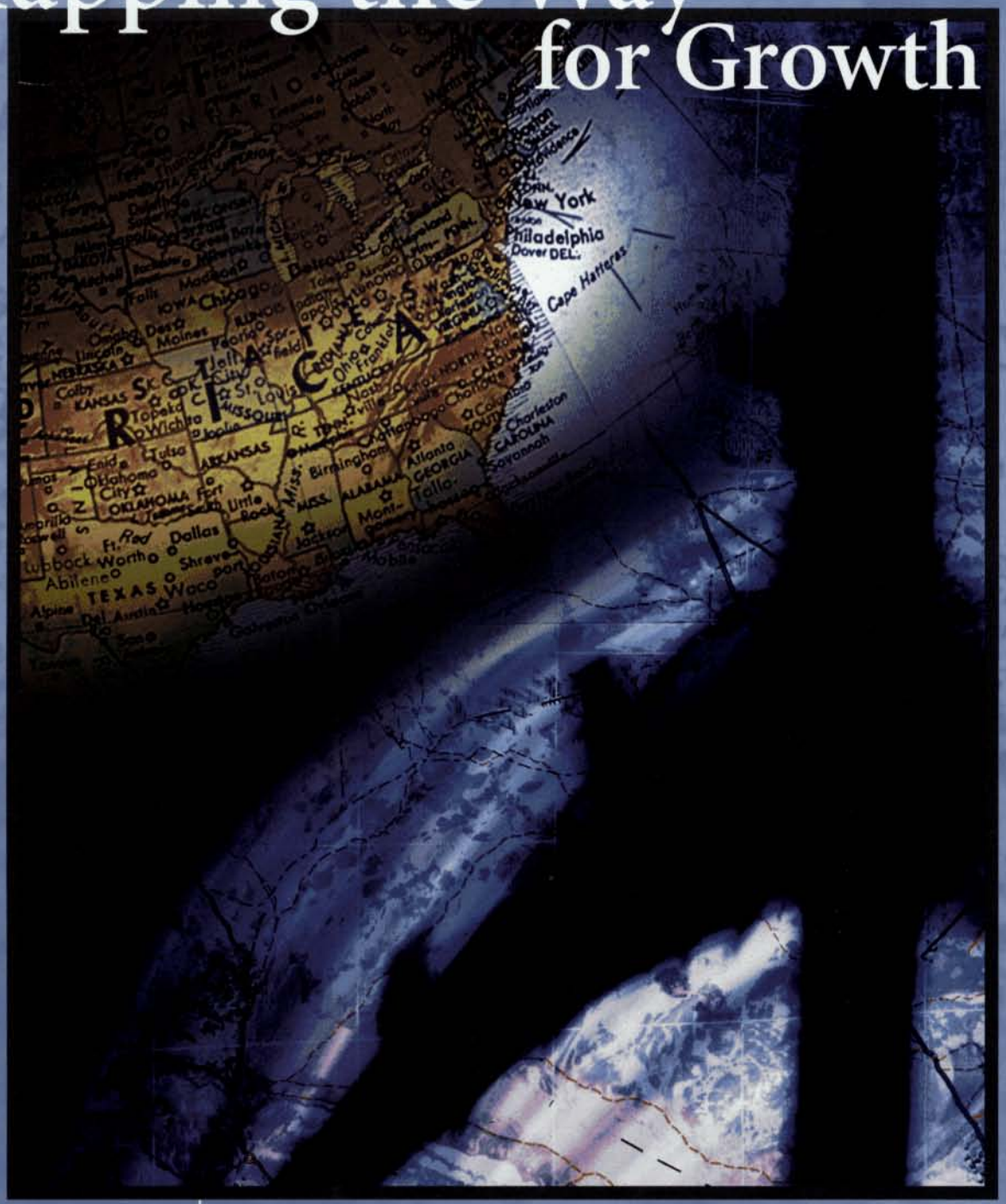
Mapping the Way for Growth



THE FEDERAL RESERVE BANK OF BOSTON
1996 ANNUAL REPORT

Cathy E. Minehan,
President and Chief Executive Officer

Letter from the President

We live in exceptional, if not extraordinary times. Our national economy has not been in such good shape overall since the 1960s, and a variety of forecasts suggest that in 1997 the entire world — developed and developing countries alike — is poised for growth, albeit at varying rates. Such a confluence is rare.

Reflecting this trend, New England too has fared well, with job growth close to its long-run average and unemployment below that of the nation. Regional growth is also poised to continue into 1997 and beyond, reflecting a vibrant financial services sector, growth in our nondefense aerospace industry, stabilization in the defense and medical areas, and dynamism in the provision of business services, especially those with a high-tech component. Real estate markets are strong, if not tight in some areas, and are gradually improving elsewhere. Consumer confidence is high, new businesses are being formed, and everywhere the focus is on becoming more innovative, efficient, and competitive.

In the midst of these favorable economic trends lie a series of challenges, not the least of which involves how we prolong this very favorable combination of regional, national, and worldwide growth. We know technological innovation is the absolute prerequisite for economic growth. Similarly, we know that open trading and competition with the rest of the world heighten our knowledge and force us to concentrate resources on products and processes where we have a comparative advantage. However, debate abounds about how these and other phenomena affect inflation rates, our work force, standards of living, and our society as a whole.

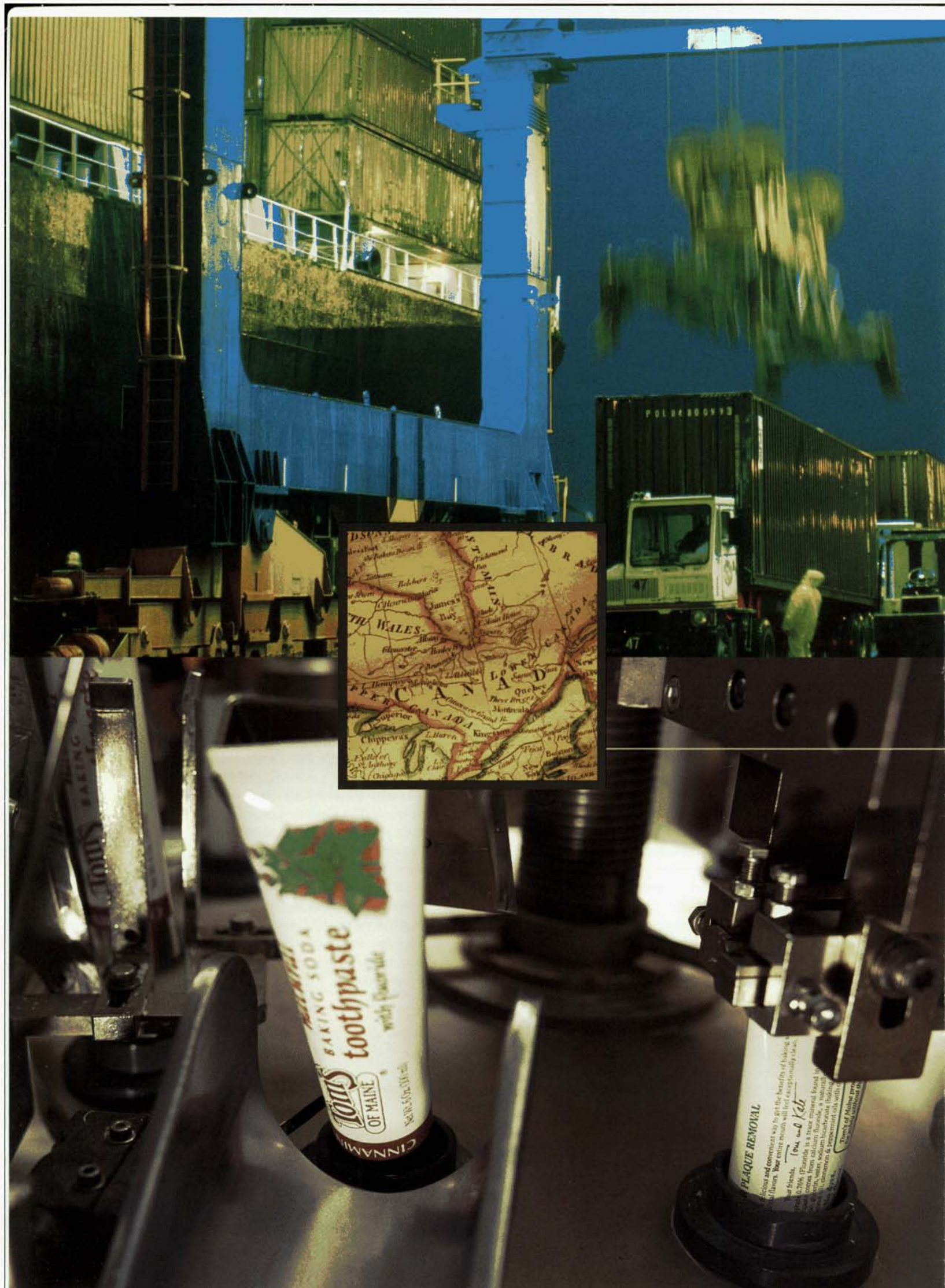
These issues have engaged our minds and absorbed our resources here at the Boston Fed in 1996. The centerpiece of this annual report is an essay on the importance of international trade to New England. While international trade promotes economic efficiency, it also requires adjustments that can be difficult in the short run. So too can technological advancement. Our annual economic conference focused on the nexus between technology and growth and brought together experts from academia, business, and government to debate and expound upon perspectives and theories in this important area. Related major research revolved around growing income inequality and displaced workers, and a financial system that is becoming increasingly integrated on a global basis.

In the provision of our own financial services we continued to focus on increasing electronic payments, through innovations such as new automated clearing house and book-entry securities systems. A major change in the way we examine and supervise banks was the shift to risk-based examinations, another superior approach and one made more viable because of technology. These accomplishments and others are highlighted in this report in the context of our mission statement and our strategic goals; we've also highlighted the Bank's new statement of values, adopted to communicate both internally and externally the type of organization we believe the Bank is, and should aspire to be.

Information flows between us and our Board of Directors, our Advisory Councils (some of whom are pictured in this report), and other business and community groups all contributed immensely to our understanding of the many issues we face. I would like to thank all those who served on the Board, or on our Councils, for their invaluable input in 1996. We are especially grateful to Jerome Grossman, M.D., Chairman of Health Quality LLC, who completed seven years of service on our Board of Directors, the past four as Chairman. I'd also like to thank John Flynn, Executive Director of The Quality Connection, who completed six years on our Board and for five years before that served as a member of our New England Advisory Council, and Angelo Pizzagalli, Vice Chairman of Pizzagalli Construction, who completed six years of service as both a member of the New England Advisory Council and its Chairman. Jerry, John, and Angelo brought dedication and vision to our endeavors. We will miss their sage advice and counsel.

Sincerely,

Cathy E. Minehan


WALES
CANADA
Tom's of Maine
toothpaste
PLAQUE REMOVAL

Trade and Growth in New England

*By Cathy E. Minehan with Jane S. Little**

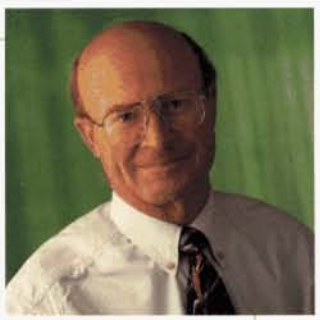
From the time when New England timber built the British navy and Salem boys sailed ginseng root to China and returned as wealthy men, New England's growth has been tightly linked with international trade. The ties are no less compelling today. Trade raises living standards by promoting the efficient use of resources and encouraging the adoption of new technologies and productivity improvements. New England is a region that specializes in new technologies, a region with limited natural resources, and trade is essential to its future well-being. However, like technological change, increased trade can hurt some individuals, particularly the low-skilled, and their communities, at least in the short run. Understandably, fear of increased foreign competition spurs resistance to more open trade policies, like the creation and broadening of the NAFTA, even though, over the long run, such developments hold the promise of increasing incomes in New England, in the United States, and in our trading partners. There is no doubt freer trade can cause hardships, but their remedy lies not in espousing protectionism, but in adequately preparing New England's work force for a rapidly changing global economy.

The National Setting — 1996 in Review

Over the last year — indeed, over the past three years — U.S. macroeconomic conditions have been quite solid. Real GDP grew at a better than 3 percent pace from the fourth quarter of 1995 to the fourth quarter of '96, while the economy added over 2.5 million jobs and the unemployment rate fell to 5.4 percent. Moreover, while economic growth was strong and the unemployment rate signaled that the economy's resources may be increasingly constrained, prices remained remarkably well behaved. The Consumer Price Index excluding food and energy rose 2.6 percent in 1996, and other aggregate measures of price increases were similarly subdued. Altogether, this combination of price and employment conditions has not been as favorable since the halcyon days of the mid '60s.

Past experience with national economic trends teaches some caution in the face of this very good news—caution because the degree of labor market tightness we now observe has historically been associated with rising rates of inflation. Inflation and the imbalances it so frequently generates have historically brought expansions to an end. The extended period of growth the U.S. economy has experienced since the early '90s recession has resulted in substantial job creation, improved U.S. competitiveness, rising consumer confidence, and recently, a dip in the poverty rate. These desirable trends must be encouraged, but rising inflation could jeopardize them.

Explanations as to why inflation has remained restrained as labor markets have tightened abound. Workers may be more insecure and less willing than they once were to demand higher wages at particular levels of labor market constraint; rising (but as yet not measured) rates of productivity growth may be damping cost increases, or



"To continue our corporate growth rate target of 25%, we are expecting significantly higher growth from international opportunities. We are particularly optimistic about the European and Japanese markets."

Chester Homer, Executive Vice President
Tom's of Maine, Kennebunk, ME
Member, New England Advisory Council

*Cathy E. Minehan is the President and Chief Executive Officer of the Federal Reserve Bank of Boston; Jane S. Little is an Assistant Vice President and Economist in the Research Department. The views expressed are those of the authors and do not necessarily reflect official positions of the Federal Reserve System.

"Ashaway has been exporting products for almost 150 years with more than 40% of our turnover generated by foreign sales today. Without this commitment to exports, Ashaway would have been hard-pressed to have survived through these many years."

Pamela Crandall, Chairperson and CEO
Ashaway Line & Twine Manufacturing, Cranston, RI
Member, New England Advisory Council

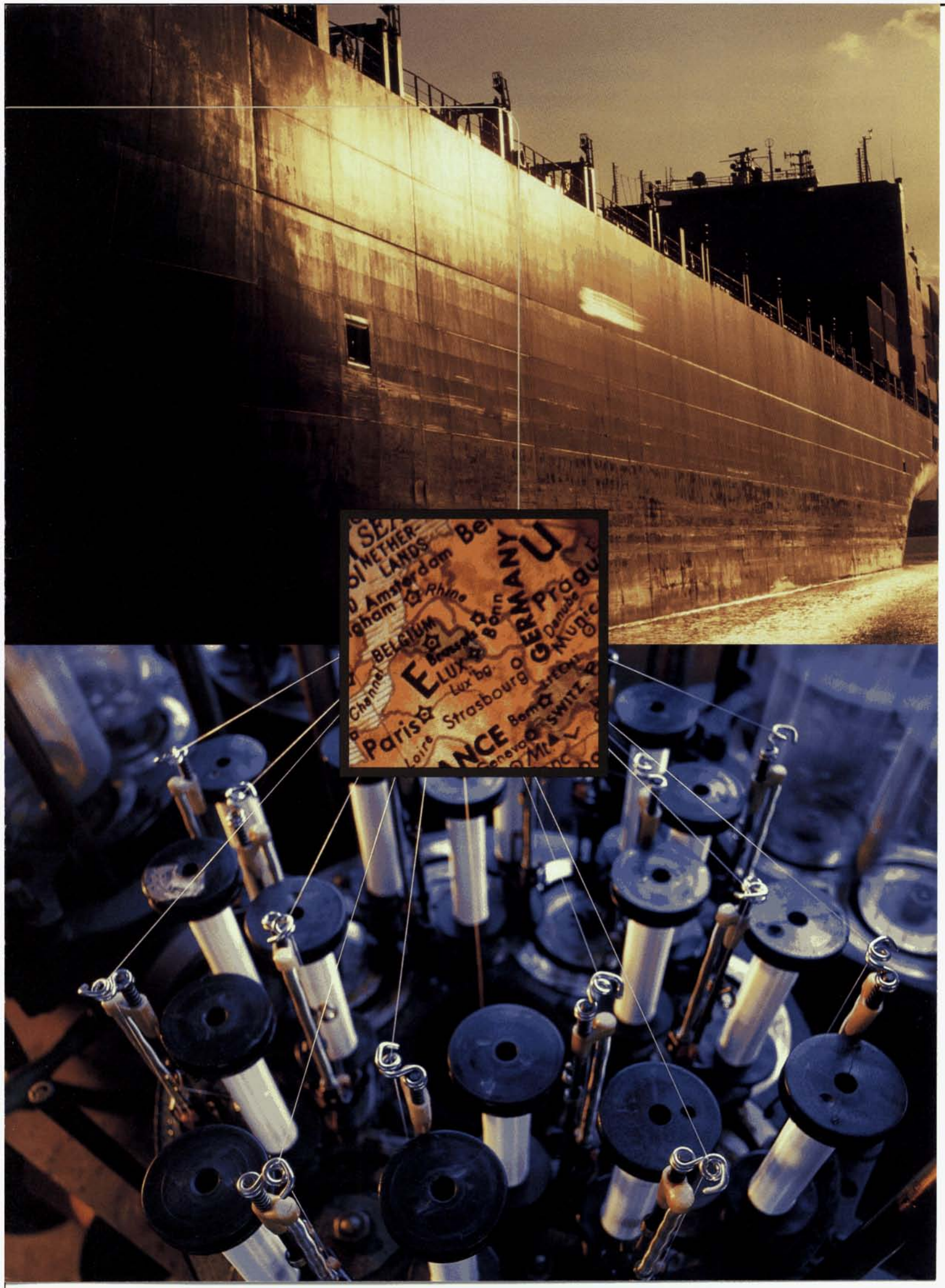
the impact of global, more open markets at a time of excess capacity abroad may have created a competitive situation that simply has not allowed price increases to stick except at the cost of market share. Each one of these explanations has merit, and together they may help to explain our current good fortune. But how long can these trends last? There is some reason to be skeptical about them, either individually or collectively, as persuasive in explaining our ability to restrain inflation over the longer term. Thus, the Federal Reserve must continue to be vigilant, for in the end, maintaining low and stable rates of inflation remains monetary policy's major contribution to long-term growth.

In the face of the economy's obvious success during this expansion period, two longer-term imbalances persist—to the distress of many observers. The first of these is the domestic budget deficit, which remains sizeable in absolute terms, but has fallen considerably over the '90s relative to overall economic activity. In fiscal 1995/96, the government deficit fell below expectations and now represents the lowest fraction of GDP of any major industrialized country. Nonetheless, a persistent domestic budget deficit limits the amount of domestic savings available for private investment. While a Constitutional amendment requiring a balanced budget may not be the answer because of its rigidity, a balanced budget is a desirable end. At this point, and given reasonable assumptions about near-term economic growth and political will, it also seems an end that might be realized in the intermediate term.

The other imbalance relates to the general theme of the rest of this Annual Report essay—trade and its importance to growth in New England and the nation. The U.S. trade deficit at $186 billion, while not unusually large relative to GDP, is at an all-time high. This deficit reflects trends in both U.S. exports and imports, which individually stand at record levels, as well. U.S. exports have more than doubled in the last 10 years, because of the increasing competitiveness of U.S. industry; the increasing capacity of growing, more open foreign economies to buy U.S. goods and services, and the drop in the value of the U.S. dollar over the period. However, U.S. export growth has been far outstripped by increases in imports, reflecting the U.S.'s low trade barriers and receptivity to foreign products; the U.S. economy's relatively vigorous recovery from the industrial world's most recent recession; and the country's low domestic savings rate given its investment opportunities. Indeed, it is only because foreigners are willing to lend this country the resources that allow investment and consumption beyond that which can be financed domestically that the United States can run persistent trade deficits. Trade is, as the rest of this essay discusses, an engine of economic growth for both the United States and its trading partners. Growing trade deficits, however, can signal growing imbalances between domestic savings and investment. Resolution of the domestic budget deficit issue will help to curb increases in the trade deficit, as will stronger growth among our trading partners, but the greater long-term challenge is to raise the U.S. private savings rate to meet a greater share of domestic investment opportunities.

The Importance of Trade to New England

The increasing openness of the U.S. economy is a major ingredient in New England's economic health. Nowhere should the benefits of trade be more obvious than here in this region. Perched on a pile of scoured rock at the edge of the North Atlantic, New England has no vast expanses of agricultural land, no iron, or coal or oil.


NETHER-
LANDS
Amsterdam
Rhine
BELGIUM
Bonn
GERMANY
Prague
Munic
Danube
Channel
Lux'bg
Strasbourg
Paris
Loire
SWITZ.
Geneva

To be sure, many creative New England firms export products based on our natural resources — from cranberries and fish to a variety of wood and paper products. Among the more unusual items on our export menu are sea urchins and urchin roe airfreighted to Japan. This holiday delicacy is out of season in Japan's coastal waters in December, but it is particularly abundant off New England at that time. Similarly, according to Massport, eggs comprise a major export, in volume terms, with over 10,000 metric tons of eggs shipped from Boston each year, largely to the Far East. The explanation? Brown eggs. Since white is the color of death in parts of Asia, white eggs are unpopular there. And West Coast eggs dyed in tea are readily spotted as counterfeit.

However, as diplomat and historian Charles Francis Adams noted in the 1800s, New England's natural resources largely amount to "ice and rocks and men." The region has, in fact, exported ice and rocks in years past, but its most successful exports have almost always reflected the ingenuity of its entrepreneurs and the technical expertise of its skilled labor force. High-tech capital equipment and niche products that reflect the region's industrial history dominate its export base. New England's, and the nation's, most valuable merchandise exports include industrial machinery, electronic equipment, transportation equipment, instruments, and chemicals. However, within those categories, our export base differs considerably from the nation's, at least according to data on our trade with Canada, the region's and the nation's single largest trading partner.

By these measures, considering differences in the U.S. and regional mix of exports at the product level, New England trade is three times more dependent on computer-related products than is the nation, and eight times more dependent on integrated circuits. For the nation, transportation exports mean automotive products and parts; in New England, transportation often means aircraft and aircraft parts as Chart 1 shows. In chemi-

Comparison of the Top Three U.S. and New England Exports to Canada within Selected U.S. Industries: Product Share of Industry Total*

United States		New England	
Product	*Share*	*Product*	*Share*
Industrial Machinery			
Disk drive units, display units & printers	14.6	Disk drive units, display units & printers	32.2
Spark-ignition engines	11.7	Parts for computers & office equipment	19.1
Parts for computers & office equipment	5.8	Turbojet, turbopropeller, & gas engines	16.6
Electric and Electronic Equipment			
Integrated circuits	14.1	Integrated circuits	59.0
Relays, switches, circuit breakers, connectors	8.3	Phonog. records, magnetic tape recordings & disks	7.4
Phonog. records, magnetic tape recordings & disks	8.3	Printed circuits	5.3
Transportation			
Vehicle/tractor bodies, parts	48.0	Vehicle/tractor bodies, parts	44.6
Passenger vehicles	29.5	Parts for civil and military aircraft	37.8
Motor vehicles w/ rear cabs, trucks	8.1	Rail, train car parts	4.4
Chemicals			
Organic chemicals	20.3	Pharmaceutical products	25.8
Miscellaneous	19.1	Organic chemicals	16.5
Pharmaceutical products	12.8	Toiletries	13.8
Base Metals and Articles			
Articles of iron & steel	33.0	Tools & cutlery of base metals	24.8
Iron & steel	19.0	Articles of iron & steel	22.9
Aluminum & articles thereof	18.2	Misc. articles of base metals	12.2
Instruments			
Automatic regulating or controlling instruments & appliances	20.9	Medical instruments & appliances	23.1
Medical instruments & appliances	15.4	Instruments & app. for physical or chemical analysis	13.7
Photocopying equipment	7.3	Oscilloscopes & spectrum analyzers	11.7

**Based on 1993 data. Source: Statistics Canada.*

Chart 1

cals, organic products dominate at the national level, but in New England, pharmaceuticals loom most important with toiletries playing a significant role. Again reflecting its industrial heritage, textile exports continue to have above-average importance in New England, but, not surprisingly, the region exports high-tech fabrics like Polartec®, while clothing and older synthetic fabrics top the list for the nation. Another niche product is golf balls; according to industry sources, New England produces about 60 to 70 percent of the nation's exports of golf balls — in part because Albert Goodwill Spalding came to Boston in 1871 in order to pitch for the Boston Red Stockings. Spalding Sports Worldwide, now headquartered in Chicopee, MA, is the world's largest manufacturer of golf balls.

Exports of intangibles like tourism, transportation, and business and professional services now comprise better than one-quarter of the nation's total exports. However, data on service exports are not available at the state level, requiring some inferences about the impact of service exports on the New England economy. According to national numbers, service exports have been growing a bit faster than merchandise exports for some time. For instance, private service exports rose 94 percent between 1988 and 1995, while exports of goods grew 82 percent. Because services, including finance, insurance, and real estate, account for a disproportionately large share of New England's employment, it is probably safe to assume that this region also accounts for a disproportionately large share of the nation's rapidly growing service exports.

National data indicate that travel and transportation bulk largest in service exports, and, as a stroll through Harvard Square or Copley Place demonstrates, the Boston area has clearly been successful in attracting a growing number of foreign tourists who reportedly spend more per person in local stores and restaurants than domestic travelers. The same observation applies to coastal areas from Mystic to Mount Desert and to the inland malls which have become the highlight of holiday shopping tours from overseas. License and royalty receipts account for another major share of service exports, and a significant part of our biotech and software companies' earnings falls in this category, as foreign earnings often equal 30 to 50 percent of these companies' total revenues. Other major service exports include education, financial services, and construction, engineering, and architectural services — all major industries in New England.

Export Markets - Old and New

The region's export growth is affected not only by the mix of products it exports, but also by developments in its major foreign markets. Evidence suggests that New England's markets have changed in recent years. During the late 1980s and early '90s, New England's growth in total merchandise exports fell short of the nation's, despite the fact that the region's export base included some of the fastest-growing exports nationwide. This shortfall partially reflects the region's limited exports to the world's most dynamic markets. For historic and geographic reasons, the region has close trade and investment ties with Western Europe and Canada. As can be seen in Chart 2 (see page 8), New England remained more dependent on trade with Europe and Canada and less dependent on trade with fast-growing markets in Asia and Latin America than the nation during this period. Emerging Asia and Latin America account for over 40 percent of U.S. exports, but for just 26 percent of exports from New England. During this period, Canada, the European Union and Japan suffered more severe recessions than did the United States, and, until recently, many of these economies had more tentative recoveries. In contrast, most of the emerging markets continued to grow at robust real rates.

According to more recent data, however, Maine, Massachusetts, New Hampshire, and Vermont outperformed the nation in exporting in 1995. Based on Department of Commerce data, in that year merchandise exports supported almost 500,000 jobs in New England, of which 250,000 were in Massachusetts. This number represents about 8 percent of nonagricultural employment in both the region and the state. Moreover, again relying on Commerce estimates, merchandise export growth accounted for about half of the increase, albeit modest, in the region's nonagricultural employment in 1995, a rather remarkable indication of the importance of trade to the region.

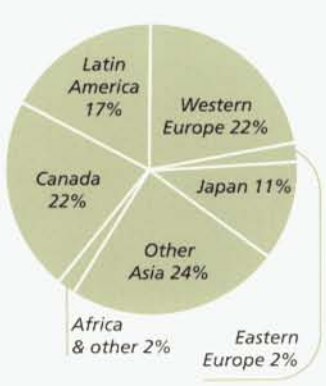
"The new G.A.T.T. agreements have created opportunities for Cabot cheese in the United Kingdom where naturally aged extra sharp cheese demands a premium. Market tests in the U.K. have been successful and promise market expansion that will further ensure Cabot's long-term success."

Richard W. Stammer, President
Cabot Creamery
Member, New England Advisory Council, 1997

New England's improved export performance undoubtedly reflects strenuous public and private efforts to broaden the region's export markets. During this Bank's periodic surveys of business conditions, many of our contacts have reported impressive gains in sales in Eastern Europe and China as well as other Asian and Latin American markets. Similarly, data for 1994 through the first half of 1996 indicate that among the region's 50 largest export markets, nontraditional trading partners like Finland, Kuwait, Indonesia, and Honduras exhibited the fastest growth. Chart 3 (see page 10) shows the fastest-growing export markets for New England and the United States in this recent period; the lists show considerable overlap.

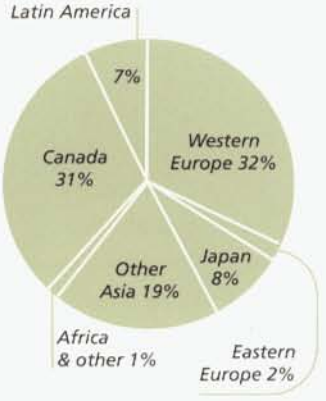
Clearly, New Englanders have little choice but to continue to explore burgeoning new export markets. Over the long run, annual growth in the mature industrial countries is likely to stay in the same 2.0 to 2.5 percent range expected here in the United States. All of these countries face pressures to reduce government budget deficits. In Europe, the need to meet and maintain Maastricht fiscal standards looms over the future, and in Japan the budgetary impact of a rapidly aging population is a constant concern. Moreover, in all of these countries, firms face the need to improve efficiency. Like fiscal stringency, industrial restructuring could restrain growth in the mature foreign economies at least in the near

EXPORT DESTINATIONS U.S.
AVERAGE SHARE, 1994 TO 1996*



* First half of 1996
Source: Massachusetts Institute for Social and Economic Research.

EXPORT DESTINATIONS N.E.
AVERAGE SHARE, 1994 TO 1996*



* First half of 1996
Source: Massachusetts Institute for Social and Economic Research.

Chart 2


UNITED
NORTH SEA
KINGDOM
Edinburgh
Liverpool
Birmingham
London
Southampton
Plymouth
Cherbourg
Paris
Brest
Dublin
Cork
BARLOW SEAMLESS
CABOT

term. By contrast, the emerging markets are expected to continue growing at double or triple the rates seen in the industrial world.

Trade's Links to Growth

In addition to creating jobs, international trade promotes technological progress and growth. In this regard, Marco Polo's trips and the voyages of the fifteenth and sixteenth century explorer-traders leap to mind, but the close links between trade and the spread of technology are remarkably durable. The recent discovery of the five-thousand-year-old Iceman with his copper-bladed ax high in the Swiss-Italian Alps dramatized how travelers carried new technologies throughout Copper Age Europe. Here in North America, knives made from an unusual flint show that Penobscot Bay's Red Paint People were trading all along the coast from northern Labrador to New Jersey at least four thousand years ago.

But the links between trade and growth remain equally important today. At this Bank's June 1996 conference on technology and growth, one of the major conclusions was that openness to trade is an important spur to growth. This point was first noted by economists seeking to explain the remarkable growth rates observed in emerging Asia, where traded goods have dominated overall economic production. Exporting permitted firms to make increasingly sophisticated products on a scale they could not have achieved within the domestic market, and growing volumes of imports allowed, and import competition promoted, the adoption of increasingly advanced production methods. Thus, trade has been a win-win engagement for countries like Korea and Taiwan and their trading partners, though it is clear from the current situation in Korea that moving from low-wage exporting to increasingly productive but higher-wage stages of development is not always easy. Emerging from the devastation of the Korean War just a generation ago, Korea is now this country's fifth largest export market (after the United Kingdom and before Germany) and a new member of the Organisation for Economic Development and Cooperation, a developed nations' forum. Taiwan ranks seventh. The positive links between trade and growth are clear.

This observation concerning trade and growth also applies to regions with a concentration of high-tech industries, like New England. Historically, New England industrialists were able to develop a new approach to manufacturing (the American System, which emphasizes the use of machine tools and substitutable parts) by exporting the concept and the required equipment to Britain. Later, regional manufacturers turned to exporting to enlarge the markets for specialized textile, shoe, and paper-making machinery beyond the scope provided by the domestic market. And today, developing countries are often crucially important markets for New England's aircraft engines and parts, certain pharmaceuticals, and

Fastest growing markets*

United States Destination	Exports, 1995 US$ (mil)	Change 1994-96 %	New England Destination	Exports, 1995 US$ (mil)	Change 1994-96 %
Finland	1,248.42	114.29	Finland	99.61	457.03
Switzerland	6,240.79	59.12	Kuwait	24.71	87.00
Philippines	5,294.17	53.17	Indonesia	57.28	84.69
Thailand	6,401.91	49.76	Honduras	37.02	82.64
Kuwait	1,416.23	47.75	Korea, Rep of	846.48	75.71
Korea, Rep. of	25,413.20	45.26	Egypt	60.19	74.13
United Arab Emirates	1,993.70	41.98	Philippines	156.93	69.46
Austria	2,016.89	41.04	Belgium	480.77	54.21
Republic of South Africa	2,750.78	39.94	Thailand	171.67	46.19
Honduras	1,280.72	39.62	Costa Rica	67.08	44.43

*Among 50 largest markets, based on growth rates for 1994-96 (first half).
Source: Massachusetts Institute for Social and Economic Research.

Chart 3

wireless telecommunications equipment. Just as exporting allows developing countries to exploit economies of scale unavailable at home, so too New England firms developing cutting-edge products benefit from having access to large external markets that permit them to move faster along successive learning curves.

Moreover, if New Englanders hope to retain their current comparative advantage in knowledge-based goods and services, it is essential that the region's firms and workers be exposed to technical breakthroughs and have a chance to work with the most advanced equipment and components, which increasingly originate overseas. Indeed, data on foreign holders of U.S. patents and on license and royalty payments to foreigners confirm that the flow of technology is no longer one way.

But What About Imports?

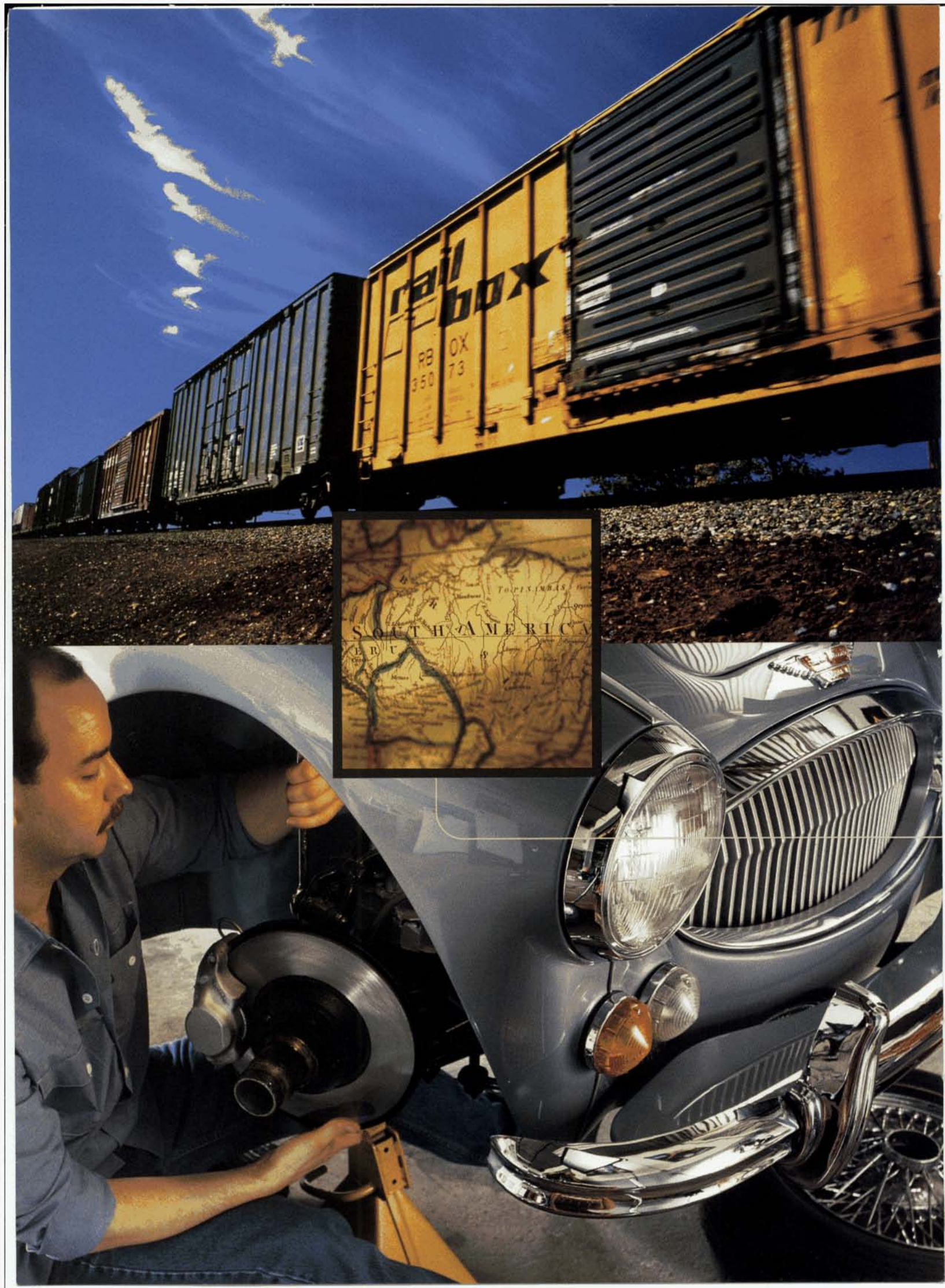
Mention of rising U.S. imports often provokes images of increased foreign competition and lost U.S. jobs. From the broadest perspective, however, imports increase U.S. living standards by expanding the menu of possible choices to include lower-cost or higher-quality products than would otherwise be available. A visit to a local supermarket illustrates the impact of imports on New England's menu quite literally. With the benefit of rapid and refrigerated transportation, New Englanders can now enjoy a virtual cornucopia of imported tropical fruits and flowers in the very heart of winter. We can celebrate Valentine's Day with raspberries not much more expensive than local berries picked in July. And we can introduce our children to more varieties of potatoes or bananas than we even knew existed just a few years ago.

More broadly, however, the largest categories of U.S. imports are capital equipment and materials and supplies, including the oil for which a highly mobile and mechanized society has an unquenchable thirst. Not surprisingly, thus, over half of U.S. imports come from other developed countries plus OPEC. Over one-third of these imports flow intra-firm, between affiliates. Accordingly, regional import patterns tend to reflect local industrial strengths as well as gaps in the local resource base.

Because it is hard to trace an import's final destination from its port of entry, accurate information about the region's imports is difficult to come by. According to Canadian data, however, electrical machinery and industrial machinery are New England's primary imports from Canada; both account for a significantly larger share of total imports regionally than nationally. Similarly, and again reflecting the region's industrial base, pulp and paper, animal products (fish), and timber also account for an above-average share of the region's imports from its northern neighbor. More generally, this Bank's industrial contacts often mention importing key electronic components or supplies, like specialized steel, or capital equipment, like textile or paper-making machines. None of these inputs is available in the United States at the same quality and price; some are simply not available from domestic sources at all.

Free Trade: Benefits and Controversies

New England trades to increase its wealth and raise its citizens' living standards. So why is the issue of free trade so controversial at times? Do individual nations always benefit from free trade, or do important exceptions crop up? Debates over this question have raged for centuries, starting at least as early as the time of the ancient Greeks.


railbox
RB OX
350 73
SOUTH AMERICA

To make the economic benefits of free trade more explicit, consider the case of U.S. trade with developing countries. Even though the United States may be more efficient than Mexico or Thailand in producing all goods—from tomatoes to telecommunications equipment—as a general rule, each country will gain from using its resources to produce goods at which it is relatively efficient, while importing goods from countries that are comparatively well-equipped to make other products. Thus, with its advanced technology base, the United States is likely to gain from concentrating on making telecommunications equipment and cutting-edge pharmaceuticals, instead of pulling resources away from these sectors to produce all its own textiles or televisions. By allowing competition to shift resources to what each country does relatively well and trading, both can consume more in total than they could in the absence of trade. Exporters gain from having access to larger markets, and consumers everywhere gain by having access to cheaper and more varied goods. Domestic firms can be disadvantaged by foreign competition, but, in theory, the gains to exporters and consumers should more than offset this loss. Moreover, and in some ways most importantly, foreign competition can force domestic producers to improve their own cost structures and become more competitive globally. Nowhere is this impact of trade more evident than in the U.S. auto industry, which has regained a premier spot in part by rising to the challenge posed by foreign imports.

As with any controversial topic, there are theoretical arguments on the other side. In theory, a country might be able to increase the relative value of its exports versus its imports by restricting trade. In practice, other countries retaliate and, over all, trade volumes decline, with a general loss in welfare. Similarly, an infant or strategic industry might benefit from protection that fosters the growth of a new or strategically important sector, but such protectionism can produce pampered, unproductive "infants" that never learn to "run" in world markets. In other words, while economists have identified several conditions under which protection might improve a country's welfare (usually on a short-term basis), as a practical matter, free trade policies are most likely to foster the best allocation of limited resources in a dynamic setting. By so doing, trade raises individual nations' standards of living above levels achievable in the absence of trade.

"Echlin's market – motor vehicle parts – is global in scope. We do business with 33,000 customers located in over 100 countries. Tune-up parts manufactured in Connecticut, for example, are used internationally to help keep the world's 600 million cars, trucks and buses running efficiently."

Frederick Mancheski, Chairman Emeritus
Echlin Corporation, Branford, CT
Deputy Chairman, Board of Directors, 1997

But trade theories and policies sometimes depart from reality as seen by workers and owners of firms threatened by import competition. Some U.S. producers and their workers do face reduced demand for their output when foreign unit labor and other production costs fall below U.S. levels. Sometimes very low wages in developing countries are offset by low labor productivity and high transportation costs, making the overall combination less of a threat. Also, as noted earlier, import competition can provide the needed impetus to improve domestic cost structures and overall competitiveness. However, these benefits to the larger society hold little value to workers whose jobs in factories, mills and assembly plants disappear as these facilities close in the face of foreign competition. Moreover, the idea that low-wage countries can also import advanced technologies from the industrialized world and leapfrog to increasingly potent competitive posi-

tions is understandably of concern to many vulnerable workers. The adjustments required of individual workers displaced by import competition can be painful indeed. Job destruction involves the destruction of firm-specific human capital, and the individuals likely to be most severely affected usually come equipped with relatively low skills.

In this regard, the impact of increased import competition on domestic income distribution is similar to that caused by technological change. Trade and technological change both improve the efficiency with which a society uses its resources and increase economic welfare over the long run, but both exact adjustment costs from vulnerable people. Efforts to prevent these costs by slowing the pace of change are unlikely to succeed. Tariffs or other measures, like the "voluntary" export restraint programs once popular in this country, raise the price of imported goods and make the cost of each job "saved" from foreign competition very high — a multiple of the annual wage for the job in question. Such barriers are not the most effective way to spur U.S. employment. Moreover, research has shown that jobs created by export trade are higher-wage jobs; trade barriers almost certainly do nothing to enhance export volume or the creation of these higher-wage jobs, since countries restricted from exporting to the United States will likely retaliate with import restrictions of their own.

To many, NAFTA epitomizes the problems that can develop from free trade. NAFTA is the first free trade agreement between such economically disparate countries as the United States and Mexico, and many U.S. citizens fear that the agreement will exact huge adjustment costs. Nevertheless, given the relative size of the two countries, most early projections of the employment impact of the agreement concluded that it would result in very modest job gains in this country and somewhat larger gains in Mexico. However, within a year of the start of the agreement, and for reasons unrelated to NAFTA, Mexico plunged into a peso crisis and experienced a 10 percent drop in national output. At the time of the crisis, the United States had a trade surplus with Mexico, spurred in part by low rates of Mexican domestic savings. This surplus quickly reversed to a deficit as Mexico began an export-led recovery, and imports from the United States dropped well below their pre-crisis levels.

The shift of the U.S./ Mexican trade position from surplus to deficit naturally raises the specter of lost U.S. jobs. However, the speed with which Mexico's trading policies acted to bring its economy out of recession undoubtedly ameliorated the impact on U.S. employment. This experience is in direct contrast with the aftermath of the Mexican crisis in the 1980s which was characterized by less open markets and a long recovery period. This time, Mexican GDP began to grow again by the second half of 1995—less than a year after the start of the crisis. U.S. total exports to Mexico are now above pre-crisis levels, though net exports remain in deficit. Moreover, Mexican domestic demand is now rising, adding to the depth and breadth of the country's overall recovery. This development sets the stage for further improvements in the U.S. trade balance. In sum, while the crisis took its toll on both sides of the border, the speed of Mexico's recovery as well as the speed with which U.S. total exports to Mexico rebounded almost certainly would not have occurred in a pre-NAFTA environment. Moreover, both countries now face overall economic conditions in which the longer-term benefits of NAFTA will become clearer.

Nevertheless, suspicion of the NAFTA and the World Trade Organization remains widespread, as some segments of the U.S. public fail to appreciate the vital importance of international trade to the U.S. economy. Without U.S. leadership it will be impossible to expand NAFTA to include Chile and other Latin American countries. The United States also needs public support for the ongoing negotiations over service exports and intellectual property rights. This latter issue is of particular importance here in New England.

Far more promising than trying to halt the tides of innovation and trade would be giving workers affected by these trends the tools to cope with change. Redoubled efforts on the education and retraining front would make it easier for workers to move from jobs in declining industries to positions in growing endeavors; they would also provide businesses with a more ample supply of quality, entry-level labor. From my work with Boston's Private Industry Council, I am glad to report that New England employers increasingly see work-focused high school programs and ongoing worker retraining as important investments that enhance shareholder value by expanding the available labor pool and improving current worker flexibility, security, and satisfaction. And make no mistake, opportunities in export markets for firms with well-trained flexible labor are there both in traditional export locations and in new markets. On trips to Poland and Russia as an adviser on payments system issues, I have had the excitement of witnessing firsthand the breathtaking transformations seizing some of these newly open economies. On my first trip nearly seven years ago, shelves were empty and commerce was at a standstill; on my second visit, the streets were bursting with stalls and vendors hawking their wares; most recently, in 1994, well-stocked stores were attracting hordes of shoppers intent on acquiring the accoutrements of a middle-class life. It was stunning, for example, to wander through the GUM department store on Red Square, across from Lenin's tomb, and see familiar U.S. brands — Gillette, Colgate, Revlon — everywhere. As per capita incomes in Russia, Poland and other emerging countries begin to catch up with incomes in the leading economies, those markets will become increasingly important to prospects for growth and job creation here in New England.

New England's history was written by traders and its current economy thrives because of trade as foreign markets absorb its goods, and, through imports, its industries are exposed to new technologies. Nonetheless, increased trade can hurt import-competing firms and their workers, especially the unskilled. For the region individually and the nation as a whole, this problem is best addressed by creating and maintaining a solid economic infrastructure characterized by increased rates of domestic savings and investment—investment that will increase the quality of goods traded and the flexibility and skills of the labor force. By competing at what the United States does best, with a highly trained work force, the country and the region can both minimize trade's short-run adjustment costs and maximize its very considerable advantages.

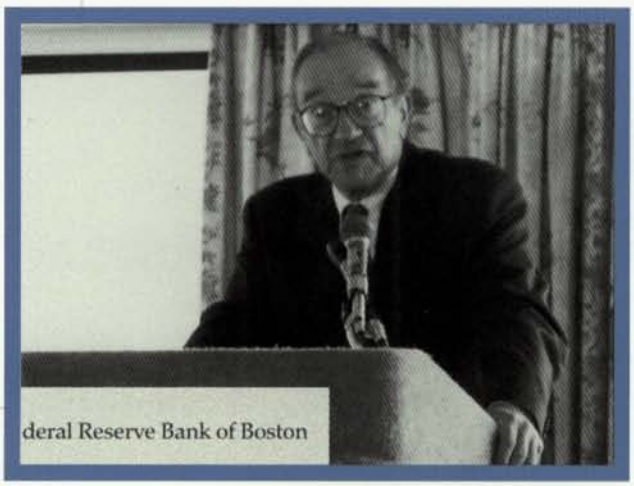
Our Mission

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

To fulfill this mission, we have developed a series of strategic goals. The achievement of these goals is an ongoing, challenging task. Highlights of our progress in 1996 are discussed as they pertain to each goal.

Engage in innovative research directed to improving the conduct of monetary policy and understanding other factors contributing to higher standards of living.

At the core of our research activities lies the Federal Reserve Bank of Boston's commitment to improving understanding of current economic trends and contributing thoughtfully to the formation of monetary policy. In 1996, we conducted research and published articles and working papers in a variety of areas relevant to both local economic conditions — for example, the effects of local tax policy on economic development, regional housing supply, and the fortunes of displaced workers — and to national concerns — including the national saving rates, earnings inequality, the use of value-at-risk models, and international trade issues. We also convened conferences among academics and practitioners on issues of substance both locally and nationally, including the relationship between economic growth and technology, the effects of economic competition among the states, risk management practices of financial services firms, and financial services restructuring.



deral Reserve Bank of Boston

FRB Annual Economic Conference

Develop and implement approaches to risk management and prevention that address systemic stability, technological change, globalization, and consolidation in the First District financial services industry.

New England has a unique mix of financial services industries, all of which face major change in an era of increased consolidation, global competition, and rapidly evolving technology. Our task in 1996 has been to better understand these changes, improve our supervisory and regulatory practices to deal effectively with risk management, and balance the effects of financial service restructuring and consolidation with the banking needs and convenience of consumers and communities. Specifically, we contributed to Systemwide strategic planning and policy development; implemented a more focused, risk-based examination process; participated in the analysis of more than 80 applications to change bank holding company structure, including several major acquisitions; and took the lead in the System's preparation for interstate banking under the Riegle-Neal Interstate Banking and Branching Efficiency Act of 1994, scheduled for full implementation in mid-1997.

Improve the efficiency and effectiveness of our internal systems and practices, particularly by maximizing the benefits of technology.

The efficiency and effectiveness of Reserve Bank operations are critical to the stability of the payments system and to our credibility as a part of the nation's independent central bank. In 1996 all of the performance measures for our financial services

were met; new check and digital image products were introduced; record high productivity levels were achieved in cash operations; new systems for processing book-entry securities and automated clearing house transactions were implemented; new counterfeit detection capabilities were introduced; and planning began for the consolidation of District processing sites to both improve efficiency and speed check collection.

Lead the development toward a more electronic payment system through our national leadership role and local services.

As the nationwide director of retail payment services for the Federal Reserve System, the Federal Reserve Bank of Boston directs efforts to improve the quality, efficiency, customer focus, and risk control of payments system operations and policies at all Reserve Banks. In 1996, we worked on strategies and products to aid in converting paper payments to electronic form; analyzed the System's national physical infrastructure for check services; implemented a nationwide consolidated system for processing automated clearing house transactions, and worked closely with industry professionals to understand trends and develop plans for a more fully electronic process for retail payments.

Maximize our impact on the communities we serve through focused, results-oriented policies and programs.

The Bank sees its role as a corporate citizen in the community—local, national, and international—as integral to its mission. In 1996, the Bank focused its energies locally on education and community development, including school-to-career activities in Boston and Massachusetts as a whole; and a new initiative devoted to improving the fairness of the home mortgage process. We established a first-of-its-kind community development advisory council to contribute to our understanding of community lending and development issues, and an array of educational programs, most notably the local "Fed Challenge," which engages competing teams of high school students in developing monetary policy recommendations. The Bank also continued its provision of technical services to central banks in Eastern Europe and Russia.

Build a climate of trust, openness, understanding, and competence at all levels of the organization.

The Federal Reserve Bank of Boston values the contributions of its diverse and talented staff, and recognizes its responsibility to train staff members for the challenges that face the Bank, the System, the financial services industry more generally, and the economy as a whole. To do this, we need to foster a culture that is open and stresses excellence. During 1996, we began a program of Bankwide meetings to discuss our mission and values; we completed a study of issues related to diversity in the Bank; we planned a new approach to management development for implementation in 1997, and we used a variety of in-house and outside training programs to enhance staff expertise. We also increased the Bank's tuition reimbursement program and instituted health insurance benefits for domestic partners.

Our Values

INTEGRITY. In all our undertakings we will be honest, ethical, and fair. We will participate fully in our jobs and take full responsibility for our work.

SERVING THE PUBLIC. As we serve the public interest, we will adopt a "we can do it" attitude, doing the best we can to anticipate and find solutions to the challenges before us.

RESPECT. In our daily interactions with each other and our customers, we will listen, be open to new ideas, share our knowledge and resources, and promote teamwork. We will work to increase the skills and diversity of our staff and support their professional growth.

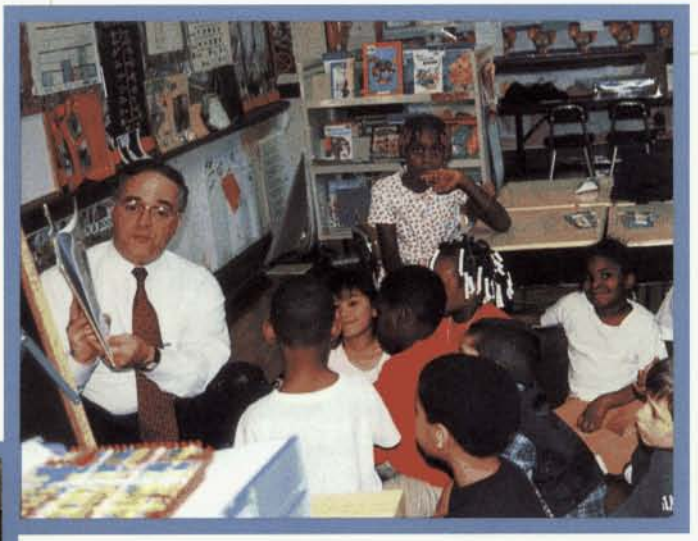
LEADERSHIP. We will seek to be leaders in thought and action and to make valuable contributions in all of our activities.

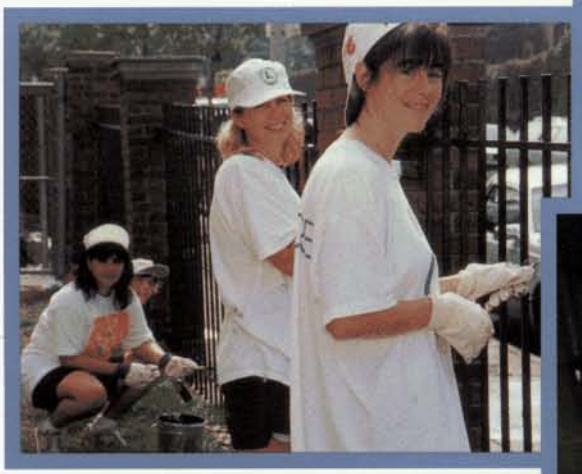
EXCELLENCE. To achieve our professional and business goals we will strive to be the best we can be, emphasizing creative thinking and innovation.

CONTINUOUS IMPROVEMENT. It is part of our job every day to improve our work and the way we do it, and to set ever higher goals for ourselves.

Community Care Day

Kids & Books



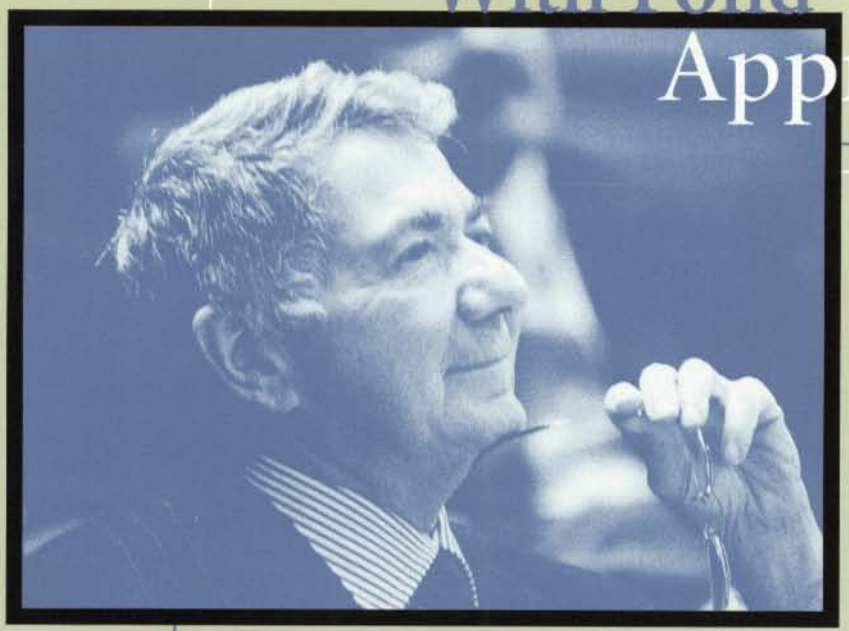


Take our daughters to work

Public & Community Affairs Tour Program

Corporate Challenge

With Fond Appreciation



The Federal Reserve Bank of Boston has been fortunate to have had the service of Jerome H. Grossman, M.D. as a member of its board of directors since 1990. He was tireless in his commitment to improving the way in which the Bank fulfills its role as the regional presence of the nation's central bank. As our Chairman since 1993, Dr. Grossman was committed to "raising the bar" for the Bank's performance levels. As Chairman of the Conference of Federal Reserve Chairmen in 1995, Dr. Grossman brought this commitment to continuous improvement to issues of leadership within the System. We thank him for his support and intellectual energy, as well as for his unfailingly kind and generous nature.

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Chairman and Chief Executive Officer
Health Quality LLC

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(Deputy Chairman)
Chairman, Department of Economics
Yale University

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Chairman and Chief Executive Officer
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Life Insurance Company

Marshall N. Carter
Chairman and Chief Executive Officer
State Street Bank and Trust Company

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UNC Ventures

John E. Flynn
Executive Director
The Quality Connection

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Adjunct Lecturer
John F. Kennedy School of Government

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National Bank of Middlebury

Jane C. Walsh
President
Northmark Bank

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Vice Chairman
Pizzagalli Construction Company

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Executive Vice President
Tom's of Maine, Inc.

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Owner, Allenholm Farm

Bruce D. Clow
Executive Vice President
Primary Bank

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Ashaway Line & Twine Manufacturing

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Commonwealth Group

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Robert Reiser & Company

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Webster Bank

Carol P. Wallace
President and Chief Executive Officer
Cooper Instrument Corporation

Peter G. Meade (Advisor)
President and Chief Executive Officer
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Row 1, left to right: Lynn Browne *(Senior Vice President)*, Angelo Pizzagalli, Cathy Minehan *(President)*; Row 2: Chris Mayer *(Economist)*, Ray Allen, Shepard Lee; Row 3: Peter Meade, Pamela Crandall; Row 4: William McDonough *(Executive Vice President)*, Charles Grigsby, Bruce Clow; Row 5: Louis Harvey, Donald Leef, Chester Homer.

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Assistant Vice President

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Assistant Vice President

Anna M. Wong
Assistant Vice President and Assistant General Auditor

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Vermont National Bank

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Nutmeg Federal Savings and Loan Association

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Associate Professor of Economics
University of Massachusetts/Boston

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Women's Development Corporation

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Vice President and Community Development Finance Officer
Key Bank of Maine

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Nuestra Communidad Development Corporation

Kathleen Jaworski
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Franklin County Community Development Corporation

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Science Park Development

Claira Monier
Executive Director
New Hampshire Housing Finance Agency

Ronald L. Phillips
President
Coastal Enterprises

Gustave Seelig
Executive Director
Vermont Housing and Conservation Fund

Gail Snowden
President
First Community Bank at BankBoston

Ken Wade
District Director for New England
Neighborhood Reinvestment Corporation

Statement of Condition

	December 31, 1996	December 31, 1995
Assets		
Gold certificates	$ 661,000,000	$ 575,000,000
Special drawing rights certificates	636,000,000	511,000,000
Coin	12,740,494	16,851,740
Items in process of collection	705,687,833	299,301,360
Loans to depository institutions	0	6,000,000
U.S. government and federal agency securities, net	23,197,652,177	18,780,226,586
Investments denominated in foreign currencies	829,931,288	798,907,724
Accrued interest receivable	209,263,900	191,018,737
Interdistrict settlement account	1,024,151,242	7,062,612,789
Bank premises and equipment, net	122,185,184	119,472,822
Other assets	21,611,178	20,814,065
Total assets	$ 27,420,223,296	$ 28,381,205,823
Liabilities and Capital		
Liabilities:		
Federal Reserve notes outstanding, net	$ 25,417,289,476	$ 26,174,514,828
Deposits:		
Depository institutions	1,047,790,691	1,414,051,848
Other deposits	7,209,807	6,446,139
Deferred credit items	511,412,953	358,933,797
Statutory surplus transfer due U.S. Treasury	37,358,933	NA
Interest on Federal Reserve notes due U.S. Treasury	NA	31,982,454
Accrued benefit cost	46,793,043	43,601,914
Other liabilities	12,596,057	9,998,243
Total liabilities	$ 27,080,450,959	$ 28,039,529,223
Capital:		
Capital paid-in	172,168,950	170,838,300
Surplus	167,603,387	170,838,300
Total capital	339,772,337	341,676,600
Total liabilities and capital	$ 27,420,223,296	$ 28,381,205,823

These statements are prepared by Bank management. Copies of full and final financial statements, complete with footnotes, are available by contacting the Bank's Public and Community Affairs Department.

Statement of Income

For the years ended	December 31, 1996	December 31, 1995
Interest income:		
Interest on U.S. government securities	$ 1,328,674,303	$ 1,184,564,568
Interest on foreign currencies	18,896,077	29,585,740
Interest on Loans to Depository Institutions	169,855	145,809
Total interest income	1,347,740,235	1,214,296,117
Other operating income:		
Income from services	68,101,941	61,548,708
Reimbursable services to government agencies	9,277,655	10,451,456
Foreign currency gains (losses), net	(71,851,579)	38,032,962
Government securities gains , net	1,713,733	253,285
Other income	8,778,919	8,370,332
Total other operating income	16,020,669	118,656,743
Operating expenses:		
Salaries and other benefits	73,133,719	71,412,520
Occupancy expense	12,124,198	11,595,720
Equipment expense	8,638,985	8,315,923
Cost of unreimbursed Treasury services	1,737,950	2,017,434
Assessments by Board of Governors	33,128,321	23,477,330
Other expenses	68,834,564	64,056,114
Total operating expenses	197,597,737	180,875,041
Income before cumulative effect of accounting change	1,166,163,167	1,152,077,819
Cumulative effect of change in accounting principle	N/A	(3,296,188)
Net income prior to distribution	$ 1,166,163,167	$ 1,148,781,631
Distribution of net income:		
Dividends paid to member banks	$ 10,270,121	$ 9,461,492
Transferred to surplus	1,330,650	31,401,950
Payments to U.S. Treasury as interest on Federal Reserve notes	826,506,487	1,107,918,189
Payments to U.S. Treasury as required by statute	328,055,909	N/A
	$ 1,166,163,167	$ 1,148,781,631

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Summary of Operations

Services to Depository Institutions	Calendar Year 1996 Daily Average Volume	Calendar Year 1996 Daily Dollar Value of Transactions	Calendar Year 1995 Daily Average Volume	Calendar Year 1995 Daily Volume Value of Transactions
Wire Transfers of Funds	39,122 tranfers	$ 106.3 billion	34,665 transfers	$ 88.9 billion
Automatic Clearing House*			839,967 items	$ 2.0 billion
Commercial ACH Items*			721,822 items	$ 1.8 billion
Government ACH Items			118,145 items	$ 0.2 billion
Check Processing (Commercial)				
Total Volume	4.2 million checks	$ 2.9 billion	4.1 million checks	$ 2.6 billion
Processed Volume	3.4 million checks	$ 2.5 billion	3.2 million checks	$ 2.1 billion
Fine Sort Volume	0.7 million checks	$ 0.3 billion	0.8 million checks	$ 0.3 billion
Processed Returns	44,778 items	$ 0.04 billion	42,375 items	$ 0.04 billion
Government Volume	85,984 items	$ 0.08 billion	91,538 items	$ 0.09 billion
Adjustment Process	933 items		861 items	
Cash Operations				
Cash Shipped	6.9 million notes	$ 93.9 million	6.5 million notes	$ 85.1 million
Cash Received	6.4 million notes	$ 85.4 million	6.0 million notes	$ 77.4 million
Services to U.S. Treasury				
Electronic Book Entry Securities	7,593 transfers	$ 99.8 billion	6,558 transfers	$ 87.1 billion
Savings Bonds Issued**			2,147 bonds	$ 382.9 thousand

* *As a result of Boston's conversion to centralized ACH processing in April 1996, comparable 1996 data are not available.*
** *All savings bonds functions were moved to Federal Reserve Bank of New York at Buffalo as of August 1995.*

Statement of Changes in Capital

for the years ended December 31, 1996 and December 31, 1995

	Capital Paid-in	Surplus	Total Capital
Balance at January 1, 1995 (2,788,727 shares)	$ 139,436,350	$ 139,436,350	$ 278,872,700
Net income transferred to surplus	—	31,401,950	31,401,950
Net change in capital stock issued (628,039 shares)	$ 31,401,950	—	$ 31,401,950
Balance at December 31, 1995 (3,416,766 shares)	170,838,300	170,838,300	341,676,600
Net income transferred to surplus	—	1,330,650	1,330,650
Statutory surplus transfer to the U.S. Treasury	—	(4,565,563)	(4,565,563)
Net change in capital stock issued (26,613 shares)	$ 1,330,650	—	$ 1,330,650
Balance at December 31, 1996 (3,443,379 shares)	$ 172,168,950	$ 167,603,387	$ 339,772,337

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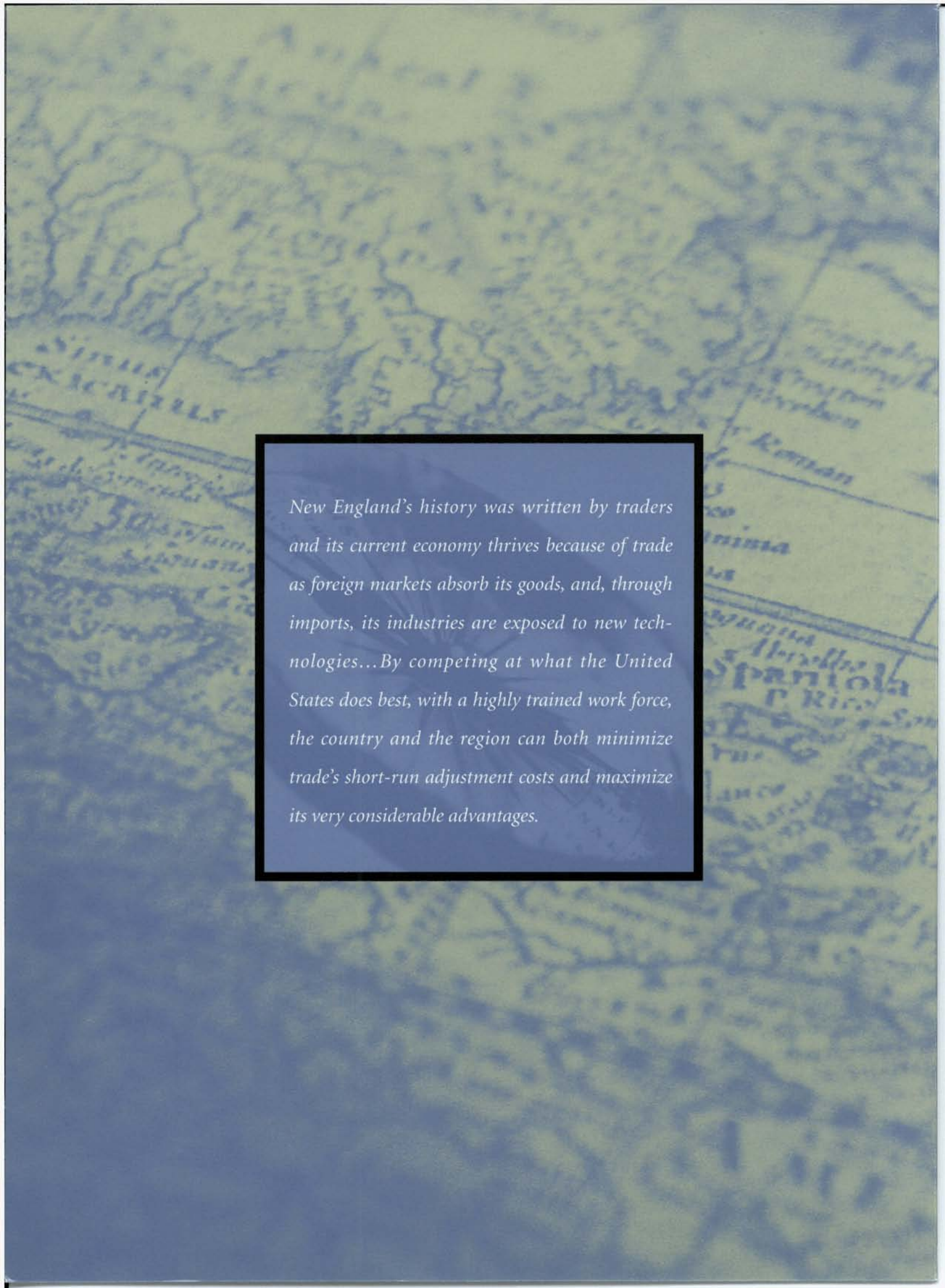
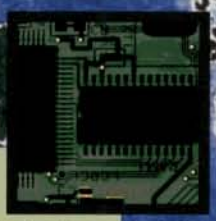


New England's history was written by traders and its current economy thrives because of trade as foreign markets absorb its goods, and, through imports, its industries are exposed to new technologies...By competing at what the United States does best, with a highly trained work force, the country and the region can both minimize trade's short-run adjustment costs and maximize its very considerable advantages.

REPRESENTATIVE EXPORTS* TO LARGEST MARKETS**

New England

Exports to the Netherlands include: Parts for Automated Data Processing machines; ink jet type printer units; vacuum molding machinery; parts of machines to filter liquids.



Exports to Canada include: Hybrid and monolithic integrated circuits.

Exports to the United Kingdom include: Parts for ADP machines; parts of turbojet and turboprop eller aircraft engines; filtering, purifying equipment for liquids.

Exports to Mexico include: Toiletries.

* *Based on exports through the port of Boston, 1995.*
** *Based on exports for 1994 through first half of 1996.*
Source: U.S. Census Bureau, Foreign Trade Division; Statistics Canada; and Massachusetts Institute for Social and Economic Research.

Exports to Japan include: Digital processing units with storage; hard magnetic disk drive units; parts for ADP machines; machinery for making cartons, boxes.

Exports to Germany include: Parts for ADP machines; parts of printing machines; type-setting equipment.

Exports to Korea include: Filtering, purifying equipment for liquids; optical scanners; printing machinery; industrial robots for multiple uses.

Exports to France include: Multi-engine airplanes (mid-size); turbofan airplanes.

Exports to Singapore include: Ion implanters for semiconductors; wafers for integrated circuits; modems; radar apparatus.

Exports to Taiwan include: Integrated circuits; unrecorded magnetic disks; electric water heaters.

REPRESENTATIVE EXPORTS* TO FASTEST GROWING MARKETS**

New England

Exports to Finland include: Spark ignition engines for passenger motor vehicles.

Exports to Costa Rica include: Womens' and girls' coats.

Exports to Belgium include: Optical scanners.

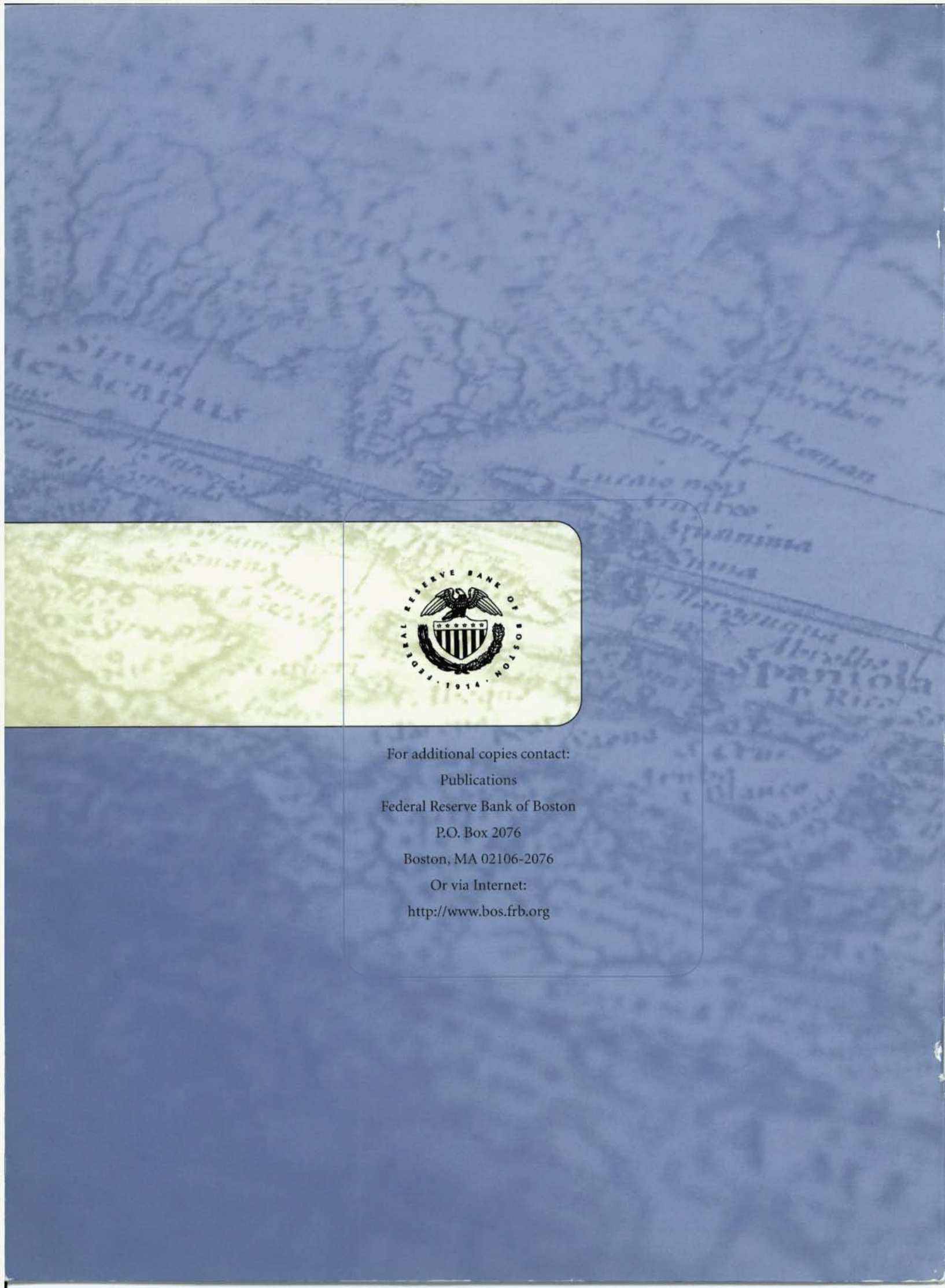
Exports to Honduras include: Clothing, accessories, parts.

* *Based on exports through the port of Boston 1995.*

** *Among the 50 largest markets, based on growth rates for 1994 through first half of 1996.*

Source: U.S. Census Bureau, Foreign Trade Division; Statistics Canada; and Massachusetts Institute of Social and Economic Research.


Exports to Korea include: Parts of machinery and apparatus for filtering, purifying liquids and gas; hard magnetic disk drive units; valves with pneumatic actuators.
Exports to Kuwait include: Blades and handsaws.
Exports to the Philippines include: Portable electric lamps; chips for integrated circuits.
Exports to Egypt include: Powdered milk.
Exports to Thailand include: Parts of centrifuges, including centrifugal dryers; phototype-setting and composing machines.
Exports to Indonesia include: Parts of machinery for making paper; oil separation equipment.



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