Note that consensus in this sense does not require agreement about the numerical values for the B/C ratios attached to various projects. It only requires similar rankings for those ratios, and hence for the projects, and only at the top of the list.

Among the 30 serious proposals put forward in the Challenge papers, about half came with B/C ratios calculated by the authors. Table 4 contains a summary of those ratios. (The list omits "straw men" and a few proposals that were left unranked for other reasons.)

The quantity, quality and detail of the cost and benefit figures that went into these B/C ratios varied greatly across areas and projects. The papers on climate change and international trade drew on a wealth of earlier research explicitly aimed at estimating costs (for climate change) and benefits (for both). The proposals on communicable diseases, water and sanitation, and nutrition used evidence from earlier projects, both to identify successful project designs and to estimate costs and benefits.

The papers on civil conflict, financial crises, governance and migration, on the other hand, while providing good discussions of the problems and some interesting and innovative ideas for solutions, had little to draw upon in terms of historical evidence or previous research. The paper on education took a pessimistic view of what could be done with extra resources, and its only serious proposal, a call for systemic reform, had no figures attached.

None of the ratios reported in Table 4 can be viewed as accurate, and for some, "rough estimate" is a generous description. The discussions brought out information about important omissions and biases, and about the reliability of the data underlying the cost and benefit figures.

In some cases the direction of a bias was clear, even if the magnitude was not. Saving lives was always undervalued relative to the method described earlier, so the B/C ratios in Table 4 are understated for projects where that is an important benefit. The climate change proposal used only low discount rates, causing the B/C ratios to be overstated. The benefits of trade liberalization have been intensively studied, but the costs have not been. The cost figure used to calculate the ratio in Table 4 was deliberately chosen by the author "so as not to exaggerate the net gains from trade reform." Thus, the true B/C ratio is likely much higher. The proposal for reducing financial instability is novel, and there is no direct evidence on whether it would be effective. The proposed reform might have enormous gains at negligible cost, as claimed by the author, or it might achieve nothing. The true B/C ratio could be zero.

So the figures in Table 4 should be taken with many grains of salt, and the panel members took them that way. Indeed, if the figures were accurate, the panel of economists and the week of discussions would have been superfluous: Anyone could simply set aside the projects without B/C ratios and rank the rest.

In the end, each panel member adjusted the figures in Table 4, explicitly or implicitly, for factors he or she felt had been misvalued or omitted, and ranked as many proposals as he or she felt able to assess. These individual rankings were then aggregated. Most panel members ranked approximately the same group of proposals, producing in the end a group ranking of 17 projects.

Was there consensus? Table 5 (right) displays the individual and group rankings. Consensus, like beauty, is in the eye of the beholder, but to me the rankings display a great deal of agreement. At the top of the group ranking are four projects: to control HIV/AIDS ($27 billion), to provide micronutrients ($12 billion), to liberalize world trade and to control malaria ($13 billion). Most of the panel members ranked the first two of these very high, and there was

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Table 4

The Proposals

Challenge	Proposal	B/C ratio
Climate change	Optimal carbon tax	0.3
	Kyoto Protocol	0.2
	Value-at-risk carbon tax	0.3
Communicable diseases	Control of malaria	39
	Control of HIV/AIDS	43
	Scaled-up basic health services	3-6
Civil conflict	Intervene to prevent relapse into civil war	
	Enhance transparency in revenue for resources	
Access to education	Systemic reform	
Financial instability	Create market for EM-denominated debt	214
Governance and corruption	Grassroots monitoring and service delivery	
	Procurement reform	
	Reform of revenue collection	
	Lower the cost of starting a business	
	Enhance transparency in revenue for resources	
Malnutrition and hunger	Reduce the prevalence of LBW	4
	Improve infant and child nutrition	3
	Provide micronutrients	36
	Develop new agricultural technologies	15
Migration	Lower migration barriers for skilled workers	
	Guest worker programs for the unskilled	
	Managed short-term migration	
Sanitation and access to clean water	Community-managed water supply and sanitation	5
	Small-scale water technology for agriculture	7
	Research on water productivity in food production	15-20
Subsidies and trade barriers	Trade liberalization	24

Table 5

The Rankings

	Opportunity	Group	Bhagwati	Fogel	Frey	Lin	North	Schelling	Smith	Stokey
Very Good	Control of HIV/AIDS	**1**	1	1	1	2	1	2	4	1
	Provide micronutrients	**2**	2	2	2	1	2	1	9	3
	Trade liberalization	**3**	3	11	4	4	4	10	6	2
	Control of malaria	**4**	12	5	3	9	10	6	3	4
Good	Develop new agricultural technologies	**5**	13	6	7	5	-	4	1	8
	Community-managed water supply and sanitation	**6**	6	2	-	8	3	7	5	6
	Small-scale water tecnology for agriculture	**7**	7	8	6	7	5	14	2	5
	Research on water productivity in food production	**8**	8	6	15	6	6	4	14	7
	Lower the cost of starting a business	**9**	11	9	5	3	8	11	-	10
Fair	Lower migration barriers for skilled workers	**10**	10	-	8	10	7	12	7	9
	Improve infant and child nutrition	**11**	5	8	10	12	11	3	12	12
	Scale-up basic health services	**12**	4	10	11	14	12	9	10	13
	Reduce the prevalence of LBW	**13**	14	4	12	13	9	8	11	11
Poor	Guest worker programs for the unskilled	**14**	9	-	16	11	-	13	8	14
	Optimal carbon tax	**15**	15	13	13	16	14	15	15	16
	Kyoto Protocol	**16**	17	12	14	15	13	16	15	15
	Value-at-risk carbon tax	**17**	16	14	17	17	15	17	15	17

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only moderate disagreement about the third and fourth. The budget of $50 billion, the figure used to frame the exercise, would finance these four projects.

There was also a great deal of agreement about the other rankings. The next group, five projects labeled "good," included the proposal to invest in developing new agricultural technologies, the three water and sanitation proposals and the proposal to lower the barriers to starting a new business. Four more proposals were ranked by the group as "fair," those lowering barriers to migration for skilled workers, improving infant and child health (two projects) and improving basic health services.

The three proposals on climate change appeared at the bottom of every list and were unanimously judged to have costs that exceeded their benefits. The proposal to promote migration by unskilled guest workers also fared badly in terms of the group rankings, but it is one proposal about which there was considerable difference of opinion. Three panel members put it in the good to fair range, and two left it unranked.

Most of the proposals that had no figures attached were left unranked. Many of these were general ideas (reform revenue collection) rather than specific projects (distribute bed nets in SSA) and, hence, quite difficult to compare. The proposal to deal with financial instability was also left unranked. It was a novel idea with no track record, and most panel members felt unable to assess its prospects for success.

What were the sources of the consensus? At the top of the list, much of the agreement resulted from a common view on valuing human life, which gave high priority to the HIV/AIDS, malaria and micronutrient proposals. Liberalizing world trade offers large benefits at a very modest direct cost, but several panel members ranked it lower because they felt there was little point in promoting such an old idea.

At the bottom of the list, there was unanimous agreement about the three climate change proposals. All were variations on a common theme, incurring enormous abatement costs right now in exchange for climate benefits in one or two centuries. It is worth emphasizing that the panel did not think that global climate change is an unimportant issue. During the discussion, it was clear that other types of projects, such as funding research on the underlying science of how atmospheric pollutants affect climate or developing better methods for reducing carbon emissions, would have received a more sympathetic hearing.

Many of the numbers were rough and ready, and they were not always presented in a way that allowed easy comparison across proposals. It is clear, however, that the numbers could be improved with more time and effort, and could be made consistent with each other if more precise guidelines were used. Improving the figures would surely alter the rankings to some extent, but the differences among some projects were so great that reversals seem unlikely.

Overall, several lessons can be learned from the exercise. First, the difficulty of making comparisons highlighted the potential value of systematic experimentation. Although the proposals for HIV/AIDS, malaria and micronutrients referred to results of previous projects, the evidence was limited. Experimental programs that are designed, like drug trials, to deliver better information about precisely what is successful and what is not would be valuable for two reasons. Such programs would allow a clearer assessment of where funds should be directed, and they would improve the design and enhance the effectiveness of funded projects.

In addition, two important issues that benefit/cost analysis neglects became apparent. One is the cost of delay. Controlling HIV/AIDS got very high priority partly because of the urgency of the problem. Prevention is much less costly than treatment, and prevention becomes more expensive as the infection rate rises. But "urgency" is not something that benefit/cost analysis takes into account.

Another is the presence of political or social costs. Some of the proposals involved little or nothing by way of out-of-pocket expenditures, but nevertheless had costs in other dimensions. Liberalizing world trade, lowering barriers to migration and lowering the costs of starting a new business are reforms that require political will rather than financial investments.

Finally, one important global problem, neglected thus far, deserves some discussion. Nowhere among the Copenhagen proposals were any aimed explicitly at promoting economic growth or reducing extreme poverty. Why? Not because poverty is unimportant: Lifting people out of poverty would solve a host of other problems. And not because poverty is inevitable: The best estimates indicate that the poverty rate has fallen substantially over the last two decades.

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Copenhagen Consensus

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For more on the Copenhagen Consensus, visit minneapolisfed.org for articles and further description of the group's work, and for a link to the Consensus Web site.

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The poverty rate is not falling because of programs sponsored by the U.N., the World Bank or other donor organizations, however. China and India, two countries with large populations and low per capita incomes 20 years ago, have enjoyed rapid economic growth. Growth in those two countries alone has raised an enormous number of people above the extreme poverty threshold, and other countries could be added to the list. But incomes are growing in China and India because of internal reforms, policies or policy changes that they adopted themselves. The same is true in other countries now and for earlier growth miracles, countries like Japan in the 1950s and 1960s, Taiwan in the 1960s and 1970s, and Korea in the 1970s and 1980s. On the other hand, it is hard to think of even one case where outside intervention has transformed a stagnant economy into a growing one.

Easterly (2001, 2006) discusses this issue in more detail, cataloging the many failed attempts to promote economic growth in poor countries. He estimates that the West, through the World Bank and other organizations, has spent $2.3 trillion over the years on foreign aid. A number of different approaches have been tried—subsidizing investment, promoting education, encouraging institutional change and policy reform, and financing debt relief—and none has raised growth rates. In Africa, where much of the money has been spent, growth rates have in fact fallen.

Until we better understand how aid can promote growth, it is prudent to concentrate resources in areas with more successful track records. Projects aimed at improving health and prolonging life in the poorer regions of the world have achieved a great deal in the past, and they seem to offer some of the best prospects for the near future as well.

About the Author

Nancy L. Stokey, who has served as a visiting scholar at the Federal Reserve Bank of Minneapolis in recent years, has written a number of important papers on issues relating to economic development, growth, trade, social mobility and related topics.

Stokey has served on the executive committee and as vice president of the American Economic Association, on the council of the Econometric Society and in editorial positions with *Econometrica, Games and Economic Behavior, The Journal of Economic Growth* and *The Journal of Economic Theory*.

For more about Stokey, including her thoughts on economic growth in lesser-developed countries, read her interview with *The Region* magazine, online at minneapolisfed.org.

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Federal Reserve Bank of Minneapolis

2005 Operations Report

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Federal Reserve Bank of St. Louis

Message from the First Vice President

In the coming years, the Federal Reserve System faces a complex, dynamic and uncertain outlook as it seeks to fulfill its mission to foster the stability, integrity and efficiency of the nation's monetary, financial and payment systems. Advances in technology, declining check volumes, further consolidations in the banking and financial payments industries, and increased emphasis on corporate governance pose significant challenges for the Federal Reserve in carrying out its responsibilities.

In response to these challenges, the Federal Reserve Bank of Minneapolis has remained steadfast in its execution of its strategic plan, which includes financial and operational strategies aimed at ensuring that all System objectives are met while maximizing the Bank's operational efficiency and quality of service delivery. The Bank's efforts in executing its strategic plan have been guided by rigorous analysis, rapid decision-making and the pursuit of operational excellence given the public trust it must maintain. The Bank's many and varied accomplishments in 2005 speak to our effectiveness in executing our strategic plan.

- The Bank's financial performance exceeded plan in 2005. Overall, expenses were below budget, revenues exceeded plan and District Check met all cost targets. Most operations, including those managed on behalf of the System, met their key performance metrics and high priority objectives. Achieving these results is noteworthy given the challenges posed by declining check volumes, implementation of infrastructure changes to accommodate electronic payment alternatives and increased competition.

- In 2005, the Bank continued its leadership of the Federal Reserve System's payments policy-making arm, the Financial Services Policy Committee (FSPC). Notable results included the completion of an analysis of settlement and depository institution accounting as part of the Federal Reserve Electronic Payments Services initiative, oversight of Check 21 implementation including operational readiness and new product offerings, achievement of 2005 full-cost recovery across priced services, and critical support to the analysis and changes made to the Private Sector Adjustment Factor and Return on Equity calculations, which impact the Federal Reserve System's consolidated financial statements. The Bank received favorable feedback on the effectiveness of its leadership and support of the FSPC from other Reserve Banks.

- During the year, the Bank successfully completed the multi-year Treasury Retail Securities consolidation on behalf of the U.S. Treasury. The consolidation, which was completed within budget and ahead of schedule, resulted in the transfer of Savings Bond and *TreasuryDirect* operations from five Reserve Banks to Minneapolis and the hiring and training of 104 employees. Minneapolis is now one of two national consolidated sites,

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2005 by the Numbers

In 2005, the Federal Reserve Bank of Minneapolis processed:

- 8.5 billion ACH (Automated Clearing House) payments worth approximately $16 trillion. FedACH is a nationwide system, developed and operated by Minneapolis staff on behalf of the entire Federal Reserve System, that provides the electronic exchange of debits and credits.
- Over 851 million checks worth approximately $868 billion. The Minneapolis office is among the larger check processing centers in the Federal Reserve System.
- $10.4 billion of excess currency received from financial institutions, destroyed $989 million of worn and torn currency and shipped $11.8 billion of currency to financial institutions.
- Forms, tenders, account maintenance and other customer transactions for 414,000 active *TreasuryDirect* accounts for individuals holding Treasury securities totaling $68.1 billion and 4.5 million savings bond purchase requests worth $5 billion, as one of two Treasury Retail Securities sites in the Federal Reserve System.
- Transaction items worth more than $409 billion through FR-ETA (Federal Reserve-Electronic Tax Application), a same-day payment mechanism, hosted by the Minneapolis Fed, for businesses paying federal taxes via their financial institutions.

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which handle all retail Treasury securities activities assigned to the Federal Reserve System.

- The Bank's Supervision, Regulation and Credit Division pursued strategies focused on ensuring operational excellence and improving critical analysis, quality and performance in response to a rapidly changing and increasingly complex financial services industry. An area of particular focus was strengthening staff expertise through the field-testing and review of the Federal Reserve System's new Bank Secrecy Act manual.

- The Bank was selected as the host site for the Learning Management Support Office, which has responsibility for implementing and supporting FedLearn, the System's enterprise standard for tracking learning progress, delivering eLearning, and other training and development functionality. Notable accomplishments included the adoption of a deployment support structure by business line and Reserve Bank staff, installation of the FedLearn test environment and configuration of the FedLearn application.

- In concert with the Federal Reserve System's enterprise risk management strategies, the Bank expanded its risk identification and mitigation efforts and enhanced its review and documentation of internal controls related to safeguarding assets and preventing fraud. The Bank also implemented the System's new Information Security Manual and contributed to System efforts to improve preparedness for catastrophic events caused by terrorist acts or pandemic outbreaks.

- The Bank's strategic plan emphasizes its work environment as a key component in attracting and retaining a highly skilled, diverse staff capable of achieving the Bank's goals and objectives. In 2005, the Bank hired a consultant to conduct a Bankwide employee opinion survey regarding the quality of the work environment. Overall survey results were positive and validated that employees perceive the Bank as a welcoming and inclusive place that values diversity. Employees also rated the Bank highly in regard to its business ethics, benefits and work/life balance.

- The Bank pursued several initiatives as part of its continuing commitment to advance research, economic and financial literacy, and increase awareness of community development issues. The Bank's policy contributions included the publication of a number of scholarly articles by the Bank's economists and advisers, special initiatives to promote early childhood development and public outreach to promote understanding of community development issues. Noteworthy articles covered a variety of topics, including mechanisms for maintaining credible public policies, measuring the effects of taxes and regulation on equity values, explaining differences in productivity and economic growth among countries and assessing the reliability of real business cycle models.

The Bank's success in 2005 is attributed to the unwavering dedication and discipline of our employees and our Board of Directors. Working as a team, with our strategic plan as our guide, we have positioned the Bank to respond to uncertainty while also fulfilling its mission to foster stability, integrity and efficiency in the nation's monetary, financial and payment systems.

James M. Lyon
First Vice President

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Minneapolis Board of Directors

Linda Hall Whitman
Chairman

Frank L. Sims
Deputy Chairman

Class A Elected by Member Banks

J. Robert Dickson
Chairman and Chief Executive Officer
First National Bank of Fairfax
Fairfax, Minn.

John H. Hoeven Jr.
Chairman and Chief Executive Officer
First Western Bank & Trust
Minot, N.D.

Douglas C. Morrison
Chief Financial Officer
Citibank
Sioux Falls, S.D.

Class B Elected by Member Banks

D. Greg Heineman
Chairman
Williams Insurance Agency Inc.
Sioux Falls, S.D.

Todd L. Johnson
President and Chief Executive Officer
Reuben Johnson & Son Inc. and Affiliated Companies
Superior, Wis.

Randy Peterson
General Manager
Precision Edge Surgical Products Co. LLC
Sault Ste. Marie, Mich.

Class C Appointed by the Board of Governors

Linda Hall Whitman
Chief Executive Officer
MinuteClinic
Minneapolis, Minn.

James J. Hynes
Executive Administrator
Twin City Pipe Trades Service Association
St. Paul, Minn.

Frank L. Sims
Corporate Vice President, Transportation
Cargill Inc.
Wayzata, Minn.

Seated (from left): John Hoeven, Linda Hall Whitman, Randy Peterson, Robert Dickson; standing (from left): Greg Heineman, Todd Johnson, James Hynes, Douglas Morrison, Frank Sims

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Helena Branch Board of Directors

Lawrence R. Simkins
Chairman

Dean Folkvord
Vice Chairman

Appointed by the Board of Governors

Dean Folkvord
General Manager and Chief Executive Officer
Wheat Montana Farms and Bakery
Three Forks, Mont.

Lawrence R. Simkins
President
Washington Corp.
Missoula, Mont.

Appointed by the Minneapolis Board of Directors

Joy N. Ott
Regional President and Chief Executive Officer
Wells Fargo Bank Montana N.A.
Billings, Mont.

Ronald D. Scott
President
First State Bank
Malta, Mont.

Marilyn F. Wessel
Former Dean and Director
Museum of the Rockies
Bozeman, Mont.

Federal Advisory Council Member

Jerry A. Grundhofer
Chairman and Chief Executive Officer
U.S. Bancorp
Minneapolis, Minn.

Seated (from left): Dean Folkvord, Lawrence Simkins; standing (from left): Marilyn Wessel, Ron Scott, Joy Ott

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Advisory Council on Small Business and Labor

James Hynes, Chairman
Executive Administrator
Twin City Pipe Trades Service Association
St. Paul, Minn.

Richard Den Herder
President
Print Promotions/ Visitor Publishing
Rapid City, S.D.

Skip Duemeland
Chief Executive Officer
Duemelands Commercial Properties
Bismarck, N.D.

Esperanza Guerrero-Anderson
President and Chief Executive Officer
Milestone Growth Fund
Minneapolis, Minn.

Sarah Harris
Chief Operating Officer
The 614 Company
Minneapolis, Minn.

Robert Jacquart
President
Jacquart Fabric Products Inc.
Ironwood, Mich.

Dale Jensen
Senior Vice President
First National Bank of Baldwin
Baldwin, Wis.

William (Casey) Jones
President
Jones Brothers Trucking Inc.
Missoula, Mont.

Al Lukes
Vice President and Chief Operating Officer
Dakota Gasification Co.
Bismarck, N.D.

Nancy Straw
President and Chief Executive Officer
West Central Initiative
Fergus Falls, Minn.

Seated (from left): Skip Duemeland, Sarah Harris, Robert Jacquart, Nancy Straw; standing (from left): Richard Den Herder, Casey Jones, James Hynes, Dale Jensen

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Advisory Council on Agriculture

Dean Folkvord, Chairman
General Manager and Chief Executive Officer
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Three Forks, Mont.

Timothy Byrne
Controller
Pepin Heights Orchard
Lake City, Minn.

Jeff Lakner
Grain and Livestock Operator
Wessington, S.D.

Guy Moos
President
Bakerboy Bakeshop Inc.
Dickinson, N.D.

Steve O'Reilly
Organic Dairy Producer
Goodhue, Minn.

Keith Peltier
General Manager
Proseed
Harvey, N.D.

Jerald Peterson
Vice President
Western Bank of Wolf Point
Wolf Point, Mont.

Maurice Reiner
Senior Vice President
First National Bank of South Dakota
Yankton, S.D.

Claire Seefeldt
Vice President
First National Bank
Milnor, N.D.

Ronald Seidel
President
Seidel Inc.
Meadow, S.D.

Don Weaver
Chief Financial Officer
Betaseed Inc.
Shakopee, Minn.

Seated (from left): Keith Peltier, Guy Moos, Timothy Byrne, Dean Folkvord; standing (from left): Ronald Seidel, Claire Seefeldt, Don Weaver, Jeff Lakner, Maurice Reiner

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Federal Reserve Bank of Minneapolis

Senior Management

Gary H. Stern
President

James M. Lyon
First Vice President
Chief Operating Officer

Sheldon L. Azine
Senior Vice President and General Counsel (retired)

Duane A. Carter
Senior Vice President and Equal Employment Opportunity Officer

Creighton R. Fricek
Senior Vice President and Corporate Secretary

Arthur J. Rolnick
Senior Vice President and Director of Research

Claudia S. Swendseid
Senior Vice President

Niel D. Willardson
Senior Vice President and General Counsel

Seated (from left): Duane Carter, Sheldon Azine (retired), Claudia Swendseid, Niel Willardson; standing (from left): Creighton Fricek, Arthur Rolnick, Gary Stern, James Lyon

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Federal Reserve Bank of Minneapolis

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Vice President

David G. Fettig
Vice President

Samuel H. Gane
Vice President and Helena Branch Manager

Michael Garrett
Vice President

Linda M. Gilligan
Vice President and General Auditor

Caryl W. Hayward
Vice President

Matthew D. Larson
Vice President

Frederick L. Miller
Vice President

Kinney G. Misterek
Vice President

Marie R. Munson
Vice President

Paul D. Rimmereid
Vice President and Principal Accounting Officer

Susan K. Rossbach
Vice President and Deputy General Counsel

Richard M. Todd
Vice President

Cheryl L. Venable
Vice President

Warren E. Weber
Senior Research Officer

Peter Baatrup
Assistant Vice President and Assistant General Counsel

Kelly A. Bernard
Assistant Vice President

Sheryl L. Britsch
Assistant Vice President

Jacquelyn K. Brunmeier
Assistant Vice President

James A. Colwell
Assistant Vice President

Walter A. Cox
Assistant Vice President

Barbara G. Coyle
Assistant Vice President

James T. Deusterhoff
Assistant Vice President and Discount Officer

Raymond P. Drake
Assistant Vice President and Assistant Branch Manager

Scott F. Forss
Assistant Vice President

Jean C. Garrick
Assistant Vice President

Peter J. Gavin
Assistant Vice President

Jacqueline G. King
Assistant Vice President and Community Affairs Officer

Elizabeth W. Kittelson
Assistant Vice President

Deborah A. Koller
Assistant Vice President

Todd A. Maki
Assistant Vice President

Barbara J. Pfeffer
Assistant Vice President

Mark A. Rauzi
Assistant Vice President

Randy L. St. Aubin
Assistant Vice President and Assistant General Auditor

Mary E. Vignalo
Assistant Vice President

Tamra J. Wheeler
Assistant Vice President

John E. Yanish
Assistant Vice President

December 31, 2005

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Federal Reserve Bank of St. Louis

Auditor Independence

Compliance with S-2612

The firm engaged by the Board of Governors for the audits of the individual and combined financial statements of the Reserve Banks for 2005 was PricewaterhouseCoopers LLP (PwC). Fees for these services totaled $4.6 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 2005, the Bank did not engage PwC for any material advisory services.

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Federal Reserve Bank of Minneapolis

2005 Financial Statements

December 31, 2005 and 2004

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Federal Reserve Bank of Minneapolis

90 Hennepin Avenue, P.O. Box 291
Minneapolis, Minnesota 55480-0291
Phone 612 204-5000

March 2, 2006

Board of Directors of
Federal Reserve Bank of Minneapolis
90 Hennepin Avenue, P.O. Box 291
Minneapolis, MN 55480

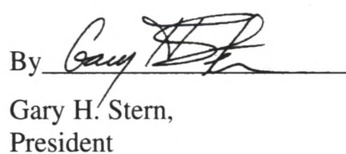
The management of the Federal Reserve Bank of Minneapolis ("FRBM") is responsible for the preparation and fair presentation of the Statement of Financial Condition, Statement of Income, and Statement of Changes in Capital as of December 31, 2005 (the "Financial Statements"). The Financial Statements have been prepared in conformity with the accounting principles, policies, and practices established by the Board of Governors of the Federal Reserve System and as set forth in the Financial Accounting Manual for the Federal Reserve Banks ("Manual"), and as such, include amounts, some of which are based on judgments and estimates of management. To our knowledge, the Financial Statements are, in all material respects, fairly presented in conformity with the accounting principles, policies and practices documented in the Manual and include all disclosures necessary for such fair presentation.

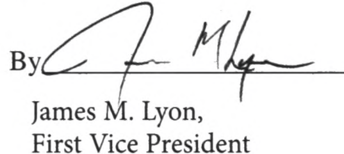
The management of the FRBM is responsible for maintaining an effective process of internal controls over financial reporting including the safeguarding of assets as they relate to the Financial Statements. Such internal controls are designed to provide reasonable assurance to management and to the Board 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.

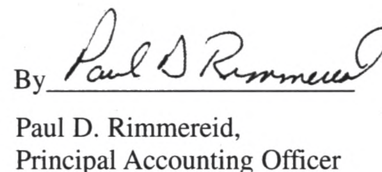
Even an effective process of internal controls, no matter how well designed, has inherent limitations, including the possibility of human error, and therefore can provide only reasonable assurance with respect to the preparation of reliable financial statements.

The management of the FRBM 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 FRBM maintained an effective process of internal controls over financial reporting including the safeguarding of assets as they relate to the Financial Statements.

Federal Reserve Bank of Minneapolis

By 
Gary H. Stern,
President

By 
James M. Lyon,
First Vice President

By 
Paul D. Rimmereid,
Principal Accounting Officer

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PRICEWATERHOUSECOOPERS

PricewaterhouseCoopers LLP
Suite 1400
225 South Sixth Street
Minneapolis MN 55402
Telephone (612) 596 6000
Facsimile (612) 373 7160

Report of Independent Accountants

To the Board of Directors of the
Federal Reserve Bank of Minneapolis

We have examined management's assertion, included in the accompanying Management Assertion, that the Federal Reserve Bank of Minneapolis ("FRB Minneapolis") maintained effective internal control over financial reporting and the safeguarding of assets as of December 31, 2005, based on criteria described in *Internal Control – Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission. FRB Minneapolis' management is responsible for maintaining effective internal control over financial reporting and safeguarding of assets. 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 the FRB Minneapolis maintained effective internal control over financial reporting and over the safeguarding of assets as of December 31, 2005 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 Minneapolis, and any organization with legally defined oversight responsibilities and is not intended to be and should not be used by anyone other than these specified parties.

PricewaterhouseCoopers LLP

March 8, 2006
Minneapolis, Minnesota

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Federal Reserve Bank of St. Louis

PRICEWATERHOUSECOOPERS

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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 Minneapolis

We have audited the accompanying statements of condition of the Federal Reserve Bank of Minneapolis (the "Bank") as of December 31, 2005 and 2004, and the related statements of income and changes in capital for the years then ended, which have been prepared in conformity with the accounting principles, policies, and practices established by the Board of Governors of the Federal Reserve System. These financial statements are the responsibility of the Bank's management. Our responsibility is to express an opinion on the financial statements based on our audits.

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

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

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Bank as of December 31, 2005 and 2004, and results of its operations for the years then ended, in conformity with the basis of accounting described in Note 3.

PricewaterhouseCoopers LLP

March 8, 2006
Minneapolis, Minnesota

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Federal Reserve Bank of St. Louis

Statements of Condition

(in millions)	December 31, 2005	December 31, 2004
Assets		
Gold certificates	$ 212	$ 218
Special drawing rights certificates	30	30
Coin	22	22
Items in process of collection	339	512
Loans to depository institutions	16	13
U.S. government securities, net	15,668	15,826
Investments denominated in foreign currencies	409	834
Accrued interest receivable	122	111
Interdistrict settlement account	38	–
Bank premises and equipment, net	133	139
Other assets	18	18
Total assets	**$ 17,007**	**$ 17,723**
Liabilities and Capital		
Liabilities		
Federal Reserve notes outstanding, net	$ 15,065	$ 14,387
Securities sold under agreements to repurchase	637	671
Deposits:		
Depository institutions	388	473
Other deposits	1	2
Deferred credit items	353	548
Interest on Federal Reserve notes due U.S. Treasury	25	115
Interdistrict settlement account	–	969
Accrued benefit costs	45	47
Other liabilities	3	3
Total liabilities	**$ 16,517**	**$ 17,215**
Capital		
Capital paid-in	$ 245	$ 254
Surplus	245	254
Total capital	**$ 490**	**$ 508**
Total liabilities and capital	**$ 17,007**	**$ 17,723**

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

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Federal Reserve Bank of St. Louis

Statements of Income

(in millions)	For the years ended December 31, 2005	December 31, 2004
Interest income		
Interest on U.S. government securities	$ 593	$ 483
Interest on investments denominated in foreign currencies	7	11
Interest on loans to depository institutions	1	–
Total interest income	**$ 601**	**$ 494**
Interest expense		
Interest expense on securities sold under agreements to repurchase	$ 17	$ 7
Net interest income	**$ 584**	**$ 487**
Other operating income		
Income from services	$ –	$ 46
Compensation received for check services provided	31	–
Reimbursable services to government agencies	25	21
Foreign currency gains (losses), net	(66)	48
Other income	1	1
Total other operating (loss) income	**$ (9)**	**$ 116**
Operating expenses		
Salaries and other benefits	$ 87	$ 82
Occupancy expense	11	12
Equipment expense	7	7
Assessments by the Board of Governors	18	24
Other expenses	39	32
Total operating expenses	**$ 162**	**$ 157**
Net income prior to distribution	**$ 413**	**$ 446**
Distribution of net income		
Dividends paid to member banks	$ 15	$ 16
Transferred (from) surplus	(9)	(91)
Payments to U.S. Treasury as interest on Federal Reserve notes	407	521
Total distribution	**$ 413**	**$ 446**

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

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Statements of Changes in Capital

(in millions)	For the years ended December 31, 2005 and December 31, 2004		
	Capital Paid-in	Surplus	Total Capital
Balance at January 1, 2004			
(7.0 million shares)	$ 345	$ 345	$ 690
Net change in capital stock (redeemed)			
(2.0 million shares)	(91)	–	(91)
Transferred (from) surplus	–	(91)	(91)
Balance at December 31, 2004			
(5.0 million shares)	$ 254	$ 254	$ 508
Net change in capital stock (redeemed)			
(0.1 million shares)	(9)	–	(9)
Transferred (from) surplus	–	(9)	(9)
Balance at December 31, 2005			
(4.9 million shares)	$ 245	$ 245	$ 490

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

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Federal Reserve Bank of St. Louis

Notes to Financial Statements

1. STRUCTURE

The Federal Reserve Bank of Minneapolis ("Bank") is part of the Federal Reserve System ("System") and one of the twelve Reserve Banks ("Reserve Banks") created by Congress under the Federal Reserve Act of 1913 ("Federal Reserve Act"), which established the central bank of the United States. 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 branch in Helena, Montana, serve the Ninth Federal Reserve District, which includes Minnesota, Montana, North Dakota, South Dakota, and portions of Michigan and Wisconsin.

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. Banks that are members of the System include all national banks and any state-chartered banks that apply and are approved for membership in the System. 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.

The System also consists, in part, of the Board of Governors of the Federal Reserve System ("Board of Governors") and the Federal Open Market Committee ("FOMC"). The Board of Governors, an independent federal agency, is charged by the Federal Reserve Act with a number of specific duties, including general supervision over the Reserve Banks. 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.

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 system 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, state member banks, and U.S. offices of foreign banking organizations; and administering other regulations of the Board of Governors. The System also provides certain services to foreign central banks, governments, and international official institutions.

In performing fiscal agency functions for the U.S. Treasury, the Bank provides U.S. securities direct purchase and savings bond processing services. In 2003, the U.S. Treasury selected the Bank as one of two consolidation sites for these services. The consolidation was completed in October 2005.

The FOMC, in the conduct of monetary policy, establishes policy regarding domestic open market

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operations, oversees these operations, and annually issues authorizations and directives to the FRBNY for its execution of transactions. FRBNY is authorized to conduct operations in domestic markets, including direct purchase and sale of U.S. government 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. FRBNY executes these open market transactions and holds the resulting securities, with the exception of securities purchased under agreements to resell, 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 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. The FRBNY is authorized by the FOMC to hold balances of, and to execute spot and forward foreign exchange ("F/X") and securities contracts for 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 two central banks, and "warehouse" foreign currencies for the U.S. Treasury and Exchange Stabilization Fund ("ESF") through the Reserve Banks. In connection with its foreign currency activities, FRBNY 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.

Although Reserve Banks are separate legal entities, in the interests of greater efficiency and effectiveness, they collaborate in the delivery of certain operations and services. The collaboration takes the form of centralized competency centers, operations sites, and product or service offices that have responsibility for the delivery of certain services on behalf of the Reserve Banks. Various operational and management models are used and are supported by service agreements between the Reserve Bank providing the service and the other eleven Reserve Banks. In some cases, costs incurred by a Reserve Bank for services provided to other Reserve Banks are not shared; in other cases, Reserve Banks are billed for services provided to them by another Reserve Bank.

Major services provided on behalf of the System by the Bank, for which the costs were not redistributed to the other Reserve Banks include application development and centralized business administration functions for FedACH payment services, the Electronic Access Customer Contact Center, the Financial Services Policy Committee, and the FedMail and FedPhone Leadership Center.

Beginning in 2005, the Reserve Banks adopted a new management model for providing check services to depository institutions. Under this new model, the Federal Reserve Bank of Atlanta ("FRBA") has the overall responsibility for managing the Reserve Banks' provision of check services and recognizes total System check revenue on its Statements of Income. FRBA compensates the other eleven Banks for the costs incurred to provide check services. This compensation is reported as "Compensation received for check services provided" in the Statements of Income. If the management model had been in place in 2004, the Bank would have reported $32 million as compensation received for check services provided and $46 million in check revenue would have been reported by FRB Atlanta rather than the Bank.

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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 various accounting standard-setting bodies. 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 and the financial statements have been prepared in accordance with the Financial Accounting Manual.

Differences exist between the accounting principles and practices in the Financial Accounting Manual and those generally accepted in the United States ("GAAP") primarily due to the unique nature of the Bank's powers and responsibilities as part of the nation's central bank. The primary difference is the presentation of all security holdings at amortized cost rather than using the fair value presentation requirements in accordance with GAAP. Amortized cost more appropriately reflects the Bank's security holdings given its unique responsibility to conduct monetary policy. While the application of current market prices to the securities holdings may result in values substantially above or below their carrying values, these unrealized changes in value would have no direct affect on the quantity of reserves available to the banking system or on the prospects for future Bank earnings or capital. Both the domestic and foreign components of the SOMA portfolio may involve transactions that result in gains or losses when holdings are sold prior to maturity. Decisions regarding security and foreign currency 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 securities and currencies are incidental to the open market operations and do not motivate its activities or policy decisions.

In addition, the Bank has elected not to present a Statement of Cash Flows because the liquidity and cash position of the Bank are not a primary concern given the Bank's unique powers and responsibilities. A Statement of Cash Flows, therefore, would not provide any additional meaningful information. Other information regarding the Bank's activities is provided in, or may be derived from, the Statements of Condition, Income, and Changes in Capital. There are no other significant differences between the policies outlined in the Financial Accounting Manual and GAAP.

The preparation of the financial statements in conformity with the Financial Accounting Manual requires management to make certain estimates and assumptions that affect the reported amounts of assets and liabilities, 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.

a. *Gold and Special Drawing Rights Certificates*

The Secretary of the U.S. Treasury is authorized to issue gold and special drawing rights ("SDR") certificates to the Reserve Banks.

Payment for the gold certificates by the Reserve Banks is made by crediting equivalent amounts in dollars into the account established for the U.S. Treasury. These gold certificates held by the Reserve Banks are required to be backed by the gold of the U.S. Treasury. The U.S. Treasury may reacquire the gold certificates at any time and the Reserve Banks must deliver them to the U.S. Treasury. At such time, the U.S. Treasury's account is charged, and the Reserve Banks' gold certificate accounts are lowered. The value of gold for purposes of backing the gold certificates is set by law at $42 2/9 a fine troy ounce. The Board of Governors allocates the gold certificates

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among Reserve Banks once a year based on the average Federal Reserve notes outstanding in each Reserve Bank.

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 2005 or 2004.

b. *Loans to Depository Institutions*

All depository institutions that maintain reservable transaction accounts or nonpersonal time deposits, as defined in regulations 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, and currently all are considered collectible and fully collateralized. If loans were ever deemed to be uncollectible, an appropriate reserve would be established. Interest is accrued using the applicable discount rate established at least every fourteen days by the Board of Directors of the Reserve Bank, subject to review by the Board of Governors.

c. *U.S. Government Securities and Investments Denominated in Foreign Currencies*

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. Interest income is accrued on a straight-line basis. 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 (losses), net."

Activity related to U.S. government securities, including the related premiums, discounts, and realized and unrealized gains and losses, 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 in each District. Activity related to investments in foreign-currency-denominated assets is allocated to each Reserve Bank based on the ratio of each Reserve Bank's capital and surplus to aggregate capital and surplus at the preceding December 31.

d. *U.S. Government Securities Sold Under Agreements to Repurchase and Securities Lending*

Securities sold under agreements to repurchase are accounted for as financing transactions and the associated interest expense is recognized over the life of the transaction. These transactions are carried in the Statements of Condition at their contractual amounts and the related accrued interest is reported as a component of "Other liabilities."

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U.S. government securities held in the SOMA are lent to U.S. government securities dealers and to banks participating in U.S. government securities clearing arrangements in order to facilitate the effective functioning of the domestic securities market. Securities-lending transactions are fully collateralized by other U.S. government securities and the collateral taken is in excess of the market value of the securities loaned. The FRBNY charges the dealer or bank a fee for borrowing securities and the fees are reported as a component of "Other Income" in the Statements of Income.

Activity related to U.S. government securities sold under agreements to repurchase and securities lending is allocated to each Reserve Bank on a percentage basis derived from the annual settlement of interdistrict clearings. Securities purchased under agreements to resell are allocated to FRBNY and not to the other Banks.

e. *Foreign Currency Swaps and Warehousing*

F/X swap arrangements are contractual agreements between two parties to exchange specified currencies, at a specified price, on a specified date. 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 the foreign currencies it may need to intervene to support the dollar and give the counterparty temporary access to dollars it may need to support its own currency. Drawings under the F/X swap arrangements can be initiated by either FRBNY or the counterparty (the drawer) and must be agreed to by the drawee. The F/X swaps are structured so that the party initiating the transaction bears the exchange rate risk upon maturity. 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 U.S. Treasury, U.S. dollars for foreign currencies held by the U.S. 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 U.S. Treasury and ESF for financing purchases of foreign currencies and related international operations.

Foreign currency swaps and warehousing agreements are revalued daily at current market exchange rates. Activity related to these agreements, with the exception of the unrealized gains and losses resulting from the daily revaluation, is allocated to each Reserve Bank based on the ratio of each Reserve Bank's capital and surplus to aggregate capital and surplus at the preceding December 31. Unrealized gains and losses resulting from the daily revaluation are allocated to FRBNY and not to the other Reserve Banks.

f. *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 operating expense in the year incurred. Capitalized assets including software, building, leasehold improvements, furniture, and equipment are impaired when it is determined that the net realizable value is significantly less than book value and is not recoverable.

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.

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g. *Interdistrict Settlement Account*

At the close of business each day, each Reserve Bank assembles the payments due to or from other Reserve Banks as a result of the day's transactions that involve depository institution accounts held by other Districts. Such transactions may include funds settlement, check clearing, and ACH operations. The cumulative net amount due to or from the other Reserve Banks is reflected in the "Interdistrict settlement account" in the Statements of Condition.

h. *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 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 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 the currency issued to the Bank but not in circulation, of $2,789 million and $1,982 million at December 31, 2005 and 2004, respectively.

i. *Items in Process of Collection and Deferred Credit Items*

The balance in the "Items in process of collection" line in the Statements of Condition primarily represents amounts attributable to checks that have been deposited for collection by the payee depository institution and, as of the balance sheet date, have not yet been collected from the payor depository institution. Deferred credit items are the counterpart liability to items in process of collection, and the amounts in this account arise from deferring credit for deposited items until the amounts are collected. The balances in both accounts can fluctuate and vary significantly from day to day.

j. *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. These shares are nonvoting with a par value of $100 and may not be transferred or hypothecated. As a member bank's capital and surplus changes, its holdings of Reserve Bank stock must be adjusted. Currently, only one-half of the subscription is paid-in and the remainder is subject to call. By law, each Bank is required to pay each member bank 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.

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k. ***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 at a Reserve Bank, 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 the 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."

l. ***Income and Costs related to U.S. 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.

m. ***Assessments by the Board of Governors***

The Board of Governors assesses the Reserve Banks to fund its operations based on each Reserve Bank's capital and surplus balances. The Board of Governors also assesses each Reserve Bank for the expenses incurred for the U.S. Treasury to issue and retire Federal Reserve notes based on each Reserve Bank's share of the number of notes comprising the System's net liability for Federal Reserve notes on December 31 of the previous year.

n. ***Taxes***

The Reserve Banks are exempt from federal, state, and local taxes, except for taxes on real property. The Bank's real property taxes were $3 million and $4 million for the years ended December 31, 2005 and 2004, respectively, and are reported as a component of "Occupancy expense."

o. ***Restructuring Charges***

In 2003, the System began the restructuring of several operations, primarily check, cash, and U.S. 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 and 2005.

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 in connection with the restructuring activities for all Reserve Banks are recorded on the books of the FRBNY and those associated with enhanced post-retirement benefits are discussed in footnote 9.

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4. U.S. GOVERNMENT SECURITIES, SECURITIES SOLD UNDER AGREEMENTS TO REPURCHASE, AND SECURITIES LENDING

The FRBNY, on behalf of the Reserve Banks, holds securities bought outright in the SOMA. The Bank's allocated share of SOMA balances was approximately 2.089 percent and 2.181 percent at December 31, 2005 and 2004, respectively.

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

	2005	2004
Par value:		
U.S. government:		
Bills	$ 5,665	$ 5,736
Notes	7,939	7,870
Bonds	1,939	2,051
Total par value	15,543	15,657
Unamortized premiums	184	205
Unaccreted discounts	(59)	(36)
Total allocated to Bank	$ 15,668	$ 15,826

The total of the U.S. government securities, net held in the SOMA was $750,201 million and $725,584 million at December 31, 2005 and 2004, respectively.

At December 31, 2005 and 2004, the total contract amount of securities sold under agreements to repurchase was $30,505 million and $30,783 million, respectively, of which $637 million and $671 million, were allocated to the Bank. The total par value of the SOMA securities pledged for securities sold under agreements to repurchase at December 31, 2005 and 2004, was $30,559 million and $30,808 million, respectively, of which $638 million and $671 million were allocated to the Bank.

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, 2005, 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	$ 856	$ 637
16 days to 90 days	3,598	–
91 days to 1 year	3,891	–
Over 1 year to 5 years	4,401	–
Over 5 years to 10 years	1,184	–
Over 10 years	1,613	–
Total	$ 15,543	$ 637

At December 31, 2005 and 2004, U.S. government securities with par values of $3,776 million and $6,609 million, respectively, were loaned from the SOMA, of which $79 million and $144 million, respectively, were allocated to the Bank.

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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.

The Bank's allocated share of investments denominated in foreign currencies was approximately 2.161 percent and 3.906 percent at December 31, 2005 and 2004, respectively.

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

	2005	2004
European Union Euro		
Foreign currency deposits	$ 117	$ 237
Securities purchased under agreements to resell	42	84
Government debt instruments	77	154
Japanese Yen		
Foreign currency deposits	56	60
Government debt instruments	117	299
Total	$ 409	$ 834

Total System investments denominated in foreign currencies were $18,928 million and $21,368 million at December 31, 2005 and 2004, respectively.

The maturity distribution of investments denominated in foreign currencies which were allocated to the Bank at December 31, 2005, was as follows (in millions):

Maturities of Investments Denominated in Foreign Currencies	European Euro	Japanese Yen	Total
Within 15 days	$ 73	$ 56	$ 130
16 days to 90 days	56	15	70
91 days to 1 year	45	22	67
Over 1 year to 5 years	62	80	142
Total	$ 236	$ 173	$ 409

At December 31, 2005 and 2004, there were no material open or outstanding foreign exchange contracts.

At December 31, 2005 and 2004, the warehousing facility was $5,000 million, with no balance outstanding.

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6. BANK PREMISES, EQUIPMENT, AND SOFTWARE

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

	Useful Life Range (in years)	2005	2004
Bank premises and equipment:			
Land	N/A	$ 18	$ 18
Buildings	4 to 42	114	114
Building machinery and equipment	1 to 20	15	15
Furniture and equipment	1 to 19	39	40
Subtotal		$ 186	$ 187
Accumulated depreciation		(53)	(48)
Bank premises and equipment, net		$ 133	$ 139
Depreciation expense, for the years ended		$ 7	$ 7

Future minimum lease payments under noncancelable agreements in existence at December 31, 2005, were not material.

The Bank has capitalized software assets, net of amortization, of $5 million and $3 million at December 31, 2005 and 2004, respectively. Amortization expense was $1 million for each of the years ended December 31, 2005 and 2004. Capitalized software assets are reported as a component of "Other assets" and related amortization is reported as a component of "Other expenses."

7. COMMITMENTS AND CONTINGENCIES

At December 31, 2005, the Bank was obligated under noncancelable leases for premises and equipment with terms ranging from one to approximately eight 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 $271 thousand and $1 million for the years ended December 31, 2005 and 2004, respectively. Certain of the Bank's leases have options to renew.

At December 31, 2005, future minimum rental payments under noncancelable operating leases and capital leases, net of sublease rentals, with terms of one year or more, were not material.

At December 31, 2005, there were no other material commitments and long-term obligations in excess of one year.

Under the Insurance Agreement of the Federal Reserve Banks, each Reserve Bank 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, 2005 or 2004.

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.

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8. RETIREMENT AND THRIFT PLANS

Retirement Plans

The Bank currently offers three 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"). Employees at certain compensation levels participate in the Benefit Equalization Retirement Plan ("BEP") and 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 System. No separate accounting is maintained of assets contributed by the participating employers. The FRBNY acts as a sponsor of the System Plan and the costs associated with the Plan are not redistributed to other participating employers. The Bank's benefit obligation and net pension costs for the BEP and the SERP at December 31, 2005 and 2004, and for the years then ended, were not material.

Thrift Plan

Employees of the Bank may also participate in the defined contribution Thrift Plan for Employees of the Federal Reserve System ("Thrift Plan"). The Bank's Thrift Plan contributions totaled $3 million for the years ended December 31, 2005 and 2004, and are reported as a component of "Salaries and other benefits." The Bank matches employee contributions based on a specified formula. For the years ended December 31, 2005 and 2004, the Bank matched 80 percent on the first 6 percent of employee contributions for employees with less than five years of service and 100 percent on the first 6 percent of employee contributions for employees with five or more years of service.

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.

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

	2005	2004
Accumulated postretirement benefit obligation at January 1	$ 41.4	$ 49.1
Service cost-benefits earned during the period	1.3	1.2
Interest cost of accumulated benefit obligation	2.1	2.5
Actuarial (gain) loss	(1.4)	(2.9)
Contributions by plan participants	0.3	0.2
Benefits paid	(2.1)	(1.8)
Plan amendments	–	(6.9)
Accumulated postretirement benefit obligation at December 31	$ 41.6	$ 41.4

At December 31, 2005 and 2004, the weighted-average discount rate assumptions used in developing the postretirement benefit obligation were 5.50 percent and 5.75 percent, respectively.

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Discount rates reflect yields available on high quality corporate bonds that would generate the cash flow necessary to pay the plan's benefits when due.

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):

	2005	2004
Fair value of plan assets at January 1	$ –	$ –
Contributions by the employer	1.8	1.6
Contributions by plan participants	0.3	0.2
Benefits paid	(2.1)	(1.8)
Fair value of plan assets at December 31	$ –	$ –
Unfunded postretirement benefit obligation	$ 41.6	$ 41.4
Unrecognized prior service cost	6.2	7.3
Unrecognized net actuarial (loss)	(7.1)	(8.5)
Accrued postretirement benefit costs	$ 40.7	$ 40.2

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:

	2005	2004
Health care cost trend rate assumed for next year	9.00 %	9.00 %
Rate to which the cost trend rate is assumed to decline (the ultimate trend rate)	5.00 %	4.75 %
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, 2005 (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	$ 0.6	$ (0.5)
Effect on accumulated postretirement benefit obligation	5.6	(4.7)

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

	2005	2004
Service cost-benefits earned during the period	$ 1.3	$ 1.2
Interest cost of accumulated benefit obligation	2.2	2.5
Amortization of prior service cost	(1.1)	(0.6)
Recognized net actuarial loss	–	0.1
Total periodic expense	$ 2.4	$ 3.2
Curtailment (gain)	–	(3.1)
Net periodic postretirement benefit costs	$ 2.4	$ 0.1

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Net postretirement benefit costs are actuarially determined using January 1 measurement date. At January 1, 2005 and 2004, the weighted-average discount rate assumptions used to determine net periodic postretirement benefit costs were 5.75 percent and 6.25 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 in 2004.

The Medicare Prescription Drug, Improvement and Modernization Act of 2003 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. The benefits provided by the Bank's plan to certain participants are at least actuarially equivalent to the Medicare Part D prescription drug benefit. The estimated effects of the subsidy, retroactive to January 1, 2004, are reflected in an actuarial gain in the accumulated postretirement benefit obligation and in an actuarial loss in the net periodic postretirement benefit costs.

Following is a summary of expected benefit payments (in millions):

	Without Subsidy	With Subsidy
2006	$ 1.9	$ 1.7
2007	2.0	1.8
2008	2.1	1.9
2009	2.2	2.0
2010	2.4	2.1
2011-2015	14.6	12.8
Total	$ 25.2	$ 22.3

Postemployment Benefits

The Bank offers benefits to former or inactive employees. Postemployment benefit costs are actuarially determined using a December 31, 2005, measurement date and include the cost of medical and dental insurance, survivor income, and disability benefits. The accrued postemployment benefit costs recognized by the Bank at December 31, 2005 and 2004, were $4 million and $6 million, respectively. This cost is included as a component of "Accrued benefit costs." Net periodic postemployment benefit costs included in 2005 and 2004 operating expenses were $(2) million and $(1) million, respectively, and are recorded as a component of "Salaries and other benefits."

10. BUSINESS RESTRUCTURING CHARGES

In 2005, the System announced plans for consolidation and restructuring to streamline operations and reduce costs, including consolidation of operations and staff reductions in various functions of several Banks. The Bank's costs associated with the restructuring were not material.

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Useful telephone numbers (612 area code unless otherwise indicated):

For the Public

Consumer Affairs Help Line: 204-6500

Media Inquiries: 204-5261

Research Library: 204-5509

Treasury Auction Results, Current Offerings, Bills, Notes, Bonds: 1-800-722-2678

For Financial Institutions

Cash Services Help Line: 204-5227 or 1-800-553-9656 ext. 5227

Check Customer Service/Adjustments: 1-800-283-2830

Electronic Access Customer Contact Center
FedLine Support: 1-888-333-7010
Computer Interface Support: 1-800-769-3265

FedACH Central Operations Support: 204-5555 or 1-888-883-2180

Ninth District Customer Relations: 204-6933 or 1-800-553-9656 ext. 6933

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