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A Budgetary and Economic Analysis of the North American Free Trade Agreement

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A Budgetary and Economic Analysis of NAFTA

The North American Free Trade Agreement (NAFTA) would eliminate most barriers to trade and investment between the United States, Canada, and Mexico. According to the Congressional Budget Office's (CBO's) study *A Budgetary and Economic Analysis of the North American Free Trade Agreement*, NAFTA should provide net economic gains to all three countries. Gains for the United States should be fairly small, although clearly large enough to outweigh the expected budgetary and private-sector costs that would follow in NAFTA's wake. Contrary to some commonly expressed concerns, NAFTA should have relatively little impact on jobs and the location of manufacturing.

NAFTA would impose some costs on the federal budget. It would reduce revenues from tariffs, change outlays for agricultural programs, and increase pressure for spending on displaced workers and on infrastructure and environmental cleanup along the U.S.-Mexican border. Gradually eliminating tariffs on imports from Mexico would result in revenue losses of about $2 billion to $3 billion over five years. Other budgetary effects are less certain, and some, such as spending on environmental cleanup, may occur even without the agreement.

The biggest changes introduced by NAFTA would occur in Mexico. NAFTA is a logical next step for Mexico along a development path that has emphasized market-oriented policies, including reduced restrictions on trade and investment. NAFTA would promote investment in Mexico by helping to lock in these policies. It would also provide export opportunities for U.S. producers and income for U.S. investors who provide financing for Mexico's development.

Although the overall effect of NAFTA on the U.S. economy would be positive, some firms would contract. Industries in the United States that make intensive use of low-wage labor and that are now protected by trade barriers are the most likely to be put at a disadvantage. NAFTA would create jobs in some industries, but not all workers who lost their jobs as a result of the agreement would find new jobs. Even for those who found new employment, the transitional costs could be high.

A review of information about the potential effects of NAFTA on workers indicates that the number of jobs that might be lost is well under half a million, spread over at least a decade--relatively small compared with the 20 million workers who were displaced during the 1980s. But the consequences for some of the workers who lost their jobs could be considerable. Although existing programs would provide a basic safety net, many displaced workers would run out of benefits before they found a new job.

The study also examines issues related to agriculture and the environment. Mexico is one of the U.S. farm sector's most important trading partners, and NAFTA would provide a positive, though modest, boost to U.S. agriculture--specifically to producers of grains, oilseed, and some animal products. Answers to questions about whether U.S. firms would move to Mexico to take advantage of lower costs for controlling pollution and whether development in Mexico would damage the environment, especially along the border, are not unequivocal, but they are reassuring. Most analysts conclude that differences in pollution control costs should not cause widespread movement of U.S. firms to Mexico. And, over the longer run, the quality of the environment in Mexico should benefit from economic growth and a rising standard of living.

Questions about the study should be directed to Elliot Schwartz at (202) 226-2940. The Office of Intergovernmental Relations is CBO's Congressional liaison office and can be reached at 226-2600. For additional copies of the study, please call the CBO Publications Office at 226-2809.

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A BUDGETARY AND ECONOMIC ANALYSIS OF THE NORTH AMERICAN FREE TRADE AGREEMENT

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NOTES

Numbers in the text and tables of this study may not add to totals because of rounding.

Unless otherwise noted, all years refer to calendar years.

Because of the change in classification systems used for collecting trade data--from the old Tariff Schedule of the United States Annotated to the new Harmonized Tariff Schedule of the United States--the trade data for 1987 and 1988 for certain categories of trade may not be strictly comparable with those for 1989 and later years.

Chapter 4 uses trade data from the U.S. Department of Agriculture that were derived from official data released by the Bureau of the Census. The Department of Agriculture defines agricultural commodities as (1) nonmarine food products and (2) other products of agriculture, including fibers, raw hides and skins, fats and oils, and beer and wine that have not passed through complex processes of manufacture. Such manufactured products as textiles, leather, boots and shoes, cigarettes, naval stores, forestry products, and distilled alcoholic beverages are not considered agricultural. The change in classification systems, as noted above, may also affect the comparability of trade data in Chapter 4.

A crop year (or marketing year) is the 12-month period beginning around the time of harvest and is identified by the calendar year in which the crop is harvested. For example, the 1992 crop year for cotton in the United States extends from August 1992 through July 1993. The marketing year for sugar in Mexico begins in November and ends in October.

On December 17, 1992, the leaders of the United States, Mexico, and Canada signed the proposed North American Free Trade Agreement (NAFTA). Copies of the document, *North American Free Trade Agreement Between the Government of the United States of America, the Government of Canada, and the Government of the United Mexican States*, are available through the U.S. Government Printing Office. Unless otherwise noted, all references to NAFTA refer to that document.

Preface

This study, requested by the Senate Committee on Finance, analyzes the major effects of the North American Free Trade Agreement (NAFTA) on the U.S. economy and the federal budget. As this study is being printed, the Congress is in the process of consulting with the Administration on legislation to carry out the agreement. The Congress also awaits the results of the Administration's negotiations with Canada and Mexico for side agreements that would cover issues of special concern, notably the environment, labor standards, and import surges. The outcome of these negotiations, however, should have little impact on the study's findings concerning the principal economic effects of NAFTA.

The study was prepared by members of the Congressional Budget Office's (CBO's) Natural Resources and Commerce, Macroeconomic Analysis, and Human Resources and Community Development divisions under the direction of Jan Paul Acton, Robert Dennis, and Nancy Gordon, respectively. The analysis was supervised and coordinated by Elliot Schwartz and Kim Kowalewski. Chapter 1, the introduction, was written by Victoria Greenfield. Chapter 2, covering macroeconomics, was prepared by Christopher Williams with the assistance of Victoria Farrell, Kim Kowalewski, Thomas Loo, Joyce Manchester, and Mark McMullen. The analysis of individual industries, Chapter 3, was prepared by Bruce Arnold, Richard Farmer, and Elliot Schwartz. Chapter 4, on agriculture, was written by Victoria Greenfield. Chapter 5, on displaced workers, was written by Ralph Smith and Murray Ross. Roger Hitchner wrote Chapter 6, on the environment, with the assistance of Raymond Prince and Heather Miller. Christopher Williams and Thomas Loo wrote Appendixes A and B, respectively. Linda Radey provided sections on the schedule of tariff reductions and their effect on the budget. Warwick McKibbin, one of the creators of the economic model used in Chapter 2, served as a consultant on that chapter. Sherman Robinson, while a visiting scholar at CBO, aided in the analysis.

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The manuscript was edited by Paul Houts, Sherwood Kohn, Leah Mazade, Christian Spoor, and Sherry Snyder, who coordinated the editing process. Sharon Corbin-Jallow, Gwen Coleman, Rae Roy, and Donna Wood produced the numerous drafts. With the assistance of Martina Wojak-Piotrow, Kathryn Quattrone prepared the study for publication.

Robert D. Reischauer
Director

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Summary

Legislation to carry out the North American Free Trade Agreement (NAFTA), which would eliminate most barriers to trade and investment among the United States, Canada, and Mexico, provides the Clinton Administration and the 103rd Congress with one of their most important challenges in the area of international trade. This study analyzes the major effects of the proposed agreement and, where possible, measures its likely impact on the U.S. economy and the federal budget. The study is not a cost or revenue estimate of the legislation that the Congress will be asked to vote on to implement NAFTA, although it provides a basis on which the Congressional Budget Office (CBO) can make those estimates. The information and analysis provided in this study will also assist others who wish to understand the economic and budgetary effects of NAFTA.

Each of the countries participating in NAFTA should realize net economic gains. It carries Mexico further along in its strategy of promoting economic development by opening markets and encouraging foreign investment. This strategy has already led to a higher rate of economic growth and an improving standard of living. A rising standard of living in Mexico, based on greater economic efficiency and open trade, can also help raise the standard of living in the United States as Mexico imports additional U.S. agricultural products, manufactured goods, and services.

The United States would also benefit from the improvement in economic efficiency that accompanies freer trade. U.S. consumers would benefit from lower prices; U.S. workers, from a net increase in jobs and income; and U.S. investors, from new investment opportunities in both Mexico and the United States. The United States would also be helped by changes in Mexico that, over the long run, would reduce pressure for illegal immigration and increase political stability.

A thorough review of the myriad changes brought about by NAFTA, and of their interactions, leads to the single resounding conclusion that the net effect on the U.S. economy would be positive and very small. The biggest changes introduced by NAFTA would be those related to Mexico, and the Mexican economy is small (less than 5 percent of U.S. gross domestic product) and its impact on the United States is even smaller. That the net effects for the United States are positive, of course, should not obscure the painful adjustments and losses that some U.S. workers, firms, and communities will undoubtedly experience. But the gains cannot be achieved unless such adjustments are made, by shifting labor and capital resources from less profitable uses to more profitable ones.

Contrary to some commonly expressed concerns, the reallocation of resources would not be massive. Americans should not fear that NAFTA would cause a wholesale relocation of U.S. manufacturing plants and jobs to Mexico to take advantage of the lower average wage. Labor costs are only one of a number of factors that influence where firms locate their plants. The United States will still retain the economic advantages it now has, and Mexico will

still hold some drawbacks for firms that produce there.

With or without NAFTA, low-skilled workers in the United States will continue to face competition from low-skilled workers in other countries. The failure of Mexico to continue with its economic reform strategy, or of the United States to approve NAFTA, would not amount to much of a reprieve for these workers, nor would the success of NAFTA greatly affect their fortunes one way or the other. Without NAFTA, a few of those workers might be granted a temporary reprieve, but technological change and the competitive forces that drive the U.S. economy (and larger flows of cross-border migrants) would continue to apply pressure. And more important, workers and firms that now depend on trade with Mexico could find themselves in jeopardy if NAFTA were not carried out.

What Is NAFTA?

The North American Free Trade Agreement provides rules and guidelines for dismantling trade barriers and creating a trilateral free-trade area encompassing the United States, Mexico, and Canada. The free-trade area eliminates barriers to trade, but does not create full economic integration or a common external policy like the European Community's "common market." NAFTA does, however, provide for the substantially free flow of capital among the three parties to the agreement, and for some mobility of labor in the form of rules governing the temporary entry of businesspeople. Because the most significant aspect of the agreement is the addition of Mexico to the existing free-trade area with Canada, most analyses, including this study, focus on interactions between the U.S. and Mexican economies.

Each of the participants to the agreement is seeking to achieve greater economic efficiency and a higher standard of living by opening its markets. According to its major stated objectives, NAFTA would

- "eliminate barriers to trade in, and facilitate the cross-border movement of, goods and services between the territories of the Parties;
- promote conditions of fair competition in the free trade area; and
- increase substantially investment opportunities in the territories of the Parties."

Each of the parties is also pursuing objectives that are unique to its particular situation, some of which are unstated in the agreement. The United States, for example, entered the agreement as a means of promoting the successful completion of the ongoing multilateral trade negotiations under the auspices of the General Agreement on Tariffs and Trade (GATT), or as an alternative to the GATT if those negotiations were to fail. In addition, the United States has viewed the agreement as the possible basis for an even larger free-trade area throughout the Western Hemisphere. Equally as important to the United States, the agreement could, over time, relieve the pressure of illegal immigration into the United States by supporting the growth of jobs and income in Mexico.

Budgetary Effects of NAFTA

As the Congress considers legislation to implement NAFTA, one element to be reviewed will be its impact on the federal budget. Overall, this impact would be very small and insignificant compared with NAFTA's broader economic effects. NAFTA could affect the federal budget in four ways: by reducing revenues from tariffs, increasing expenditures for displaced workers, changing outlays for agricultural programs, and increasing pressure for

spending on infrastructure and environmental cleanup along the border.

Reduced tariffs on imports from Mexico could result in revenue losses on the order of $2 billion to $3 billion over five years. In 1991, tariffs on imports from Mexico amounted to nearly $0.6 billion. About 50 percent of the total value of imports from Mexico was duty free, of which one-quarter entered the country under the Generalized System of Preferences (GSP) program. The estimated revenue loss from NAFTA depends in part on the status of the GSP program when the Congress votes on the NAFTA legislation. If the GSP program expires as scheduled on July 4, 1993, and is not extended before the vote on NAFTA, the higher revenue loss would apply.

An additional budgetary cost related to NAFTA could result from increased expenditures for workers who may lose their jobs as a result of the agreement. The Administration has indicated its intention to submit legislation that would address the needs of all displaced workers regardless of whether their displacement was caused by NAFTA, defense cuts, or any other reason. Meanwhile, the Administration proposes to triple the funding for the main existing retraining program, from about $600 million in 1993 to more than $1.9 billion in 1994. No estimate is available of the portion of the increased funding that would be attributable to NAFTA.

The agreement would probably have a small net effect on the cost of U.S. commodity programs and programs to promote exports of U.S. farm products. If exports of grains, oilseeds, and related products rise, the cost of U.S. programs for those commodities could fall (depending on whether the Secretary of Agriculture uses discretionary policy mechanisms that offset the budgetary effects of the increase in demand for exports). If Mexico uses credit backed by U.S. programs that provide credit guarantees to finance those exports, the cost of those programs could increase.

Pressing environmental problems and the lack of adequate infrastructure along the U.S.-Mexican border create another potential set of budgetary expenditures related to NAFTA, although these problems predate the agreement and would continue to create pressure for spending even without it. In 1992, the United States and Mexico issued an integrated plan for the border area (known as the Border Plan) to deal with common resource and environmental problems. Federal funding for projects included in the Border Plan is subject to annual appropriations. The Bush Administration requested $241 million in fiscal year 1993 to fund projects under that plan. Although the Congress denied some of the request, the Environmental Protection Agency and other agencies with jurisdiction are believed to have sufficient funds to fulfill the commitment for 1993. Requests for additional funding are likely, but the amounts are not known.

Growth in Mexico and Its Benefit to the U.S. Economy

In the mid-1980s, Mexico embarked on a market-oriented policy agenda that broke with the past by emphasizing reduced restrictions on trade and foreign investment. In many ways, NAFTA is a logical next step in this development strategy. The key to this strategy is for Mexico to attract and productively absorb foreign capital. In addition to making Mexico more attractive for U.S. investors (because of the investment provisions of the agreement), NAFTA reduces doubts that other foreign investors may have about the permanency of Mexico's economic reforms--that is, it helps lock in those reforms and so reduces the risk involved in investment.

The success of NAFTA largely depends on whether Mexico pursues policies that enable it to achieve a sustainable increase in economic growth. NAFTA would support this pursuit, but it is not sufficient. Mexico must continue on its current path of market liberalization and macroeconomic stability, although this

path will cause dislocations and require painful adjustments for a large segment of its population. Political reform may also be a necessary ingredient. Most, if not all, of the reforms that Mexico needs to make are ones it could carry out on its own.

Mexico's more liberal investment policies will encourage additional investment in its physical capital, which over time should greatly improve its standard of living. Much of this physical capital will be exported to Mexico from the United States--90 percent of the $11 billion in capital goods imported by Mexico in 1991 came from the United States. Illustrative simulations, based on the experiences of other countries that have successfully liberalized their trade, suggest that after 20 years NAFTA could raise real output in Mexico by as much as 6 percent to 12 percent.

To achieve this rate of growth, Mexico will need to attract foreign financial capital on the order of $15 billion per year for 10 years or more. The potential capital flows from the United States to Mexico will probably not represent a significant net draw on the pool of resources available for investment in the United States. The yearly amounts that might come from the United States are very small relative to U.S. capital markets, and the United States would also be in an enhanced position to attract capital from the rest of the world. Thus, the extra demand for investment in Mexico would amount to only a small draw on U.S. capital markets. And over time, this investment would generate interest and dividend income for U.S. investors.

Since the announcement in 1990 that Mexico would seek a free-trade agreement with the United States, substantial capital inflows have already occurred, leading to an increase in the Mexican trade deficit and an appreciation of the peso of about 43 percent in real terms from its low point in 1987. CBO's macroeconomic simulations confirm that a reduced risk premium on foreign investment resulting from NAFTA and Mexico's continuing policy liberalizations would increase capital inflows, appreciate the Mexican peso, and push Mexico's trade balance into deficit for some time. This scenario should benefit Mexico by providing capital for its economic growth and the United States by increasing exports to Mexico.

Effects on Industry and Employment in the United States

Estimates of the overall net benefits of NAFTA mask its effects on individual industries. NAFTA would boost the expansion of some firms (and job opportunities) because of increased efficiency or access to a larger market. Other firms (and jobs) would contract in favor of less costly imports. Although these effects will be fairly small when viewed against aggregate figures, they may appear large to those who gain from the agreement and especially to those who are hurt by it.

A key reason that freer trade with Mexico would create winners and losers is that the Mexican and U.S. economies have different strengths and weaknesses. Mexico's competitive strength comes from having a large, low-wage work force. As a result, firms in Mexico can produce at lower cost than firms in the United States those goods and services that rely heavily on low-wage labor. Similarly, the United States has relatively more capital and skilled labor than does Mexico, so U.S. firms can produce at lower cost than Mexican firms the goods and services that rely on those factors of production. By trading the types of goods and services that each country can produce more cheaply, both countries gain overall. The benefits of lower prices spread to all consumers; workers and firms in expanding industries also gain; but the costs are visibly concentrated on workers and firms displaced by foreign competition.

Modeling studies reviewed by CBO consistently indicate net gains from this type of resource reallocation. The gains for the United

States, however, are small, ranging only as high as about one-quarter of one percent of gross domestic product. Although these studies fail to provide a consistent list of industries that will gain or lose from the realignments of these resources, economic theory suggests that industries in the United States that make intensive use of low-wage labor and are now protected by trade barriers are likely to be disadvantaged by NAFTA.

CBO's review of a selected group of traded goods and services confirms these intuitive observations. In the automobile industry, for example, most of the barriers to be removed by NAFTA are imposed by Mexico against imports. Hence, NAFTA would be more likely to help than to hurt U.S. automobile firms and workers, as a group. The textile and apparel industries employ a relatively large number of low-wage workers and therefore would come under competitive pressure because of NAFTA. Certain aspects of NAFTA may actually help the textile industry slightly, but some apparel workers would probably lose their jobs in the face of increased competition from Mexico. In the energy sector, NAFTA would provide an opportunity to boost the very low level of U.S. energy and energy-related exports to Mexico, but would change U.S. access to Mexican oil very little. In services, the overall effect of the agreement would be positive and, because of the low level of cross-border trade in services, very small. Nevertheless, the agreement has important implications for trade in services because it is likely to become a model for future negotiations with other countries, which ultimately could add substantially to the net export of U.S. services.

Some firms that depend on low-wage labor may migrate south of the border to take advantage of Mexico's low-wage labor and liberalized investment climate. Owners of these firms would benefit from NAFTA, but their workers would not. Most workers who lost their jobs as a result of such displacement would try to find other jobs in the United States that are at least as good as the ones they leave. NAFTA creates some opportunities for such employment by lowering tariffs and other restrictions on U.S. goods entering Mexico and by creating new opportunities for exports of services. But the jobs created may not match the skills or geographic location of the displaced workers, and no provision in NAFTA can guarantee that the workers who are displaced will be the ones who will find the new jobs. Moreover, even for those who do find new employment, the transitional costs of retraining or relocating can be high.

Many workers who are potentially affected by NAFTA are worried about losing their jobs. Permanent loss of one's job--referred to as displacement or dislocation--can be quite costly. It may take many months to find another job, and the new job might not be as good as the one lost. One way of reducing workers' costs, and thereby mitigating their concerns, is to provide them with temporary income support and reemployment assistance. A key issue is whether existing programs--unemployment insurance, Economic Dislocation and Worker Adjustment Assistance, and Trade Adjustment Assistance--are sufficient and appropriate to handle the needs of workers displaced by NAFTA.

A review of information available about the potential effects of NAFTA on worker displacement, the experiences of workers who lost their jobs during the 1980s, and the programs available to them indicates the following:

- o Even though NAFTA would increase total employment in the United States, some U.S. workers would lose their jobs. The total number of jobs lost would probably be well under half a million, spread over at least a decade. Viewed as part of a larger, dynamic labor market in which nearly 20 million workers were displaced during the 1980s, the effects of NAFTA appear relatively small.

- o Judging by the experience of workers who lost their jobs over the past decade, the consequences for some of those who do lose their jobs could be quite large. Half of the workers displaced in the 1980s

were either not working or were making less than 80 percent of their previous earnings one to three years later.

- o Workers displaced because of NAFTA could have a more difficult time than others finding new jobs to the extent that they were less skilled than the average displaced worker. The differences in outcomes, however, are likely to be small.

- o Existing programs--particularly unemployment insurance--would provide a basic safety net, but many of the displaced workers would run out of benefits before they found a new job.

Agricultural Issues in NAFTA

The agreement recognizes the importance and complexity of agricultural markets by devoting an entire chapter to them. NAFTA includes two bilateral agreements for opening markets to agricultural trade--one between Mexico and the United States and another between Mexico and Canada. For the most part, the Canada-U.S. Free Trade Agreement would continue to govern U.S.-Canadian agricultural trade.

Mexico is one of the U.S. farm sector's most important trading partners. In 1991, Mexico ranked fourth as an export market for U.S. farm goods, with U.S. exports to Mexico reaching almost $3 billion. NAFTA would expand that relationship by reducing tariff and nontariff barriers to trade between the two countries. In Mexico, agriculture employs about 26 percent of the active work force. Any policy reforms that reduce farm supports in Mexico--including movements toward freer trade--would probably have a large impact on the sector, resulting in substantial adjustment costs.

The overall effect on agriculture in the United States would be modest and positive, but agriculture in Mexico could suffer sizable losses as a result of NAFTA and ongoing domestic reforms. For specific commodities, the results would vary. U.S. producers of grains, oilseeds, and some animal products would benefit from the agreement, and U.S. producers of some horticultural products would face additional competition. In Mexico, losses for producers of corn could be substantial and might have important effects on employment. Mexican consumers, however, would benefit from lower food prices.

The agreement could promote rural-to-urban migration in Mexico and, for a time, increase migration from Mexico to the United States. These patterns would depend largely on changes in Mexico's domestic policies for agriculture. Mexico has recently initiated an extensive process of market-oriented reform in its agricultural sector. These reforms could encourage investment and efficiency in Mexico's farm sector but could also lead the sector into a difficult period of transition. If Mexico continues to remove supports for agriculture, unemployment and a growing urban population could become important issues. NAFTA could ease the strain of the transition by promoting growth and employment in other sectors, but it could compound the problem if it removed barriers to trade in agriculture before gains in other sectors were realized. Ultimately, the agreement should lead to economic growth in Mexico, thus reducing migratory pressure on the U.S. border, but substantial adjustment costs could arise during the transition.

Environmental Regulation and Other Health and Safety Rules

Environmental issues have had a unique and unprecedented influence on NAFTA. Most of the public debates about the agreement have focused on two issues related to Mexico:

- o Will firms in the United States be at a competitive disadvantage because firms in Mexico face lower costs for controlling pollution? If so, will U.S. firms move to Mexico as a result?

- o Will rapid economic development in Mexico cause long-lasting harm to Mexico's environment and natural resources? And will it increase pollution along the U.S.-Mexican border?

The answers to both sets of questions are not unequivocal, but they are reassuring. Most analysts conclude that differences in pollution control costs should not cause widespread movement of U.S. manufacturing facilities to Mexico, mainly because such costs are a small portion of most firms' total costs. And over the longer run, the quality of the environment in Mexico should benefit from economic growth and a rising standard of living. In the shorter term, however, the environment in Mexico and along its border with the United States could suffer unless appropriate steps are taken, such as building additional sewage and water treatment facilities and enforcing more strictly Mexico's environmental laws.

Two related questions have generated concern. Will NAFTA undermine food safety and other product standards in the United States? And, specifically, how can existing environmental conditions along the border be remedied? As with the other issues, the answers to these questions are unclear. NAFTA creates new protections for U.S. health and safety standards, but their enforcement is not guaranteed; and some people believe that NAFTA would put pressure on the United States to lower its environmental, health, and safety standards. Although the United States and Mexico have agreed to a separate and ambitious border plan on a parallel track to NAFTA, many people believe that the lack of dedicated funding and specific goals for the plan will undercut its chances of success.

Chapter One

Introduction

In December 1992, the leaders of the United States, Mexico, and Canada took a major step toward promoting freer trade and investment in North America by signing the North American Free Trade Agreement (NAFTA). The agreement, which would dismantle barriers to trade and investment among the three countries, reflects a broad range of economic and political objectives. Some of those objectives are stated clearly in the text of the agreement. In particular, Article 102 specifies six fundamental goals:

- "To eliminate barriers to trade in, and facilitate the cross-border movement of, goods and services between the territories of the Parties;
- Promote conditions of fair competition in the free-trade area;
- Increase substantially investment opportunities in the territories of the Parties;
- Provide adequate and effective protection and enforcement of intellectual property rights in each Party's territory;
- Create effective procedures for the implementation and application of this Agreement, for its joint administration and for the resolution of disputes; and
- Establish a framework for further trilateral, regional and multilateral cooperation to expand and enhance the benefits of this Agreement."

Ultimately, each country hopes to promote a higher standard of living for its people, but in some instances, the stated objectives of the agreement encompass or allude to other objectives that are specific to the unique circumstances of the country. For the United States, the agreement could promote the successful completion of the Uruguay Round of negotiations under the auspices of the General Agreement on Tariffs and Trade (GATT).[1] For example, concerns among U.S. trading partners about future competition in a world that might eventually be characterized by regional trading blocks could quicken the pace of the GATT negotiations.

At the same time, NAFTA could provide the United States with an alternative to the GATT if the Uruguay Round fails. Moreover, NAFTA has succeeded--on a smaller scale--in treating some of the issues that have been held responsible for stalling the Uruguay Round and may provide a valuable guide for completing the larger multilateral agreement.[2] More specifically, it could suggest ways of adding new provisions for intellectual property rights, investment, services, and agriculture to the GATT.

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1. Canada and Mexico also stand to benefit from the completion of the Uruguay Round, but have not placed its completion at the forefront of their respective political and economic agendas.

2. NAFTA is compatible with the General Agreement on Tariffs and Trade and builds on earlier agreements. Under NAFTA, the United States, Canada, and Mexico would resolve to "build on their respective rights and obligations under the General Agreement on Tariffs and Trade and other multilateral and bilateral instruments of cooperation." See NAFTA, Preamble. Article 103 of NAFTA defines its relation to other agreements: "The Parties affirm their existing rights and obligations with respect to each other under the General Agreement on Tariffs and Trade and other agreements to which such Parties are party," but in the event of an inconsistency between NAFTA and such other agreements, NAFTA would generally "prevail to the extent of the inconsistency."

In addition, NAFTA supports U.S. objectives under the Enterprise for the Americas Initiative and could strengthen the economic role of the United States in the Western Hemisphere by adding countries in Central and South America to the agreement through its accession clause.[3] Finally, from the U.S. perspective, the growth of the Mexican economy could generate beneficial spillover effects, some economic and others political. Among those effects, the agreement could promote both the stability and the security of the U.S.-Mexican border.

For Mexico, NAFTA could "lock in" recent economic reforms, guarantee its access to export markets in the United States and Canada, and help it to attract foreign capital. The agreement would further Mexico's pursuit of economic development and make retrenchment from its current strategy more difficult by incorporating some of the strategy's key elements into an international agreement. Furthermore, Mexico could establish a strong position as a gateway to Central and South America if the agreement was extended.

For Canada, NAFTA could prevent the development of a "spoke-and-hub" relationship with the United States. Such a relationship would leave Canada as only one of several bilateral free-trade partners of the United States, without equivalent access to each of the other partners. Although NAFTA would not prevent any of its signatories from forming subsequent partnerships with countries outside of the agreement, Canada's participation in NAFTA would secure its presence and influence in any larger free-trade area that might arise from NAFTA.

Most analysts agree that NAFTA would generate net economic gains for the United States, Mexico, and Canada. It would return direct gains from improvements in economic efficiency in each country, and indirect gains in the United States and Canada as the Mexican economy grows. (To the extent that NAFTA contributed to economic growth in Mexico, it could lead to additional growth for each of its partners. In particular, if NAFTA bolstered the takeoff of the Mexican economy, it could stimulate the demand for U.S. and Canadian exports in Mexico.) Most analysts also agree that the net economic gains from NAFTA for the United States and Canada would be modest.

The move to freer trade would create both winners and losers in each country. Benefits from trade liberalization accrue from shifts in the sectoral structure of trade, production, and employment. Each country's economy can be expected to respond to the opportunities created by NAFTA by shifting factors of production--labor and capital--from less valuable to more valuable uses. Such shifts impose real costs on the workers and owners of capital who find themselves in activities made less valuable by the agreement--workers, for example, must find new jobs. The costs would be highest for those employed in sectors currently facing high levels of protection.

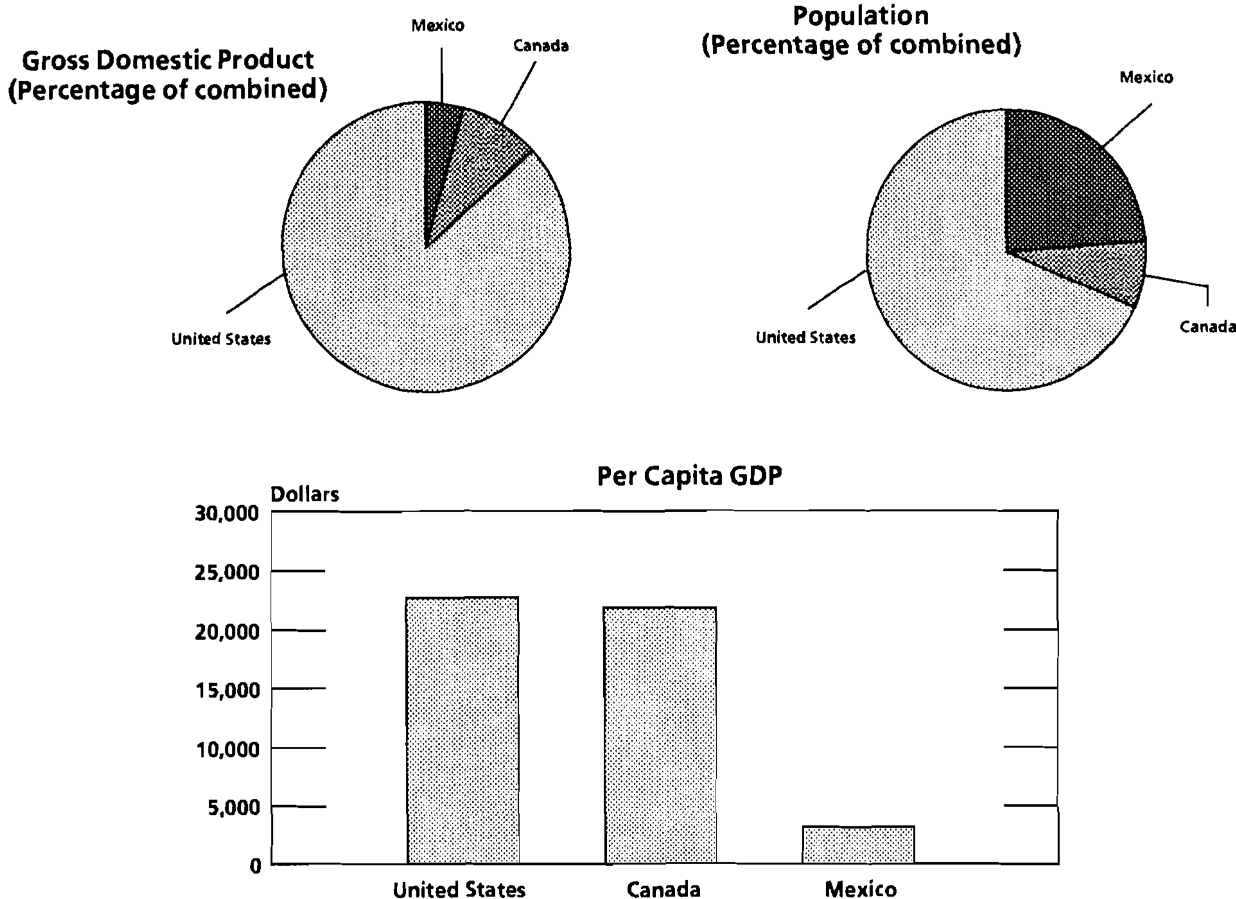
For the most part, this study focuses on the impact of NAFTA on the United States and Mexico. In 1989, the United States and Canada entered into the Canada-U.S. Free Trade Agreement. In some cases, the trilateral agreement would supersede the Canadian-U.S. agreement, but in most cases it would not have a dramatic effect on Canadian-U.S. trade or Canadian-U.S. investment. The agreement could stimulate an increase in Canadian-Mexican trade and investment, but the absolute size of the increase probably would be modest and its effect on the United States negligible. Compared with U.S.-Mexican trade and investment, Canadian-Mexican trade and investment play a relatively minor role in the aggregate North American economy.

3. The accession clause states that "Any country or group of countries may accede to this Agreement subject to such terms and conditions as may be agreed between such country or countries and the [Free Trade] Commission and following approval in accordance with the applicable legal procedures of each country." See NAFTA, Article 2204.

Building on Economic Growth in Mexico and Economic Ties in the NAFTA Region

NAFTA would build on existing economic links between the United States, Canada, and Mexico by creating new opportunities for trade and investment, drawing on the comparative strengths of each country and addressing some of their differences. The economy of the United States is clearly the largest in the NAFTA region, with Canada ranking a distant second, and Mexico a remote third (see Figure 1-1). In 1991, the combined gross domestic product (GDP) of the three countries was about $6,550 billion. Of the total, the United States accounted for about $5,680 billion, Canada $590 billion, and Mexico $280 billion. The population of the United States is also the largest in the region, but Canada and Mexico reverse their ranks. In 1991, the combined population of the United States, Mexico, and Canada amounted to about 365 million: the United States accounted for about 250 million, Mexico 88 million, and Canada 27 million.

Figure 1-1.
The Economies and Populations of the NAFTA Region, 1991



SOURCE: Congressional Budget Office using data from the World Bank and the International Monetary Fund.

The data for 1991 indicate that Mexico's economy is the least developed in the NAFTA region, but comparisons with earlier data show that its condition is improving. In the mid-1980s, Mexico altered its approach to economic development and adopted an open-market strategy. As a result, the Mexican economy is gaining strength and growing. Mexico's recent gains are noteworthy, giving cause for cautious optimism that such growth will continue. But that prospect may depend on a combination of ongoing domestic and external policy reforms, increasing access to international markets, and additional investment in productivity-enhancing capital. NAFTA could encourage progress in each of those areas.

Flows of merchandise and capital indicate obvious links between the economies of the United States, Mexico, and Canada. Both types of flows stand to increase under NAFTA. In addition, the economies of the three countries are linked through labor migration. In particular, evidence suggests that Mexican migration to the United States is sensitive to differences in economic conditions in both countries. Although migration was not explicitly included in the negotiations for NAFTA, it remains as an important underlying feature of the economic environment.[4] By promoting job and income growth in Mexico, a successful NAFTA could relieve some of the pressure for migration from Mexico to the United States in the long term.

Building on Mexico's Economic Growth

NAFTA builds on recent improvements in the performance of the Mexican economy.[5] After nearly a decade of recession, transition, and recovery, the Mexican economy realized significant gains in 1989, 1990, and 1991. In 1992, during a year of worldwide recession, Mexico's rate of gain slowed but was still an estimated 2.8 percent of real GDP.[6] Forecasts for 1993 and 1994 anticipate stronger growth, with real GDP in Mexico increasing by 3.2 percent and 4.2 percent in each year, respectively. The Mexican economy has grown in absolute terms and relative to the economies of the United States and Canada. For example, while real GDP in Mexico was growing by about 3.6 percent in 1991, it was falling in both the United States and Canada.

Through a program of fiscal austerity and open-market policy reform, Mexico has made major gains in two important areas: reducing inflation and reducing debt owed to foreigners. In 1989, Mexico reached an agreement with commercial banks to restructure almost $49 billion worth of external debt, thereby reducing its net transfers abroad by almost $4 billion annually over the 1989-1994 period.[7] Mexico's ratio of foreign debt to GDP dropped from 78 percent in 1987 to 36 percent in 1991.[8] Mexico's current rate of inflation is well above U.S. and Canadian rates, but well below its own triple-digit rate of 1987. In 1991, consumer prices in Mexico grew at an average annual rate of 22.7 percent, dropping to an estimated rate of 14.8 percent in 1992.[9]

Mexico's Strategy for Economic Development

Much of the recent growth in Mexico's economy reflects a shift in its overall strategy for economic development. In the mid-1980s, the

4. The agreement contains some provisions for temporary business travel, but does not include general provisions for labor. Current and upcoming negotiations may lead to a special "side agreement" addressing labor-related issues (see the discussion on page 12).

5. See World Bank, *Trends in Developing Countries* (Washington, D.C.: World Bank, September 1992), pp. 355-359; Nora Lustig, *Mexico: The Remaking of an Economy* (Washington, D.C.: Brookings Institution, 1992).

6. Consensus Economics, *Consensus Forecasts* (London: Consensus Economics, March 17, 1993), p. 21.

7. World Bank, *Trends in Developing Countries* (Washington, D.C.: World Bank, September 1991), p. 362.

8. World Bank, *Trends in Developing Countries* (September 1992), p. 362.

9. Consensus Economics, *Consensus Forecasts*, p. 21.

Mexican government adopted an outward-looking and market-oriented policy agenda, representing a major break with the past. Mexico began an extensive process of internal deregulation and privatization. It also moved unilaterally to reduce trade restrictions and attract foreign capital, entering bilateral and multilateral agreements to promote both causes. This outward-looking shift has been more gradual in some sectors--such as energy and agriculture--than in others, but it has affected the entire economy. NAFTA would strengthen and extend the ongoing process of reform, but it would treat Canada and the United States preferentially as long as Mexico did not extend similar benefits to other countries.

For more than a decade, the regulations first established under the Law on Foreign Investment of 1973 governed foreign investment in Mexico.[10] Those regulations imposed legal restrictions on investments made by foreign corporations, individuals, and legal entities, and by Mexican enterprises under foreign control or management in Mexico. In the mid-1980s, Mexico relaxed some of those restrictions. In 1989, it adopted a new regulatory system under the 1973 law. With the new regulations, the range of operations open to foreign investment expanded, and some requirements for government approval were eliminated or modified.[11]

The process of trade reform began in 1985 and gained momentum in the late 1980s.[12] Over a five-year period, Mexico substantially reduced tariffs on imports and eliminated many requirements for import licenses. In June 1985, requirements for import licenses protected 92.2 percent of Mexico's domestic production, the production-weighted average tariff was 23.5 percent, and the maximum tariff was 100 percent.[13]

Upon joining the GATT in 1986, Mexico agreed to a maximum tariff of 50 percent, but moved unilaterally to surpass its commitment by establishing a maximum of 20 percent. By June 1990, import licenses covered only 19 percent of domestic production, and the production-weighted tariff on imports was down to 12.5 percent.[14] As of June 1990, import licenses were still important in some sectors--particularly in crude oil and natural gas, petroleum refining, transportation equipment, and agriculture--and production-weighted tariffs were at, or near, 20 percent in a few industries, including beverages and tobacco, apparel and footwear, wood products, and electrical materials.[15]

Leading up to NAFTA, Mexico entered into a number of international understandings, frameworks, and agreements for cross-border trade and foreign investment. The chronology of those undertakings closely parallels the chronology of Mexico's unilateral reforms. In 1985, Mexico and the United States signed a bilateral Understanding on Countervailing Duties and Subsidies, and in 1986, Mexico joined the GATT. In 1987, Mexico and the United States signed the U.S.-Mexican Framework of Principles and Procedures for Consultations Regarding Trade and Investment Relations; in 1989, they completed the U.S.-Mexican Understanding Regarding Trade and Investment Facilitation Talks. In 1990, Mexico and Canada signed a memorandum of understanding on bilateral trade and investment.

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10. In full, the Law on Foreign Investment of 1973 is known as the 1973 Law to Promote Mexican Investment and Regulate Foreign Investment.

11. See Lustig, *Mexico: The Remaking of an Economy*, pp. 128-129.

12. Ibid., pp. 117-120.

13. Ibid., p. 120, citing data from Claudia Schatan, "Trade Bargaining: The Mexican Case" (paper presented at SELA, Caracas, Venezuela, February 5-7, 1991), Tables 1-3.

14. Ibid., p. 120.

15. Gary Clyde Hufbauer and Jeffrey J. Schott, *North American Free Trade: Issues and Recommendations* (Washington, D.C.: Institute for International Economics, 1992), pp. 14-15, reprinting material from Adriaan Ten Kate, *The Mexican Trade Liberalization of 1985-1987: Lessons from Experience* (Washington, D.C.: World Bank, 1990).

Cross-Border Trade in the NAFTA Region

Cross-border trade in the NAFTA region is substantial and growing, and it is dominated by trade involving the United States. In 1991, the value of all U.S.-Canadian-Mexican trade in merchandise amounted to about $247 billion.[16] U.S.-Canadian two-way trade accounted for about 73 percent of the total, U.S.-Mexican for about 26 percent, and Canadian-Mexican for about 1 percent.[17]

Canada and Mexico account for a significant share of all U.S. trade in merchandise, but the United States does not depend on their trade to the same extent that Canada and Mexico depend on trade with the United States. In 1991, ranking first among their trading partners, the United States accounted for about 72 percent of Mexico's total, or two-way, trade in merchandise, and almost 70 percent of Canada's. In that same year, Canada and Mexico ranked first and third among the trading partners of the United States (not counting the European Community as a single partner), but accounted for only about 19 percent and 7 percent, respectively, of its two-way trade in merchandise.

Between 1985 and 1991, the value of U.S.-Mexican and Canadian-Mexican two-way trade nearly doubled, but the value of the U.S.-Mexican component grew from a much larger base. Starting from a base of about $33 billion, the value of U.S.-Mexican two-way trade in merchandise increased by 97 percent. U.S. imports of Mexican merchandise increased by about 64 percent, and Mexican imports of U.S. merchandise increased by about 144 percent. Starting from a base of about $1.3 billion, the total value of Canadian-Mexican two-way trade in merchandise increased by 99 percent. Canadian imports of Mexican merchandise increased by about 118 percent, and Mexican imports of Canadian merchandise increased by about 34 percent.[18]

Foreign Investment in Mexico

The United States has been, and remains by far, Mexico's leading foreign investor. For example, new U.S. direct investment in Mexico in 1991 amounted to about $2,390 million, or 67 percent, of all new direct investment in Mexico from foreign sources.[19] (Direct investment is one form of foreign investment; the other form is portfolio investment.) The second-ranking source, France, accounted for about $500 million, or 14 percent, of the annual total. In that same year, Canadian direct investment accounted for only $74 million, or 2 percent of the total, ranking fourth among all sources. NAFTA would strengthen and build on economic relationships between Mexico and its northern partners, but would also make investment in Mexico more attractive for all investors as the apparent risk of investment in Mexico declines.

The sectoral distribution of foreign investment in Mexico has shifted in recent years, with direct investment in services playing a greater role. Between 1980 and 1987, manufacturing accounted for 61 percent to 89 percent of the annual direct investment in Mexico

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16. The discussion of cross-border trade in this section uses data from the International Monetary Fund, *Direction of Trade Statistics Yearbook* (Washington, D.C.: International Monetary Fund, 1992).

17. Two-way trade consists of imports and exports.

18. Canadian exports of merchandise to Mexico dropped to $386 million in 1991 from $488 million in 1990 and $525 million in 1989.

19. General Accounting Office, *North American Free Trade Agreement, U.S.-Mexican Trade and Investment Data* (September 1992), pp. 71-75, citing data obtained from the Director General of Foreign Investment for Mexico's Secretaria de Comercio y Fomento Industrial (SECOFI). The General Accounting Office includes the following note in its report: "Total FDI [foreign direct investment] figures for each country are the sum of investment projects approved by Mexico's National Commission on Foreign Investment and the amount of investment registered with Mexico's National Registry of Foreign Investment." As a result, the data may not correspond to actual investment figures from balance-of-payment reports.

from foreign sources.[20] By 1991, that figure had dropped to only 27 percent. In all but one year of the 1988-1991 period, the service sector accounted for more than half of the annual figure. The shift in the distribution of foreign direct investment by sector reflects recent changes in Mexico's regulations for foreign investment, as well as its recent investment accords.

The Maquiladora Program

Mexico's maquiladora program began in 1965, and for some manufacturing industries, it has reduced barriers to investment in Mexico and barriers to trade between Mexico and the United States. Under the program, Mexican and foreign investors own and operate manufacturing plants called "maquiladoras" in designated areas of Mexico.[21]

Typically, the maquiladoras are located at or near the U.S. border, where they produce finished or semifinished goods for export to the United States. Foreign ownership of maquiladoras is unrestricted, and as long as their end products are exported, imports of machinery and parts are not subject to Mexican import duties.

In addition, certain provisions of U.S. tariff laws confer benefits that extend to U.S. imports of maquiladora products that contain parts or materials originating in the United States. (For example, products assembled in foreign countries from U.S.-made components are not assessed U.S. import duties on the value of those components.) Under NAFTA, the maquiladoras would no longer receive special treatment--as that treatment affects U.S. and Canadian trade or U.S. and Canadian ownership--relative to other plants in Mexico because NAFTA would eventually extend similar treatment to manufacturing plants in other industries and areas.

In 1991, the maquiladoras accounted for 37 percent of Mexico's exports of merchandise to all countries and 23 percent of its imports.[22] In that same year, they accounted for 46 percent of Mexico's exports of merchandise to the United States and 32 percent of its imports from the United States. The maquiladoras account for a smaller share of Mexico's merchandise exports if their contribution is measured on a value-added basis: in 1991, they would have accounted for about 13 percent of Mexico's merchandise exports to all countries and about 18 percent of its exports to the United States.

At the end of January 1992, more than half of the 2,522 maquiladoras registered in Mexico contained some form of U.S. ownership.[23] Of the maquiladoras with U.S. ownership, more than 60 percent were located in only four sectors: electrical material and accessories and electronics, furniture and wood or metal products, transportation equipment, and textiles and apparel. Those sectors accounted for about 65 percent of the maquiladoras registered in Mexico, and not surprisingly, they are sectors in which barriers to trade in Mexico have been important outside the maquiladora program.

Labor Migration

The NAFTA partners--particularly Mexico and the United States--are also linked through labor migration. Between 1961 and 1990, legal immigration from Mexico to the

20. Ibid., pp. 71-75. The data for investment in manufacturing include investment in maquiladoras.

21. The description of the maquiladora program in this section draws from General Accounting Office, *North American Free Trade Agreement*, pp. 1-2.

22. Ibid., p. 38.

23. Ibid., pp. 9 and 97. The General Accounting Office includes the following note: "The Mexican government requires companies interested in operating as a maquiladora to obtain a license and register with the Secretaria de Comercio y Fomento Industrial (SECOFI). Not all maquiladoras registered actually end up operating as maquiladora plants."

United States averaged about 91,000 people each year, accounting for about 18 percent of all legal immigration to the United States.[24] Estimates of undocumented Mexican workers--though subject to obvious imperfections--suggest that the number of illegal immigrants entering the United States from Mexico may be even greater than the number of legal immigrants. According to one recent analysis, the estimated cumulative population of undocumented Mexican workers in the United States in 1990 (measuring from 1940) exceeded the cumulative population of legal workers.[25]

Without NAFTA, the pressure for migration from Mexico to the United States over the next 20 years could increase. Although growth of the Mexican population has slowed recently, the size of the labor force is increasing by about 3 percent each year because large numbers of young people are still entering the market. Moreover, additional pressure could come from changes in Mexico's agricultural policies, including reductions in price supports, subsidies for purchasing inputs (such as credit, feed for livestock, fertilizer, irrigation, and seeds), and barriers to trade that are occurring independent of NAFTA. If such changes continue, rural-to-urban migration may increase, placing downward pressure on urban wages in Mexico and encouraging Mexican migration to the United States. If successful, NAFTA could eventually relieve some of the migratory pressure at the U.S. border by promoting economic growth in Mexico, leading to new employment opportunities and higher wages in Mexico. But the timing of changes in agricultural policies and economic growth from NAFTA would be important, especially over the near term.

24. Department of Commerce, Bureau of the Census, *Statistical Abstract of the United States* (1992), p. 11.

25. Measured on a cumulative basis beginning in 1940 and ending in 1990, Hinojosa-Ojeda and Robinson reported estimates of 2,298,000 undocumented Mexican workers and 2,172,000 legal immigrant workers in the United States. See Raúl Hinojosa-Ojeda and Sherman Robinson, "Labor Issues in a North American Free Trade Area," in Nora Lustig, Barry P. Bosworth, and Robert Z. Lawrence, eds., *North American Free Trade: Assessing the Impact* (Washington, D.C.: Brookings Institution, 1992), p. 75.

The Provisions of NAFTA

NAFTA provides rules, guidelines, and procedures for eliminating barriers to trade and investment in North America (see Box 1-1). In particular, it contains schedules for reducing and eventually eliminating tariff and nontariff barriers to trade, rules for converting nontariff barriers to tariff barriers, rules for determining the origin of traded goods, provisions for facilitating investment, and exceptions to the general terms and conditions outlined in the text of the agreement. (Under NAFTA, nontariff trade barriers would be converted to tariffs. The process is commonly referred to as tariffication.)

The rules for tariffication and schedules for tariff reduction occupy three of NAFTA's five volumes--one volume for each country. Volume V, the Tariff Schedule of the United States, contains a separate schedule for each product listed under the Harmonized Tariff Schedule of the United States, with some additional products distinguished for certain categories of trade. Volume V begins with a tariff schedule for U.S. imports of live horses and ends with a schedule for merchandise recovered from sunken and abandoned vessels. Under NAFTA, many barriers to trade and investment would be eliminated within five years, but some would be reduced gradually over periods of 10 to 15 years.

Tariff Reductions on U.S. Imports from Mexico

Under NAFTA, all tariffs on U.S. imports from Mexico would be eliminated by 2008. Tariffs would be phased out for individual products at varying rates according to one of six different timetables ranging from immediate elimination to elimination over 15 years

Box 1-1.
What Is a Free-Trade Agreement?

A free-trade agreement (FTA) is one of many forms of economic integration along a continuum of bilateral and multilateral arrangements. Further along the continuum in the direction of full integration, a "customs union" and then a "common market" address progressively broader ranges of issues. Typically, each involves a formal agreement between two or more "member countries" in a particular region.

Of the three forms of integration, a common market is the most extensive and encompassing. A common market eliminates all tariffs and quantitative restrictions on trade between member countries, allows factor mobility (free movement of labor and capital) between member countries, and establishes a common external trade policy with respect to nonmember countries. A customs union eliminates intraregional barriers to trade and establishes common external policies, but does not require factor mobility. An FTA eliminates barriers to trade, but does not require a common external policy or factor mobility. Thus, the textbook example of an FTA encompasses a relatively narrow range of issues--member countries are free to pursue independent policies with respect to external trade and factor mobility. The North American Free Trade Agreement, however, reaches beyond the textbook example of an FTA by including provisions for cross-border investment and temporary entry for businesspeople.

Examples of FTAs, customs unions, and common markets can be drawn from Europe, Latin America, and North America. Examples of FTAs include the Latin American Free-Trade Association (1960), the European Free-Trade Association (1960), and more recently, the Canada-U.S. Free Trade Agreement (1989). In 1968, the founding members of the European Community (EC) established a customs union. At present, the EC is trying to create a full common market.

The three different forms of integration raise very different issues and concerns with respect to the economic policies of member countries. A full common market requires close coordination of most economic policies. The limits placed on the autonomy of policy for member countries are analogous to the limits placed on U.S. states by the interstate commerce clause of the U.S. Constitution. A customs union requires coordinating only external policies, but such coordination would necessarily impose restrictions on domestic policies. For example, the common agricultural policy in the EC evolved because it was impossible to coordinate an external agricultural trade policy without also coordinating the different, and extensive, domestic agricultural policies of member countries. Finally, an FTA would appear to impose the least restrictions on domestic policy, but the lack of coordination of external policies might lead to problems. Much of NAFTA deals with the specification and administration of "rules of origin" to prevent transshipment whereby nonmember countries export to the member country with the least protection, with subsequent reexporting to other member countries. Such transshipment would not be an issue, however, if the three countries agreed to enforce a common external policy.

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for some import-sensitive goods (see Table 1-1).[26] Based on the composition of imports from Mexico in 1991, tariffs are expected to be eliminated on about 60 percent of dutiable goods on January 1, 1994, and tariff revenue would be reduced by about 65 percent in calendar year 1994. By 1998, duties on about 70 percent of goods that are currently subject to duty would be eliminated, accounting for about 85 percent of tariffs expected under current law. Like the Canada-U.S. Free Trade

26. The first stage of the reduction of tariff rates would take place on January 1, 1994, with subsequent rate reductions taking place on January 1 of each of the next 15 years. For most goods, the reductions would be taken in equal percentage installments. (Reductions would be taken from the rates that were in effect on July 1, 1991.)

Table 1-1.
Tariff Elimination Schedule

Elimination on January 1	Dutiable Goods on Which Tariffs Are Eliminated (Percent)
1994	60
1998	9
1999	11
2002	a
2003	12
2008	8

SOURCE: Congressional Budget Office based on NAFTA and 1991 trade data from the Bureau of the Census.

a. Less than one-half of one percent.

Agreement, NAFTA provides for quicker elimination of tariffs for specific goods if both countries agree to accelerate the rate at which their duties are phased out.

In addition, the agreement contains provisions for safeguards designed to protect domestic industries from sudden floods of imports. The safeguards permit temporary reimposition of pre-NAFTA tariff rates or temporary suspension of the duty elimination for no more than four years during the transition period if the reduction in tariff rates caused the import surge. Moreover, the issue of import surges may be further addressed in a side agreement.

Rules of Origin

Rules of origin are designed to ensure that goods originating outside the free-trade area do not receive preferential treatment under NAFTA. They would be used to establish whether goods have originated within the free-trade area--so-called "originating" goods--and hence qualify for NAFTA preferences. In general, there are four possible criteria for establishing NAFTA origination of a good. It may:

- be wholly obtained or produced entirely in the NAFTA region (examples include bulk agricultural products, animals, and minerals);
- incorporate non-NAFTA materials that are sufficiently processed in North America to undergo a change in tariff classification;
- be produced entirely in North America exclusively from originating materials; or
- satisfy a minimum value-content rule (the North American content of the good must be either 60 percent of the transaction value or 50 percent of the net cost).[27]

In addition, NAFTA contains special rules of origin for products in some categories of trade, including motor vehicles and parts, textiles and apparel, and agriculture. (They are discussed in Chapters 3 and 4.)

Provisions for Investment

The key provisions for promoting cross-border investment in the NAFTA region are detailed in Chapter 11 of the agreement (see Appendix A). The agreement would establish important rights and freedoms for investors from other NAFTA countries and would substantially liberalize regulations for investment in Mexico. The agreement states that investors from one NAFTA country with an investment in another should be treated no less favorably by federal, state, or provincial governments than are the investors or investments of the domestic country or those of any other country. Investment opportunities in Mexico for U.S. and Canadian citizens would benefit, in particular, from specific commitments to allow unrestricted repatriation of profits and capital promptly and in the currency of the investor's choice.

27. For details, see U.S. International Trade Commission, *Potential Impact on the U.S. Economy and Selected Industries of the North American Free-Trade Agreement*, USITC Publication 2596 (January 1993), pp. 3-2 and 3-3.

Annexes to the agreement contain many exceptions to the broad principle of liberalizing investment, detailing various reservations for investment in the United States, Mexico, and Canada. In the Mexican case, many of those reservations only apply during a five- to ten-year period of transition. Overall, the qualifications do not alter the conclusion that NAFTA would establish broad freedom and security for capital movements between NAFTA countries.

The Structure of the Agreement

In general, the agreement parallels the structure of the negotiating process. Both were organized around six fundamental issues--market access, rules of trade, services, investment, intellectual property, and settlement of disputes. At least one negotiating team was assigned to each issue, and at least one chapter of NAFTA arose from each issue.

Volume I of the agreement contains eight parts. Part One presents the objectives of the agreement and some fundamental definitions. Parts Two, Three, and Four address trade in goods (including rules of origin), technical barriers to trade, and government procurement. Part Five is devoted to investment and services, and Part Six establishes rules for intellectual property. Parts Seven and Eight set out administrative, institutional, and other provisions. Volume II of the agreement contains specific rules of origin and reservations and exceptions to the provisions for investment, cross-border trade in services, and financial services. Volumes III through V contain the tariff schedules for Canada, Mexico, and the United States.

Key Issues for the Congress

As this study goes to press, the Congress is preparing to review and vote on a bill to implement NAFTA. Consideration of this legislation will follow so-called "fast-track" procedures. Under fast-track procedures, the Congress must cast its final vote within 90 days of session from the date that the bill is introduced. Moreover, the Congress cannot amend the bill.[28]

Although the specifics of the bill are not known at this time, it is certain to change current laws. In particular, it would change U.S. laws governing tariffs on imports and may also contain amendments to other laws to bring the United States into conformance with NAFTA. The bill, or other legislation, might also include provisions related to assistance for U.S. workers or protection for the environment.

When the Congress votes on the implementing legislation, the Congressional Budget Office (CBO) will be required to perform its statutory role of estimating the costs and revenues associated with that bill, as it does for virtually all legislation. Although this study provides information that will be used by CBO to produce those estimates when the specifics of the legislation are known, it does not attempt to provide a complete cost or revenue estimate at this time.

This study focuses on some of the most important economic and budgetary issues raised by NAFTA, but it does not exhaust the myriad effects the agreement is likely to have. The overall, or macroeconomic, implications of the agreement are examined in Chapter 2. Although CBO concludes that the net effect of the agreement on the U.S. economy will be positive--that is, it will boost income in the United States--this macroeconomic result will not be factored into CBO's budget estimate. By convention, CBO considers only the direct effect on the federal budget of costs and receipts resulting from legislation. The macroeconomic consequences of the agreement,

28. For a fuller discussion of fast-track procedures and legislation for implementing NAFTA, see Congressional Research Service, *North American Free Trade Agreement*, Issue Brief IB90140 (March 19, 1993).

though recognized, generate secondary effects on the budget and thus will not be included in the estimate. (For example, CBO recognizes that an increase in U.S. income will influence the federal budget through the process of taxation, but CBO's estimate will not reflect that link.) In general, CBO expects that the effects of NAFTA on the U.S. economy and budget will be quite small.

The reduction in revenues from eliminating tariffs on products imported from Mexico will probably be the largest direct effect of NAFTA on the U.S. budget. Several important industries receive special attention in NAFTA, and as the Congress examines the agreement, many Members will be concerned about how it will affect those industries. Chapter 3 analyzes the effects of NAFTA on four of them: motor vehicles and parts, textiles and apparel, energy, and services. Agriculture is analyzed separately in Chapter 4.[29] In addition to the revenue effect stemming from lower tariffs on imports of Mexican agricultural products, the agreement has the potential to change outlays for U.S. programs of support for agriculture. These budgetary effects, which should also be small, are examined in Chapter 4.

One of the strongest concerns the Administration, the Congress, and the U.S. public at large have voiced about NAFTA is the worry that some workers in the United States may lose their jobs as a result of the agreement and face difficulties securing new employment. At the time of this writing, the Administration is negotiating a side agreement on labor to supplement NAFTA. These negotiations are expected to produce additional safeguards for workers related to minimum wage and labor standards. (The Administration is also negotiating a side agreement to control surges in imports of specific products. That agreement could bring about a more gradual transition for U.S. workers in industries that will eventually face new competition from Mexico.)

The Administration's budget contains funds for retraining workers. Although the details are not yet clear, it appears that the program would also cover workers displaced by causes other than NAFTA. Chapter 5 reviews what is known about the potential effects of NAFTA on U.S. workers and, as a guide, looks at the experience of U.S. workers who lost their jobs in the 1980s and the programs that were available to them.

Other strong concerns expressed about NAFTA relate to the environment. A supplemental agreement dealing with environmental issues, which may result in a North American Commission on the Environment and other measures, is also under negotiation. Thus far, the largest budgetary impact from environmental concerns would stem from the plan that was issued in 1992 for cleaning up the U.S.-Mexican border. Chapter 6 examines these environmental issues, as well as other safety and regulatory issues.

29. For a more detailed discussion of agriculture, see Congressional Budget Office, "Agriculture in the North American Free Trade Agreement," CBO Paper (May 1993).

Chapter Two

The Macroeconomics of NAFTA

The North American Free Trade Agreement culminates a process of economic reform in Mexico that began in the mid-1980s. Mexico has unilaterally undertaken many steps to liberalize its trade and its economy and to improve the macroeconomic environment for its businesses. This process is likely to yield gains for both the United States and Mexico, though it is difficult to distinguish clearly between those gains that would result directly from NAFTA and those that would stem from other elements of the reform. Part of the gains to each country come from liberalizing trade, which would reduce the cost of imports in both countries and allow each country to specialize in producing and exporting goods and services in which it is relatively more efficient.

The larger gains to Mexico, however, would very likely come from increased investment in Mexico. By removing most institutional barriers to investment flows among the United States, Canada, and Mexico, NAFTA would provide for capital and profits to flow freely and for other protections for investors (see Appendix A). Moreover, NAFTA would lock in Mexico's domestic reforms because it represents an international commitment to maintain them, which further reduces the riskiness of investment in Mexico. Indeed, expectations generated in part by the NAFTA negotiations have already sharply increased investment in Mexico by reducing the perceived riskiness of Mexican projects and loans.

The short-term gains to the United States would come from greater exports to Mexico, financed by the movement of capital to Mexico. Part of this rise in U.S. exports has already occurred as investors, anticipating the impact of NAFTA and existing economic reforms, have boosted the real (inflation-adjusted) value of the peso. And because Mexico's barriers start higher than those of the United States, NAFTA would lower Mexican barriers to U.S. exports more than it would reduce U.S. barriers to imports from Mexico. For a transition period that could be quite long--perhaps 15 years--the trade balance between Mexico and the United States would continue to run in favor of the United States.

In the long run, investment flows would cease to be so important, and the United States would primarily benefit from the effects of greater trade--which would increase as the Mexican economy grew--plus the returns to U.S. investors from their stake in a rapidly growing Mexican economy. A robust consensus of research holds that the long-run net gains from NAFTA's trade liberalization and greater freedoms for investors would be positive for the United States. In addition, the United States would have gained a more prosperous and stable neighbor.

These gains could not be earned without some workers and businesses in both countries suffering a painful adjustment: NAFTA would eliminate their protection and expose them to greater competition. Mexico would probably experience the most severe costs. For Mexico, unlike the United States, the very capital flows that promise long-run growth would actually intensify the costs of adjustment in the

short run by driving up the real value of the peso. Despite the potential gains, the pain of adjustment raises doubts about whether Mexico could stay the course of its reforms. International investors should be largely reassured because NAFTA would help commit Mexico to its reforms, but some areas of policy--notably macroeconomic policy--are still a concern.

If the gains and losses were considered together, the net effects of all these events for both countries would be positive, though the winners would be unlikely to compensate the losers. Mexico's economy could well grow by 6 percent to 12 percent, or even more, by the end of the transition period. But the effect on the United States would be smaller, simply because Mexico's economy is small--less than 5 percent of the U.S. economy. Production in the United States would probably rise by only about one-fourth of one percent in the long run, and U.S. income, boosted by the returns on investments in Mexico, might rise by one-half of one percent.

Economic Adjustments During the Transition Period

Many analysts have examined the impact of NAFTA in the long run, but few have considered the process of economic adjustment during the interim. The main macroeconomic links during the transition period would connect capital flows with changes in exchange rates and with exports from the United States and economic development in Mexico.

The flow of capital to Mexico in pursuit of new business opportunities would cause the Mexican peso to appreciate relative to the U.S. dollar in real terms. This appreciation would reduce the price of U.S. goods and services relative to Mexican prices and spur U.S. exports for a time. The flow of capital would build the Mexican capital stock, which would boost Mexican output by contributing directly to higher employment and the amount of capital per worker, and by introducing new technology to Mexico that would boost the productivity of the Mexican economy. The more competitive and open business environment permitted by NAFTA and related reforms would also boost the productivity of Mexico's economy. As the transition period unfolded, the peso would then depreciate in real terms as the capital flows to Mexico slowed, in part because Mexico would be repaying the debts it accumulated during the period of the capital inflow.

Analyzing of the economic adjustments during the transition is complicated because capital flows and exchange rates depend on expectations of future events. Because these variables anticipate NAFTA and other future policies and are affected by the other reforms implemented since the mid-1980s, the exact impact of these policy changes on the economy is hard to identify. Hence, it is difficult to separate the "pure" impact of NAFTA from the impact of other reforms. In fact, the effects of NAFTA must be considered along with those of Mexico's other economic policies.

Increased Foreign Investment in Mexico Is Key

The benefits of NAFTA for Mexico would depend critically on Mexico's ability to attract significant inflows of capital for a substantial period of years--probably well into the next century. The experience of other developing countries suggests that Mexico could not rely on domestic saving, particularly private saving, to finance all of the desired domestic investment under NAFTA (see Box 2-1).

Instead, countries that have successfully liberalized their economies have relied on foreign capital to finance increased domestic investment. Because the increased demand for capital in Mexico would add to the demand of other countries also seeking to build and rebuild their economies, NAFTA would raise real interest rates slightly in the United States and abroad.

NAFTA would promote investment in Mexico by Americans, Canadians, and investors from other countries with substantial business activities in North America. At least three mechanisms would be at work: reduced risk, increased market opportunities in Mexico and the United States, and higher productivity. NAFTA would reduce the risks to foreign-owned capital in Mexico by giving foreigners the right to control their investments

Box 2-1.
Domestic Saving Will Not Finance Increased Investment

Domestic saving in Mexico will not be able to satisfy the increased demands of investment in the near term.

Mexican private domestic saving should rise over time, but no evidence suggests that the response of Mexican saving to increased growth will be a rapid one for a decade or so. In fact, private saving might initially fall. Since 1988, the private saving ratio in Mexico has fallen from around 17 percent to about 11 percent in 1991. Many people in Mexico are subsistence consumers (having little discretionary income over and above the perceived necessities of life). For these people, the initial effect of reform on their saving would probably be minimal, since they would use all the extra income for consumption. Others may even increase their consumption faster than income if the financial reforms make credit more easily available. *The Economist* (February 13, 1993) reported an analyst's claim that bank loans in Mexico grew by 25 percent during 1990 alone. Moreover, the effect of liberalization on private saving in the other countries considered for this study was small except for South Korea, which increased its household saving sharply, particularly between the mid-1960s and the mid-1970s.

Increased government saving has sometimes helped to finance the investment resulting from liberalization (this occurred, for example, in South Korea and in Thailand, where large increases in government saving took place at the end of the 1980s). But government saving is unlikely to contribute more than modestly to financing the growth of private investment in Mexico in the near term.

Unlike South Korea and Thailand, Mexico had already substantially improved its fiscal position before embarking on a wider economic liberalization. Between 1983 and 1991, the operational balance of the Mexican government averaged only about 0.1 percent of gross domestic product, and in recent years has moved firmly into surplus (see figure). The recent improvement in the operational balance (which excludes the inflationary component of interest payments) was achieved in part by reducing or ending subsidies, both to government enterprises that were sold as part of the privatization initiative and to consumer purchases of basic foods. Thus, the fiscal restructuring is likely to be durable and has already contributed to increased aggregate savings, but current plans do not include much additional fiscal restraint.

Mexico's Operational Balance

SOURCE: Congressional Budget Office based on data from the Bank of Mexico.

NOTES: Excludes revenues from privatizations.

Negative numbers indicate deficit.

(see Appendix A) and by effectively locking in the entire program of economic liberalization (see Box 2-2). A lower perception of risk would promote investment by reducing the rate of return that investors will accept.

NAFTA and the rest of Mexico's market-oriented liberalization would very likely open up many new opportunities for investment projects in Mexico. Investors can look to the growth potential of the Mexican domestic market as well as rely on secure access to the vast markets of the rest of North America.

Foreign investment would also be attracted to the higher expected returns that would result from gains in productivity from NAFTA and the other economic reforms, although the mechanisms through which this effect might operate are not well understood and are widely debated. These gains in productivity would increase Mexican output over and above the direct effect of new investment that increases the capital available to each worker. The opening of the economy to trade yields the familiar gains from specialization alone, and expanding markets may offer increasing returns to scale for some Mexican industries. Economists point to additional sources of "dynamic gains" that could raise total factor productivity much further: increased competitiveness; new technology and methods embodied in new investment, particularly in direct investments by companies based in Canada and the United States; gains from access to more efficiently produced inputs; and gains from learning by doing, including improved levels of skill in the work force.[1] For all these reasons, the rate of growth in productivity would probably rise over a lengthy period.

Because financial markets act on the basis of their expectations of the future, a significant part of the rise in foreign investment in Mexico as a result of NAFTA may occur--and, indeed, may have already occurred--before the agreement is ever ratified (Box 2-2 explains why some part of the capital flows may nevertheless be delayed until full ratification). The largest upsurge in net foreign investment occurred in 1991 ($17 billion of long-term private capital) and 1992 as the NAFTA negotiations were under way. Anecdotal evidence suggests that many investors believe NAFTA

Box 2-2. On Uncertainty, Investment, and "Lock-in"

Capital flows and investment in Mexico have already increased since the announcement of the negotiations on the North American Free Trade Agreement. But additional investment and capital flows may be waiting in the wings until after NAFTA is accepted. To enact NAFTA, Mexico must pass laws that link its entire program of economic policies to an international agreement. Future governments would not find it easy to undo this link, meaning that the final ratification of NAFTA would effectively "lock in" Mexico's program of economic reforms and drastically lower the risk of a reversal of policies. Once ratified, NAFTA would reduce investors' fears that Mexico might abandon its reforms when faced with the painful adjustments created by economic liberalization.

This lock-in effect is important for encouraging physical investment in Mexico. Many investments involve significant irreversible costs that cannot be recouped if the project is abandoned--costs of specialized plant and equipment, special training for a work force, and a marketing and distribution network. Lock-in reduces the uncertainty in the economic environment, lowering the threshold level of profitability required for an investment.

Private investment in Mexico could also be increased by reducing macroeconomic instability. Researchers argue that this effect has been an important one for developing countries in practice. Others review the evidence--from theory, statistical comparisons among countries, and case studies--and conclude that macroeconomic uncertainty does indeed lead to lower investment and slower growth: in short, a stable macroeconomic framework is necessary for sustainable growth.

1. See Gene Grossman and Elhanan Helpman, *Innovation and Growth in the Global Economy* (Cambridge: MIT Press, 1991). Total factor productivity is the combined productivity of both labor and capital.

will be ratified and thus have already made plans on that basis.

The Real Appreciation of the Peso

The increased investment in Mexico should correspondingly increase the demand for peso-denominated assets, which would bid up the value of the real peso exchange rate and make Mexican goods and services more expensive relative to goods and services produced in the United States. That is, Mexican demand for U.S. production rises while U.S. demand for Mexican production falls. The flow of capital would continue and the real value of the peso would remain high as long as U.S. investors (or those from other countries) were prepared to finance Mexico's current-account deficit.

The real appreciation of the peso would not be permanent: eventually, the flow of capital to Mexico is likely to slow, and the peso should depreciate in real terms. This depreciation would benefit Mexico by boosting Mexico's net exports of goods and services. In order to pay interest on its additional debt to foreigners, Mexico would need to run a surplus on its balance of trade.

The substantial real appreciation of the peso exchange rate that has occurred since 1987 must reflect both anticipations of NAFTA and the other actual and expected components of Mexico's reform program. The peso appreciated some 8 percent in real terms between 1989 and 1991 and was 43 percent higher than its low point in 1987. Consequently, if NAFTA is not ratified, a significant part of recent capital flows and investments might be reversed, and the peso could fall sharply in both real and nominal terms (see Box 2-3).

Although the real value of the peso should trace a broad rise and fall over a number of years, market forces could put upward or downward pressure on the peso in the short run even if NAFTA is ratified. Some analysts fear that the financial markets have taken an overly optimistic view of the benefits of Mexico's program of economic reform, pushing the real value of the peso too high. These analysts fear that the real value of the peso could fall,

Box 2-3. What Difference Will It Make If NAFTA Is Not Approved?

If the North American Free Trade Agreement is not carried out, the Mexican economy could evolve over the next 25 years in a markedly different way. Mexico's continued economic opening could slow and would be at risk of a severe setback. Even though Mexico might still seek to continue many of its other economic reforms, Mexico's hopes of large gains in productivity would be delayed. Confidence would be damaged and investment in Mexico would seem more risky--the decline in country risk would slow if not stop, and risk premiums could rise--because there would be a larger risk of policy reversals without the lock-in effect of NAFTA.

Capital flows into Mexico would probably decline and might well reverse. In that case, a financial crisis in Mexico would be threatened, with the possibility of a collapse of the peso and the associated risk of renewed capital flight or the necessity of painfully high short-term interest rates. If failure to ratify NAFTA had such effects on Mexico, economic and political links between the United States and the rest of Latin America might also suffer. The willingness of foreign governments throughout the world to enter into complex trade negotiations with the United States could also be damaged.

Some observers argue that, in the long run, Mexico would recover from the setback of NAFTA's failure because the underlying potential of its economy would remain, and investment and trade would continue, albeit perhaps more slowly than they would under NAFTA. This view may be correct as long as Mexican governments are able to maintain support for the current market-based, outward-oriented approach to their economic policies. But the extent to which financial markets and Mexican domestic politics have built up the significance of NAFTA suggests that a rejection could produce a substantial setback.

though not enough to offset the appreciation of the past few years.

Alternatively, some investors may be waiting for the adoption of NAFTA before they invest in Mexico. If so, these additional capital flows could raise the real value of the peso. Such short-run movements would complicate the Mexican authorities' job of conducting a suitable exchange rate policy, as discussed later in this chapter.

The Macroeconomic Benefits for Mexico

NAFTA would lead to significant improvements in the Mexican economy, although these improvements would entail costly disruptions for many Mexicans. During the transition period, the effect of capital flows on the real value of the peso would intensify the pain. However, in the long run, NAFTA promises to boost the standard of living in Mexico. By the end of the transition period, output could be between 6 percent and 12 percent higher than it would be without NAFTA and Mexico's other, complementary policies. The extent of this gain would depend on how much capital moves to Mexico and on how much Mexico's productivity increases.

How Much Capital Would Go to Mexico?

For various reasons, the effect of NAFTA on capital flows has not been analyzed as much as its likely economic significance would appear to justify.[2] Some attempts have been made to consider the question of how the economic outcomes would vary with different amounts of capital flowing into the country. But little effort has been made to address the logically prior question of how big the capital flows might prove to be.

This section approaches this question in two ways: first, by examining the experience of nine other developing countries that have pursued liberalization programs in the past two decades; and second, by simulating Mexico's reform program with a macroeconomic model (the McKibbin-Sachs Global model--see Appendix B).

Experience of Other Countries. The recent experience of other countries that have undergone broad-based economic reforms suggests that the capital inflows could be substantial. The Congressional Budget Office examined the experience of nine countries that attempted reforms and, like Mexico, began with low real wages--a sign that they were relatively short of capital.[3] Five of these countries--Chile, Portugal, Spain, Thailand, and Turkey--achieved increases in net inflows of private capital that ranged, on average, from 1.5 percent to 4 percent of their gross national product (GNP).

The size of the capital inflows is related to the degree of economic reform or liberalization. Arguably, Chile made the most progress over the entire range of liberalization measures that economists think important; it also enjoyed one of the highest increases in net private capital inflows--3.2 percentage points of GNP. Turkey, by contrast, achieved only a low degree of liberalization and had the lowest increase in net private capital inflows of these five countries--just 1.5 percentage points of GNP.

2. See comments of Robert Lawrence and Anne Krueger in Nora Lustig, Barry P. Bosworth, and Robert Z. Lawrence, eds., *North American Free Trade: Assessing the Impact* (Washington, D.C.: Brookings Institution, 1992).

3. These nine countries include Argentina, Chile, Greece, Portugal, South Korea, Spain, Thailand, Turkey, and Uruguay. Greece and Uruguay underwent limited reform and thus offer few useful comparisons. Argentina and South Korea have made major reforms, but their reforms are so recent that not enough data are available to gauge the average increases in their net inflows of private capital. See Congressional Budget Office, "Economic Reforms and Capital Flows: The Experience of Countries That Have Liberalized Their Markets," CBO Staff Memorandum (July 1993).

The magnitude of the capital flow is also related to how closely the reforming country is linked to large developed economies with large supplies of capital to invest. For example, Portugal, Spain, and Thailand all enjoyed large increases in their net private capital inflows relative to GNP--4, 2.9 and 2.1 percentage points, respectively. Portugal and Spain joined the European Community in time to benefit from a communitywide upsurge in investment. Thailand benefited from heavy investment by Japanese corporations seeking a convenient, lower-cost location for some of their production in the aftermath of the yen's real appreciation in the mid-1980s.

Judging by the experience of these countries, Mexico is in a particularly favorable position. The breadth and depth of its economic reforms are similar to those of Chile. Unlike Chile, however, Mexico has long-standing, close links with the huge markets of the rest of North America. In addition, Mexico's net borrowing has benefited from its 1990 agreement under the Brady plan, which succeeded in reducing the transfer of resources abroad to service its debt. As a likely consequence of these three factors, net capital inflows to Mexico rose from negative levels to 4.7 percent of gross domestic product in 1991 (and may have reached 6 percent in 1992).[4]

The experience of these countries suggests that the annual net capital inflow into Mexico could be large from Mexico's perspective--around $3 billion to $9 billion (in 1990 dollars) per year for up to 10 years. Such flows could cause the exchange rate to appreciate by 15 percent to 30 percent in real terms.[5]

Illustrative Simulations. The effect of NAFTA and the associated liberalization of financial markets on the riskiness of investment in Mexico is likely to be extremely important to the magnitude of capital flows. The model reflects this effect by changes in a risk premium--the amount by which the short-term Mexican interest rate must exceed a comparable U.S. interest rate (translated to peso terms) in order to persuade international investors to hold Mexican government securities. This risk premium is a proxy for a wide variety of risks that can apply to international capital flows, including country, convertibility, and currency risks (see Appendix B).

CBO assumes that the risk premium would fall by 10 percentage points over a three-year period as a result of Mexico's whole program of economic, trade, and investment reforms. This assumption reflects recent research, which suggests that country risk plus convertibility risk for Mexico may have fallen by 7 percentage points between early 1990 and mid-1991.[6] It also seems likely that the total risk premium has fallen further. Various other measures of these risks for Mexico have declined even more (see Figure 2-1).

The drop in the risk premium has an enormous impact on flows of capital to Mexico. It boosts net private capital inflows to a level of around 6 percent to 7 percent of GDP--an amount consistent with the experience of the last few years as well as with that of the other liberalizing countries. This result underlines the importance of policy changes for reducing the risk premium and increasing foreign investment.

CBO's simulations confirm that Mexican private saving would probably not finance much of the increased investment in Mexico, at least in the near term. Consumers would

4. See Organization for Economic Cooperation and Development, *OECD Economic Surveys: Mexico* (Paris: OECD, 1992).

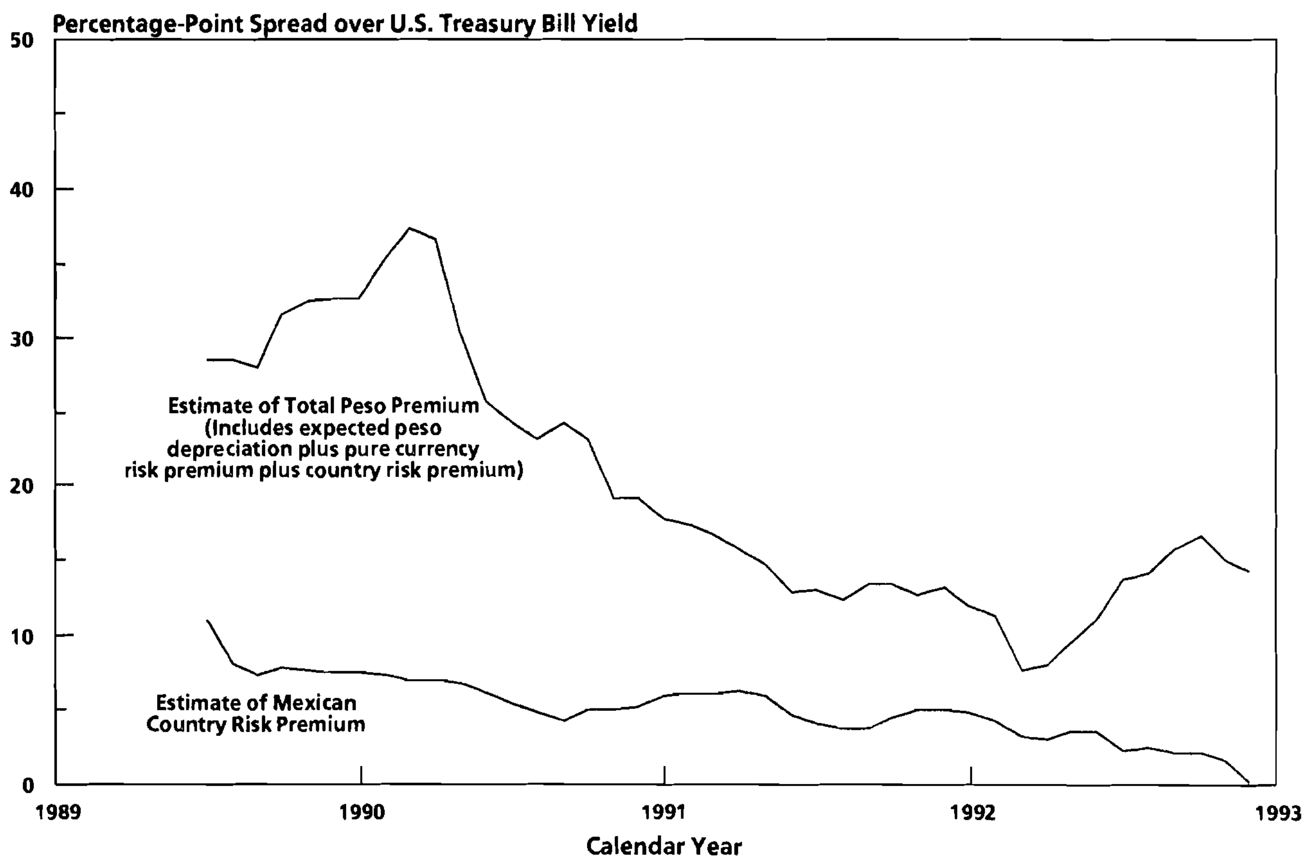
5. Spain had a 24 percent and Portugal a 17 percent real appreciation between 1985 and 1991 (both countries joined the European Community in 1986). Argentina began a successful program of economic reforms in early 1991 and had a real appreciation of 34 percent between 1990 and 1991.

6. This estimate is based on a 9 percentage-point decline in the implicit yield derived from the secondary market for Mexico's external debt, as reported in Hoe E. Khor and Liliana Rojas-Suarez, "Interest Rates in Mexico: The Role of Exchange Rate Expectations and International Competitiveness," *IMF Staff Papers*, vol. 38, no. 4 (December 1991), and a 2 percentage-point decline in short-term U.S. interest rates.

increase their consumption and reduce their saving in the short term because they foresee higher income in the future as the Mexican economy develops. Thus, some of the increased consumption that NAFTA and the other reforms would make possible is likely to occur now. Indeed, private saving falls by modest amounts under all the combinations of assumptions that CBO examined. The amounts are small--less than 1 percent of baseline GDP--but they strongly confirm that capital inflows would be needed to finance increased investment in Mexico.

The simulations suggest that Mexico's current-account deficit will continue for a substantial period of time, which means that Mexico could attract substantial net inflows of private capital during the transition period. Although Mexico's real trade balance (in goods and nonfactor services) improves steadily after a sharp initial deterioration (see Figure 2-2), its current-account balance (incorporating service on Mexico's debt to foreign creditors) remains in substantial deficit for a much longer period (see Figure 2-3). The adjustment in the trade balance would occur gradually as the peso depreciates in real terms from its initial high level back toward--and ultimately below--the level it would have achieved without NAFTA and the other reforms.

Figure 2-1.
Evidence of Changing Risk on Investments in Mexico



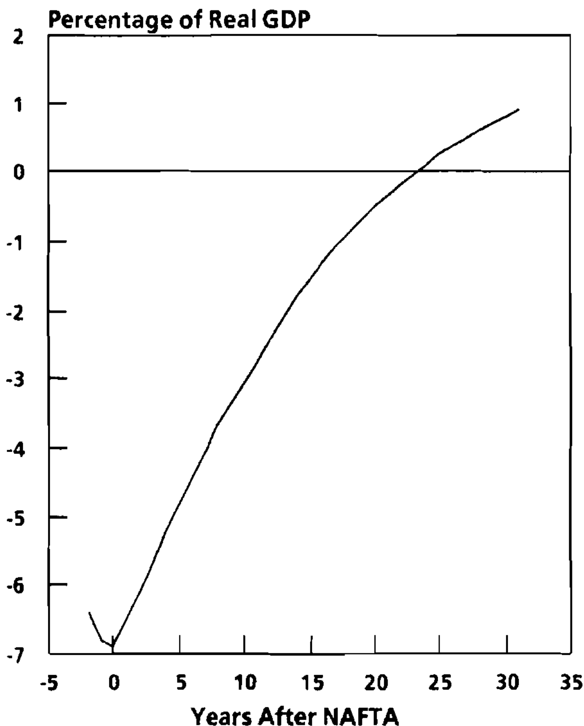
SOURCE: Congressional Budget Office based on data from the Bank of Mexico and analysis found in Annex IV, "Interest Rates and Capital Flows," in Organization for Economic Cooperation and Development, *OECD Economic Surveys: Mexico* (Paris: OECD, 1992).

NOTE: The apparent zero country risk premium in late 1992 results from comparing rates on instruments of differing maturities. This method should underestimate the level of the premium but capture the trend.

The simulations help to explain the substantial real appreciation of the peso exchange rate that has occurred because of the capital flows. The actual magnitude of the appreciation that corresponds to a particular capital flow varies with the particular model employed. CBO's simulations using the McKibbin-Sachs Global model suggest a real appreciation of around 40 percent; but according to one computable general-equilibrium model that CBO examined, the same flow of capital suggests a real appreciation of around 20 percent.

The simulations also emphasize that the appreciation of the peso associated with NAFTA would not be permanent, though some of it may be relatively long lived. In these illustrative simulations, half of the initial real appreciation is reversed after five years, but this interval depends crucially on assumptions, and the precise timing could vary. The basic pattern remains--a large initial appreciation of the peso followed a few years later by a steady depreciation.

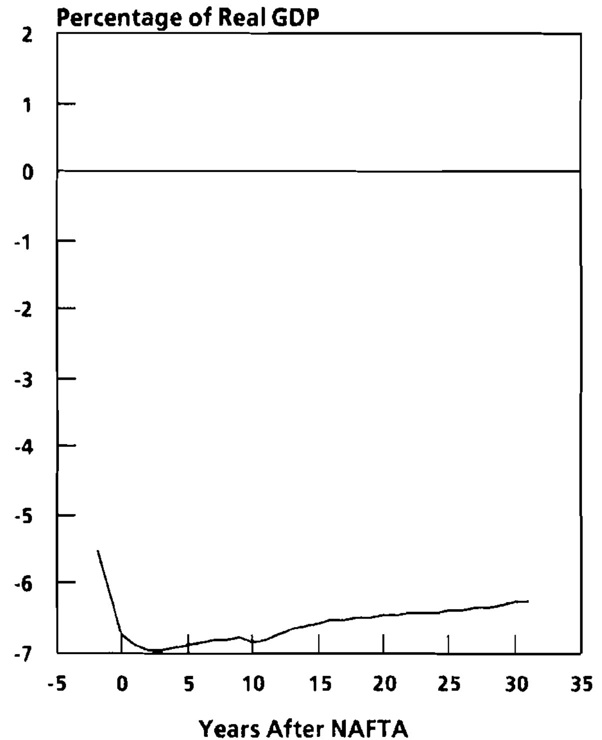
Figure 2-2.
Mexican Real Trade Balance: Difference from Baseline as a Percentage of Real GDP



SOURCE: Congressional Budget Office simulations.

NOTE: GDP = gross domestic product.

Figure 2-3.
Mexican Real Current Account: Difference from Baseline as a Percentage of Real GDP



SOURCE: Congressional Budget Office simulations.

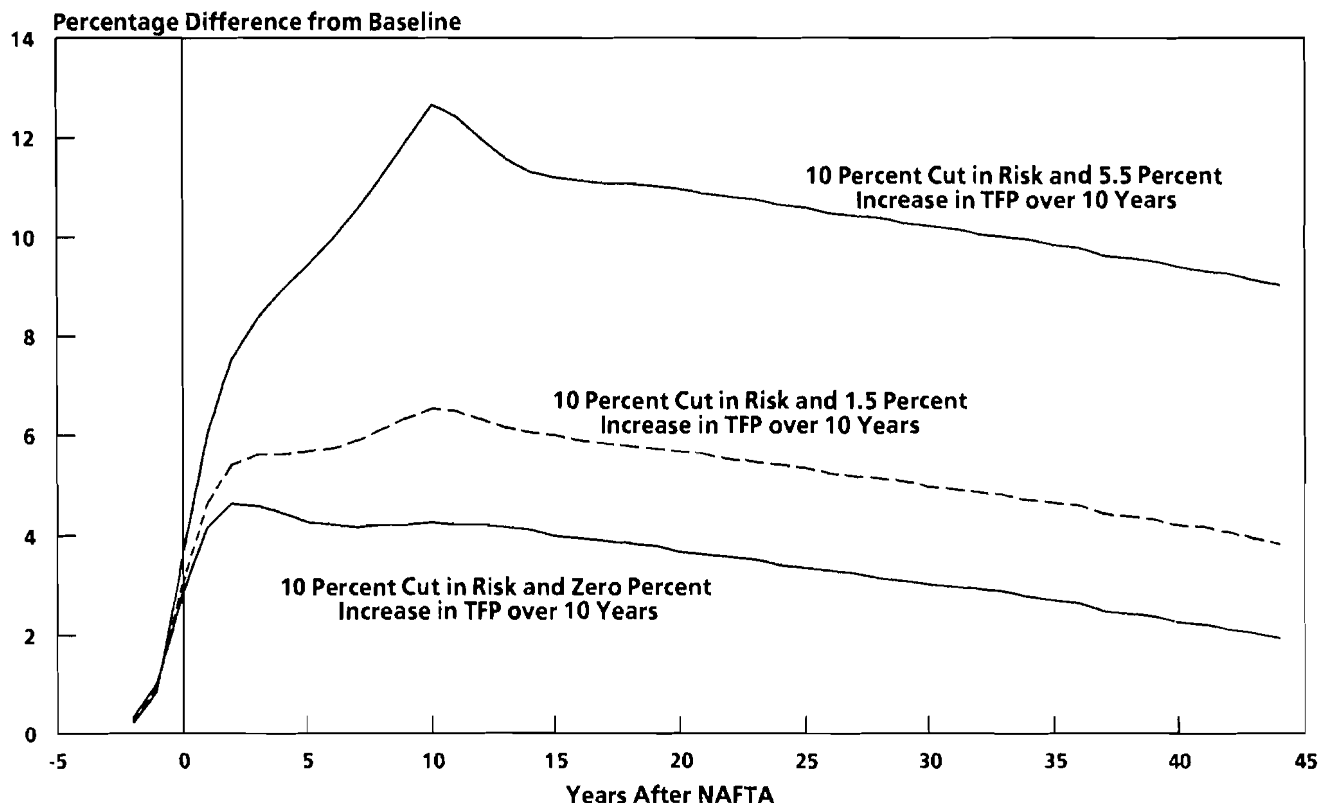
NOTE: GDP = gross domestic product.

How Much Would Productivity Increase in Mexico?

The impact of NAFTA and the other Mexican reforms would also depend on the extent of gains in productivity. No clear-cut measurement of the expected magnitude of these effects exists, so projecting the total gains in productivity that may result from NAFTA is exceedingly difficult.

In its illustrative simulations, CBO has assumed 0.5 percent additional growth in total factor productivity (TFP) in Mexico over 11

Figure 2-4.
Mexican Real GDP: MSG Simulations of the Impact of NAFTA and Economic Reforms



SOURCE: Congressional Budget Office simulations.

NOTE: GDP = gross domestic product; MSG = McKibbin-Sachs Global model; TFP = total factor productivity.

years, increasing the level of total factor productivity by 5.5 percent overall. From the experience of other liberalizing countries, if Mexico follows through with all its promised reforms, CBO's assumption is conservative. For example, a World Bank study indicates that increases in the annual growth rate of TFP of more than 1 percentage point a year over extended periods are well within the historical experience of successful developing countries.[7] In Latin American countries, the growth rate of total factor productivity increased by at least 2 percentage points a year for the four years after liberalization.

Combining the assumptions about the growth in productivity and the reduced risk, the model indicates that Mexico's output could rise by 12 percent by the end of the transition period. More pessimistic assumptions about the gains in productivity would reduce the simulated gains in output. A realistic assumption about the minimum gains in productivity under NAFTA would be on the order of 1.5 percent to 2.0 percent after a decade. Productivity gains of this magnitude could be expected simply from reductions in tariffs through greater specialization and some increasing returns to scale. The assumption of lower productivity delivers output gains of about 6 percent (see Figure 2-4).

7. Hollis Chenery, Sherman Robinson, and Moshe Syrquin, eds., *Industrialization and Growth: A Comparative Study* (New York: Oxford University Press, 1986).

The Macroeconomic Benefits for the United States

NAFTA would bring both benefits and costs to the United States--the benefits exceeding the costs by a small but significant amount. Neither the benefits nor the costs for the United States would be large: the Mexican economy accounts for less than 5 percent of the U.S. economy, and thus simply does not have the weight to affect the United States very much. The trade liberalization in NAFTA would have a small but positive impact on U.S. GDP through the increased specialization that free trade permits, raising GDP by as much as one-quarter of one percentage point.[8] The United States would also benefit from an increased volume of trade with a larger Mexican economy. The United States is by far Mexico's largest trading partner and most important source of both consumer goods and capital goods, and producers in the United States are in an excellent position to share in the growth in Mexican spending on new plant and equipment. Even including these gains, however, the impact on GDP would remain easily less than 1 percentage point.

Over time, the increase in U.S. income would be greater than the increase in U.S. output because the United States would begin to receive an increasing stream of interest payments and dividends from its investments in Mexico. CBO's illustrative simulations suggest that eventually, as the North American economies completed their adjustments to NAFTA, U.S. gains in income from the repatriated profits and dividends from Mexico could amount to one-quarter of one percentage point of GDP (strictly, GNP).

The United States would also benefit in other ways. In the short run, the real appreciation of the peso would increase U.S. exports to Mexico and cushion the losses to those U.S. industries hurt by the liberalization of trade. And in the long run, the migration of Mexican labor to the United States should decline as the Mexican economy grows, though it could rise for a while depending on the timing of various reforms and on whether development in Mexico proved disappointing. The increased investment in Mexico--the focus of much concern in the United States--is not in the end likely to affect U.S. domestic investment significantly.

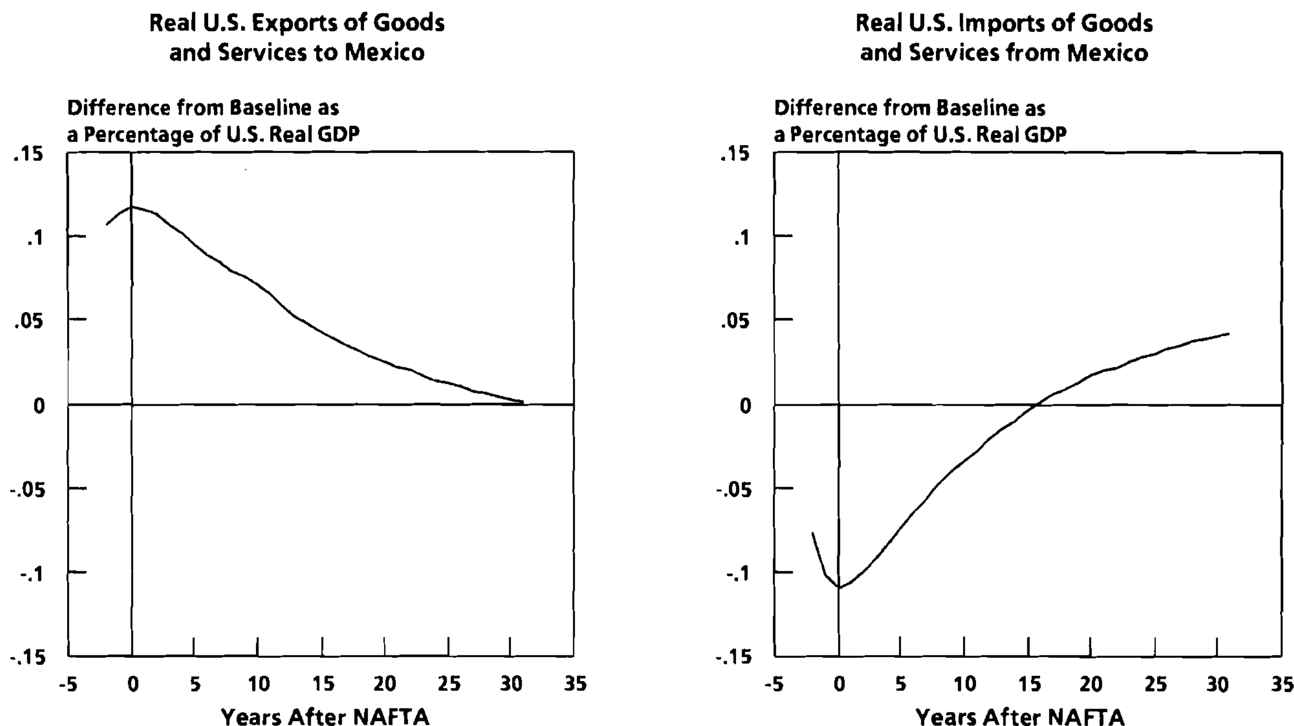
Increased Exports to Mexico in the Short Run

U.S. exporters and firms competing against imports from Mexico would benefit in the short run from the real appreciation of the peso. Although NAFTA would eliminate most tariffs protecting U.S. industries quite quickly, the real value of the peso has already risen by more than enough to overwhelm the effects of tariff reductions in the dollar prices on almost all Mexican goods. (The effective U.S. tariff imposed on Mexican goods before NAFTA is only around 1.9 percent, though it is significantly higher for some goods.) This appreciation would cushion the adjustment for the less competitive U.S. producers and, by slowing the necessary pace of adjustment, could allow many employment changes to occur by attrition rather than by layoffs in those U.S sectors that are hurt by the trade liberalization (see Chapter 5 for more on the costs of worker displacement).

In CBO's macroeconomic simulations, exports from the United States to Mexico rise by more than $7 billion in 1990 dollars per year at the outset, and Mexican exports to the United States and elsewhere fall by slightly more (see Figure 2-5). Mexican real net exports fall

8. Congressional Budget Office, "Estimating the Effects of NAFTA: An Assessment of the Economic Models and Other Empirical Studies," CBO Paper (June 1993). See also Lustig, Bosworth, and Lawrence, eds., *North American Free Trade*; and U.S. International Trade Commission, *Economy-Wide Modeling of the Economic Implications of a FTA With Mexico and a NAFTA With Canada and Mexico* (1992).

Figure 2-5.
Trade Between the U.S. and Mexico: The Impact of NAFTA and Economic Reform



SOURCE: Congressional Budget Office simulations.

NOTE: GDP = gross domestic product.

by some $19 billion in 1990 dollars initially and remain in deficit for many years. In contrast, the United States experiences many years of improved trade balance. The gains to exports from the United States are about evenly split between consumption and capital goods, which implies a disproportionate boost to the capital goods industry.

The simulations suggest that it might be more than a decade before the real value of the peso returns to a level even 10 percent above what it would have been without NAFTA and the other policy reforms in Mexico. During the intervening years, U.S. goods would be more attractive in Mexican markets, and Mexican exports to the United States would fall below the levels they would have attained without the real appreciation of the peso.

In the short run, as long as production in the United States remains below potential and unemployment is high, the improved trade with Mexico is likely to increase both production and employment in the United States.[9] But the adjustment period in Mexico, and its large trade deficit, will persist longer than the current period of economic weakness in the United States. Over this longer period, the improved trade would probably increase real income in the United States, with both higher real wages on average and higher profits. These effects, however, would be very small relative to the size of the U.S. economy.

9. Hufbauer and Schott's extrapolative model indicated that some 130,000 additional jobs would be created in the United States by the net improvement in the trade balance. See Gary Clyde Hufbauer and Jeffrey J. Schott, *North American Free Trade: Issues and Recommendations* (Washington, D.C.: Institute for International Economics, March 1992). A CBO paper, "Estimating the Effects of NAFTA," includes a critique of the employment multipliers used by Hufbauer and Schott and similar ones used by others. These numbers are not based on formal economic analysis and so should be treated with caution.

A More Prosperous Mexico Will Mean Less Migration to the United States

Mexico has accounted for a large share of total immigration--both legal and illegal--into the United States over the last decade, and given current economic and demographic trends in Mexico, pressure for Mexican immigration to the United States is likely to increase without NAFTA.

If NAFTA promoted sufficient economic growth in Mexico, it could eventually reduce the flow of migration north to the United States. NAFTA could reduce the pressure for migration by promoting economic growth and development, thereby raising Mexican wages and employment. This growth would lower the difference in the wages paid in manufacturing between Mexico and the United States that spurs much of the migration.[10]

One study suggests that a 20 percent increase in the Mexican capital stock relative to that of the United States would be needed to offset completely the pressure for increased migration that could result from current trends and NAFTA's impact on agriculture.[11] CBO's simulations indicate that NAFTA plus Mexico's other reforms could have an effect of this magnitude: the Mexican capital stock is 15 percent above baseline when the increase in productivity levels off.

10. Long-run increases in average wages reported by the U.S. International Trade Commission survey of modeling exercises range from 0.7 percent to 16.2 percent in Mexico and 0.1 percent to 0.3 percent in the United States.

11. Raúl Hinojosa-Ojeda, Sherman Robinson, and Goetz Wolff, "The Impact of a North American Free Trade Agreement on California: A Survey of Key Research Findings," Working Paper 3 (Lewis Center for Regional Policy, University California at Los Angeles, September 1992).

Increased Investment in Mexico Is Not at the Expense of Investment in the United States

Both historical experience and the preferential investment provisions of NAFTA suggest that the United States would be the largest source of increased foreign investment in Mexico. Although these factors suggest that loanable funds might be diverted from the United States to Mexico, any diversion should not significantly lower the pool of such funds available to potential investors in the United States. First, even inflows that are large for Mexico would be small relative to the size of the capital market and aggregate investment in the United States. Even if the entire flow of additional Mexican investment--perhaps $15 billion per year--were funded out of U.S capital sources, it would amount to only 1 percent to 2 percent of U.S. annual saving, and less than 2 percent of the U.S. market for loanable funds.

Second, the relevant source for investment funds is the global capital market, and so additional funds should flow into Mexico from the rest of the world. When the full mechanism of worldwide capital markets is allowed for, even a net capital flow into Mexico from the top of the range of estimates--say, $20 billion--could result in a net outflow from the United States of only $8 billion, or 40 percent of the total. (An annual flow of $20 billion into Mexico would represent a tiny fraction of world saving.) The U.S. share of gross recorded foreign investment in Mexico would, of course, be much higher.[12]

12. Some analysts worry that crowding out in the United States could be greater because non-U.S. investors, such as those in Europe and Japan, are less familiar with the Mexican environment and so may be less willing to invest in Mexico than U.S. investors. These concerns stem in part from the analogy to German unification, where most of the investment in eastern Germany has been funded from western Germany and real interest rates have risen further than originally expected. However, the tightening of monetary policy by the Bundesbank to offset the fiscal stimulus from expanded public spending in eastern Germany probably explains much of the rise in German rates.

Third, any crowding out of U.S. investment would be offset, at least in part, because NAFTA would bring capital to the United States. The impact on U.S. capital markets of investments in Mexico would probably be further offset by increased saving in response to the small rise in world real interest rates and increased income. Overall, investment in the United States is barely affected in CBO's simulations, with increased output and income tending to offset the modest rise in real interest rates. CBO's illustrative simulations suggest that the impact on real interest rates in the United States could be 20 to 25 basis points (0.20 to 0.25 percentage points).

A popular view holds that individual plant migrations would combine in a "great sucking sound" as large amounts of net investment and jobs flow out of the United States into Mexico. This view rests on a misconception. Particular events in which capital appears to move to Mexico would be offset by others in which new capital, some from outside North America, flows to new investment projects in the United States. Nevertheless, displaced workers would suffer for a time if they had to retrain or relocate to the new employment opportunities (this issue is addressed in Chapter 5).

Mexico's Role in Making NAFTA a Success

Mexico and the United States would not gain the full benefits of NAFTA unless Mexico could attract and productively employ foreign capital. Although the combination of trade and investment provisions contained in NAFTA would go a long way toward this goal, other complementary policies would greatly improve the chances for success. Further liberalization of foreign investment, capital flows, and the domestic capital market, and deregulation and privatization of nonfinancial business would help to direct the foreign investment to its most productive uses.

Nevertheless, the Mexican economy would still be vulnerable to shifts in the confidence of investors and movements of short-term capital. Some analysts argue that this is particularly true during the period before the full gains in productivity are apparent. Hence, the success of the endeavor would also depend on the Mexican government's conduct of its macroeconomic policy, which would need to foster a stable macroeconomic environment even while dealing with the remaining large stock of debt and avoiding destabilizing movements in the exchange rate.

Stable Macroeconomic Policies

Two important factors for private investors seem to be fiscal discipline and low inflation. NAFTA itself would not commit the Mexican government to these goals. Although the current Mexican government is clearly committed to achieving a sound macroeconomic framework, the pains of restructuring could tempt a future government to relax this macroeconomic discipline. Nevertheless, the current government's commitment to macroeconomic stability is reflected in the proposed constitutional amendment to grant independence to the central bank, a proposal that--at the same time--recognizes the dangers of future reversals of current macroeconomic prudence and the desirability of locking in a commitment to stable future policies.

Mexico has thus far achieved great success in stabilizing its economy. It began its steady process of fiscal consolidation shortly after the 1982 debt crisis (see Table 2-1). A budget deficit of almost 17 percent of GDP in 1982 was reduced and substantially eliminated by 1991. The tariff reductions under NAFTA may cut one source of government revenue, but if the whole package of reforms achieves the economic benefits described earlier in this chapter, other sources of revenue would be likely to grow much faster.

Mexico has also made progress in reducing inflation. Monetary policy was substantially tightened after 1982 as the Mexican govern-

Table 2-1.
Public Finance Indicators in Mexico
(As a percentage of gross domestic product)

	Public-Sector Borrowing Requirement	Primary Balance	Operational Balance
1965	-0.8	0	-0.7
1966	-1.1	-0.2	-0.6
1967	-2.1	-0.8	-1.7
1968	-1.9	-0.7	-1.4
1969	-2.0	-0.7	-1.3
1970	-3.4	-1.3	-2.6
1971	-2.3	-0.4	-1.3
1972	-4.5	-2.2	-3.3
1973	-6.3	-3.5	-2.5
1974	-6.7	-3.7	-3.1
1975	-9.3	-6.0	-6.8
1976	-9.1	-4.6	-4.1
1977	-6.3	-2.2	-2.6
1978	-6.2	-2.2	-3.4
1979	-7.1	-2.7	-3.8
1980	-7.5	-3.0	-3.6
1981	-14.1	-8.0	-10.0
1982	-16.9	-7.3	-5.5
1983	-8.6	4.2	0.4
1984	-8.5	4.8	-0.3
1985	-9.6	3.4	-0.8
1986	-15.9	1.6	-2.4
1987	-16.0	4.7	1.8
1988	-12.4	8.0	-3.6
1989	-5.5	7.9	-1.7
1990	-4.0	7.8	2.3
1991[a]	-1.5	5.5	3.3

SOURCE: Congressional Budget Office based on data from the Bank of Mexico.

NOTE: Negative numbers indicate deficit.

a. Excludes revenue from privatizations.

ment tightened fiscal policy and reduced its reliance on the inflation tax. Inflation rose again briefly in 1987. Since then, the Mexican government has bolstered its monetary tightening through the Economic Solidarity Pact (Pacto) of December 1987, which has helped to lower inflationary expectations.[13]

13. The Pacto is an agreement between government, business, agricultural producers, and trade unions that links fiscal and monetary restraint and structural reforms to an incomes policy.

A Suitable Exchange Rate Policy

Although NAFTA and the associated liberalizations would produce swings in the peso exchange rate that in broad terms are well understood and widely agreed upon--an initial appreciation followed some years later by a depreciation--the details of timing and magnitude are very difficult to know. Capital and exchange markets have undoubtedly incorporated into their calculations the expectation--with some uncertainty attached--that NAFTA would be ratified. What is not at all obvious is whether this anticipation means that the real appreciation of the peso is complete, whether the appreciation might have overshot the mark, or whether there is some more appreciation yet to come when the agreement is actually ratified.

These uncertainties matter because the Mexican government actively manages the exchange rate and thus must come to a conclusion on these issues in order to minimize possible distortions to the market. Until recently, the exchange rate was managed explicitly through exchange controls and a controlled exchange rate that was allowed to appreciate slowly in real terms--a "crawling peg." (The peso depreciated in nominal terms, but because inflation was higher in Mexico than in the United States, this amounted to a real appreciation.) Since November 1991, when the controls on currency and capital were lifted, the Mexican government has used its monetary policy to keep the exchange rate within a band determined by a crawling peg by managing the short-term interest rate.

Errors in managing the exchange rate could be important. Some commentators fear that the Mexican government might try to peg the exchange rate too low in order to limit the deterioration of its current-account balance. This step could be a temptation if the government feels that the growth of consumption in Mexico is leading to excessive imports of consumer goods. But keeping the exchange rate too low could cause problems. It would inevitably limit the capital inflows that Mexico needs to finance its development. It would

also risk increasing inflation in Mexico because the monetary policy that would keep the peso low may imply too stimulative a policy for the domestic economy. Higher inflation is certain to make Mexico a less attractive place to invest.

Errors on the other side--keeping the exchange rate too high--would raise imports, especially of consumer goods, and would risk building up debt to foreigners faster than the capacity of the Mexican economy to repay it. Some observers believe that this could be the biggest risk because the Mexican government has given the Bank of Mexico a mandate to maintain a strong peso. The monetary policy necessary to keep the exchange rate high would require high interest rates, which could choke off domestic investment. Real appreciation of the peso that was unwanted by private markets could yield growth in the Mexican current-account deficit that would produce a crisis of confidence and a hard landing for the peso.

Conclusion

Both the United States and Mexico would gain from NAFTA, and though some people in each country would lose, the gains would be larger than the losses. Both countries would benefit from NAFTA's trade liberalization. Albeit in different sectors or subsectors, they both would gain from the same logic of trade: each economy could specialize more in providing goods and services in which it is relatively more efficient, and each would have access to cheaper imports that benefit consumers.

The investment provisions are important to the overall impact of NAFTA, but the United States and Mexico would gain in different ways from these provisions. Mexico could make much greater gains in output and income with increased access to foreign capital than it could without. This boost to Mexican prosperity would spell gains in security and less pressure for illegal immigration to the United States. At the same time, investment in the United States would not suffer from large-scale diversion of capital for use in Mexico because the flows would be small in relative terms and access to global financial markets limits the net capital outflow from the United States. Investors from the United States would nevertheless reap many of the dividends and interest payments that would be earned on investments in Mexico as its economy took off.

With its liberal trade and investment policies, NAFTA is probably necessary to guarantee a takeoff of the Mexican economy. Foreign investment encouraged by NAFTA would embody many of the new technologies and methods that raise productivity and further boost Mexican output. Moreover, NAFTA would link Mexico's entire program of economic policies to an international agreement and the economy of the United States. Hence, it would be much more difficult for a future government to reverse the policies. If NAFTA is rejected, investors may shy away from projects in Mexico, and any benefits from all other reforms could be sharply limited. Indeed, the overall package of Mexican economic reforms may be at risk.

Nevertheless, establishing NAFTA is not sufficient to guarantee a Mexican boom. NAFTA is only one part of a broad-based program of economic reforms that Mexico started to set in place in the mid-1980s. If the rest of the policy environment does not support NAFTA, the gains to Mexico and the United States could be much smaller than those suggested in this chapter.

Chapter Three

Individual Industries

The North American Free Trade Agreement would not have uniform effects on all industries and individuals. The macroeconomic changes discussed in the previous chapter, such as increases in gross domestic product, would result from changes in the organization of the U.S. and Mexican economies at the level of firms and individuals. Some industries in each country would increase in size and efficiency, but others would contract in the presence of less costly imports. This chapter examines the industry-specific effects of NAFTA and how they benefit the national economies, and then focuses on several important industries that receive explicit treatment in the agreement. Chapter 5 examines the potential effects of NAFTA on workers in industries that might contract because of the agreement.

Contrary to some commonly expressed fears about NAFTA, there would not be a wholesale movement of manufacturers to Mexico to take advantage of the lower average wage. Rather, reduced trade and other restrictions would improve the economic prospects of some firms and workers in all three countries covered by NAFTA.

Labor costs are only one of a number of factors that determine where production is located. The United States would retain the economic advantages it now has, such as a highly productive labor force, a large concentration of high-income consumers, good infrastructure and transportation facilities, and a stable political environment. Some Mexican industries would compete based on Mexico's low wages. On average for the economy as a whole, these low wages reflect the low average productivity of Mexican workers and therefore do not imply a competitive advantage for all industries. Further, large flows of investment capital into Mexico would cause the Mexican peso to appreciate for a number of years, improving the competitive position of U.S. producers relative to Mexican producers. Far from causing a mass exodus of production capacity to Mexico, NAFTA would, for some time, actually improve the U.S. trade balance with Mexico.

Most studies find that NAFTA would have little effect on individual U.S. industries, even the industries deemed sensitive enough to receive special treatment in the agreement. Many of the effects on specific industries--both positive and negative--could be concentrated in certain firms or communities. However, benefits to U.S. consumers, who would pay lower prices for goods produced at lower costs, are likely to be much more diffuse, and hence less obvious, than the effects on producers. Overall, the benefits to consumers and the gains to U.S. exporters should be larger than the losses to producers who compete with imports.

This chapter examines a selected group of industries. The goods those industries produce--motor vehicles and parts, textiles and apparel, and energy and petrochemicals--account for more than $6 billion (or 18.8 percent) of U.S. merchandise exports to Mexico and nearly $12 billion (or 40 percent) of merchandise imports from Mexico. The chapter also looks at trade in services.

The effects of NAFTA on U.S. industries vary both in type and in intensity. In the automotive sector, U.S. firms and U.S. workers should gain, with firms gaining more than workers since three of the five major producers in Mexico are Ford, General Motors, and Chrysler. The U.S. textile industry should be helped slightly. The effect on apparel firms is unclear, though apparel workers may be hurt slightly. The agreement makes only a few small changes regarding the petroleum and petrochemicals sector, but those changes should benefit the U.S. industry. The U.S. service sector should be helped modestly.

The Gains from Trade

The economic gains expected from NAFTA stem from four main sources: changes in the allocation of resources, economies of scale, investment, and an increased rate of productivity growth.[1]

Effects of Reallocation of Resources

The U.S. and Mexican economies have different strengths and weaknesses. Because Mexico is comparatively undeveloped, it has a large pool of low-wage, relatively unskilled labor, and firms located in Mexico can produce goods that require intensive use of such labor in their production at lower cost than can firms in the United States. Similarly, the United States, as a developed nation, has large amounts of capital and highly educated and otherwise skilled labor, so firms in the United States can produce goods and services that require intensive use of those factors at lower cost than can firms in Mexico. Economic theory and practical experience both suggest that the United States and Mexico would gain from trade in which the United States exported these latter goods to Mexico in return for imports of goods produced using low-wage labor. That is precisely the kind of trade that NAFTA would foster.

It is not possible for all Mexican industries to use low-wage labor to undercut their U.S. counterparts. Only some industries that rely heavily on unskilled labor would be able to do this. U.S. firms would have the advantage in industries that use capital and educated and otherwise skilled labor intensively.

Other Effects

Some industries, such as the automobile industry, exhibit sizable economies of scale. But the market in Mexico for many of the goods produced in such industries is small. Firms in those industries that do not have access to markets outside Mexico therefore may not be able to grow large enough to achieve economies of scale in Mexico's market. Removing trade barriers would allow such firms to grow and become more efficient by exporting to the United States what they cannot sell in Mexico. But for a variety of reasons, not all industries can benefit from access to larger markets. Thus, this effect and its implications for competitiveness and trade will vary from industry to industry.

Gains from increased investment and productivity are also likely to be industry-specific. The Mexican industries most likely to receive large amounts of investment under NAFTA are those that are the furthest behind their U.S. counterparts in the use of technology and capital and therefore have the most to gain by importing them from the United States. These industries would gain more in productivity and competitiveness than other industries, thus affecting trade patterns.

What the Models Say

Most of the modeling studies of NAFTA that the Congressional Budget Office has reviewed

1. All four sources are discussed in detail in Congressional Budget Office, "Estimating the Effects of NAFTA: An Assessment of the Economic Models and Other Empirical Studies," CBO Paper (June 1993). CBO's own research on the investment and productivity effects of NAFTA is discussed in Chapter 2 of this study.

estimate that the effects of changes in the allocation of resources on U.S. gross domestic product would range from no effect to a 0.23 percent increase in the long run.[2] The estimated percentage increases for Mexico are larger in most cases than those for the United States. Although the percentages look small, the U.S. economy is very large, and 0.1 percent of it (roughly the middle of the range of most estimates) in 1992 was almost $6 billion. Adding in the effects of economies of scale, investment, and increased rates of productivity growth could as much as double the effect on the United States and increase the effect on Mexico by a much larger factor. Even with these increases, however, the effect of NAFTA on the United States remains very small.

It is difficult to draw strong conclusions from the models about which industries would gain or lose the most. Each model divides the economy into a different number of industry sectors, so industries are not strictly comparable across studies. Further, the results of the studies are erratic. When industries are ranked from largest gainers to largest losers of employment or output, some industries are fairly consistently ranked from study to study, but others are not. One can make educated guesses about which industries would do well and which would not by examining some of the obvious and familiar determinants of trade such as labor intensity and the magnitude of the current trade barriers that NAFTA would eliminate. NAFTA would probably hurt industries in the United States that rely heavily on relatively unskilled workers, but help industries that intensively use skilled labor or capital.[3] The models, however, include most of these determinants. Hence, such guesses are not likely to be any more accurate than the models' estimates unless they are informed by other information not easily incorporated into models.

2. For a fuller discussion of the economic models of NAFTA and their estimates, see Congressional Budget Office, "Estimating the Effects of NAFTA."

3. Skilled labor includes highly educated labor such as scientists and engineers as well as skilled blue-collar workers.

U.S. Trade with Mexico and Resulting U.S. Tariff Revenues

In 1991, the United States ran a trade surplus with Mexico. U.S. merchandise exports to Mexico totaled approximately $32 billion; imports from Mexico, about $31 billion (see Table 3-1). Cross-border trade in services added $8.1 billion to exports and $7.8 billion to imports. Total exports to Mexico accounted for approximately 0.7 percent of U.S. gross domestic product. Nearly half of all merchandise exports were concentrated in products classified as machinery and transportation equipment and in industries that are relatively capital-intensive and that employ relatively large numbers of skilled workers. The main imports were minerals (petroleum and natural gas), transportation equipment, and electrical and electronic machinery.

U.S. Customs Duties Under Current Law

In 1991, customs duties collected on Mexican goods equaled $0.6 billion.[4] Imports from Mexico, overall, face relatively low rates. The effective tariff rate on imports from Mexico was 1.9 percent in 1991, compared with 3.4 percent on imports from the entire world.

The average effective duty rate on imports from Mexico is low relative to the rate on imports from the rest of the world because a large

4. Duties are calculated based on dutiable value reported in the Census Tradenet data base. Before June 1992, the dutiable value included the value of U.S.-made components of products entering under the Harmonized Tariff Schedule heading 9802, which actually receives duty-free treatment. Therefore, calculated duties using the reported dutiable value overstate the actual duty collected on goods imported from Mexico. The Congressional Budget Office adjusted the dutiable value based on data supplied by the U.S. International Trade Commission that reflected the correct dutiable value. For this reason, the duties appearing here are lower than the calculated duties reported by the Bureau of the Census.

Table 3-1.
U.S. Trade with Mexico, by Industrial Classification, 1991 (In millions of dollars)

SIC Code	Description of Classification	Exports (CIF)	Imports (FAS)	Tariff Revenues[a]
Goods				
1	Agricultural products	1,211	1,530	76.2
2	Livestock and livestock products	200	376	4.5
8	Forestry products	23	17	0.2
9	Fish, fresh, chilled, or frozen and other marine	13	256	0
10	Metallic ores and concentrates	46	76	0
12	Bituminous coal and lignite	4	0	0
13	Crude petroleum and natural gas	131	4,627	19.7
14	Nonmetallic minerals, except fuels	77	240	0
20	Food and kindred products	1,559	887	57.1
21	Tobacco manufactures	4	4	0
22	Textile mill products	435	125	10.9
23	Apparel and related products	698	1,498	54.1
24	Lumber and wood products	388	252	1.4
25	Furniture and fixtures	543	670	4.9
26	Paper and allied products	1,017	116	0.2
27	Printing, publishing, and allied products	162	67	0.6
28	Chemicals and allied products	2,384	698	8.6
29	Petroleum refining and related products	715	197	2.4
3x	Manufactured commodities not identified by kind	1,433	0	0
30	Rubber and miscellaneous plastics products	1,041	329	2.5
31	Leather and leather products	123	255	14.1
32	Stone, clay, glass, and concrete products	343	533	16.8
33	Primary metal products	2,315	2,205	71.1
34	Fabricated metal products, except machinery and transportation equipment	1,373	710	11.2
35	Machinery, except electrical	4,326	1,456	14.5
36	Electrical machinery, equipment, and supplies	5,482	6,286	106.0
37	Transportation equipment	4,191	4,754	59.5
38	Scientific and professional instruments, photographic and optical goods, and so forth	1,131	914	18.3
39	Miscellaneous manufactured commodities	457	517	11.5
91	Scrap waste	237	109	0.3
92	Used or secondhand merchandise	19	13	0
98	U.S. goods returned	0	1,060	0
99	Special classification provisions	201	310	0
	Subtotal	32,279	31,087	566.8
Cross-Border Services		8,129	7,799	0
	Total, Goods and Services	40,408	38,886	566.8

SOURCES: Bureau of the Census for data on imports and exports. Data on tariff revenues are Congressional Budget Office estimates based on data from the Bureau of the Census and the U.S. International Trade Commission.

NOTES: SIC = Standard Industrial Classification. CIF = charges, insurance, and freight. The CIF value of imports is the customs value plus all freight, insurance, and other charges except import duties incurred in shipping the good to the United States.

FAS = free alongside ship. The FAS value of exports is the purchase price plus the cost of transporting them to the port of export in the United States.

a. Duties are calculated based on dutiable value reported in the Census Tradenet data base. Before June 1992, the dutiable value included the portion of the value of U.S.-made components of products entering under the Harmonized Tariff Schedule heading 9802 that actually received duty-free treatment. Therefore, calculated duties using the reported dutiable value overstate the actual duties collected on goods imported from Mexico. CBO adjusted the dutiable value based on data provided by the U.S. International Trade Commission that reflected the correct dutiable value. For this reason, the duties appearing here are lower than calculated duties reported by the Bureau of the Census.

percentage of the value of imports from Mexico is duty free. About 50 percent, or $15.3 billion, of the total value of imports from Mexico was duty free in 1991.

Goods receive duty-free treatment for three reasons. First, if goods assembled abroad are made exclusively of U.S.-made components, the duty is assessed only on the value of the work done in the foreign country (the foreign value added). Most goods assembled under the maquiladora program qualify for this special status. The value of the U.S.-made components accounted for $7.3 billion, or about half of total duty-free value, in 1991.

Second, one-quarter of duty-free imports, $3.8 billion in 1991, were imported under the Generalized System of Preferences program. Under the GSP program, eligible goods from countries designated as beneficiary developing countries (BDCs) are imported duty free. The United States gave Mexico BDC status in 1976, the first year of the GSP program.[5]

Third, the remaining quarter of duty-free imports, $4.2 billion in 1991, are granted zero tariff rates because Mexico has most-favored-nation (MFN) status, which means that its imports face tariff rates that are as low as those applied to the imports of any other country. Products with a zero tariff rate consist mainly of raw materials. Because most countries have MFN status, the MFN rates do not contribute to the relatively low effective rate for imports from Mexico.

5. The program was designed to give preferential treatment to goods from developing countries that are not internationally competitive, but also to protect domestic industries that are sensitive to imports. (Nineteen other countries belonging to the Organization for Economic Cooperation and Development administer their own GSP programs.) The value of Mexican imports accounted for 28 percent of total goods imported under the GSP program in 1991, making Mexico the program's largest beneficiary. GSP duty-free treatment applies only to eligible goods designated by the President that are grown, produced, or manufactured in a BDC. A good made of non-Mexican inputs must be substantially transformed, and the Mexican value added must account for at least 35 percent of the good's value, in order for the good to receive GSP treatment. Numerous other restrictions apply.

Effective tariff rates vary by product because statutory rates and the portion of the value that is duty free vary by product. Table 3-1 displays the value of U.S. exports, imports, and calculated tariff revenues by industry for 1991.

Budgetary Effects of the Reduction in Tariff Rates

Lowering tariff rates under the agreement would reduce the revenue from customs duties and, therefore, would increase the budget deficit. The Congressional Budget Office estimated the budgetary effects relative to the duty levels that would have prevailed in the absence of an agreement. The GSP program is scheduled to expire on July 4, 1993. The estimated revenue loss from NAFTA depends on the status of the GSP program when the Congress clears the NAFTA legislation for the President's signature. Depending on that status, CBO expects that the revenue loss from NAFTA would total between $1.8 billion and $2.7 billion over the 1994-1998 period. (The smaller revenue loss would apply if the GSP program were extended through 1998 before the legislation cleared the Congress.) Eliminating customs user fees would not increase the deficit, because those fees are scheduled to expire after September 30, 1995, under current law.

NAFTA and the Automotive Industry

The agreement recognizes that production and employment in the automotive industry are important economic concerns to each of the parties to the agreement. Most of the barriers that NAFTA would remove are imposed by Mexico. Hence, the agreement would most likely help U.S. automotive firms and workers overall.

The results of the general-equilibrium modeling studies that CBO reviewed are gen-

erally more positive than negative for U.S. firms and workers in the automotive industries.[6] Of the five studies that give results for the automobile industry (or the transportation equipment industry), three show it doing better than most other industries; only one study shows a loss. Only two of the five studies show the effects on employment in the automobile industry to be greater than 1 percent either way.

Background

Measured in terms of employment, the U.S. automotive sector is large, though not as large as the textile and apparel sector. In 1991, the U.S. motor vehicle industry employed 315,700 people, and the motor vehicle parts industry employed 584,400 people.[7] The shares of the industries in total U.S. employment have been declining for many years. In 1965, the motor vehicle industry employed 0.7 percent of the nonagricultural work force of the United States, compared with only 0.3 percent in 1991. The parts industry's share has declined similarly.

In 1991, the U.S. trade deficit in motor vehicles was equal to 25.9 percent of the U.S. market (defined as apparent consumption, which is domestic shipments plus imports minus exports), but the deficit with Mexico was only 2.4 percent. Mexico was the fourth largest exporter of motor vehicles to the United States (behind Japan, Canada, and West Germany), supplying 5.7 percent of such exports, and the seventh largest importer of U.S. motor vehicles, receiving 9.1 percent of U.S. exports.

The United States ran a surplus in motor vehicle parts with Mexico in 1991 that was equal to 0.7 percent of the U.S. market. Mexico was the third largest exporter of motor vehicle parts to the United States (behind Canada and Japan), supplying 2.2 percent of such exports, and the second largest importer of U.S. auto parts (behind Canada), receiving 20.7 percent of U.S. exports.

Automotive exports are important for Mexico: only energy products earn more foreign exchange for Mexico than automotive products.[8] The importance of exports to the Mexican industry has increased substantially, with the fraction of Mexican production that is exported (to the world, not just to the United States) increasing from 4 percent in 1980 to 34 percent in 1988.[9] The Mexican industry and market followed a roller-coaster path in the 1980s, with Mexican production falling from 600,000 in 1982 to 350,000 at mid-decade as a result of recession, and then rising back to 547,000 in 1990.[10]

U.S. automotive trade with Mexico has grown rapidly in recent years. Between 1987 and 1991, imports of motor vehicles and passenger-car bodies from Mexico doubled. Exports to Mexico went up by a factor of eight over that period, but they started from a negligible level (Mexico prohibited imports of motor vehicles) so the increase was not very significant. Imports of automotive parts from Mexico increased more than 26 percent, and exports to Mexico more than tripled (see Table 3-2).

Current Protection

Most of the barriers to U.S.-Mexican trade in motor vehicles and motor vehicle parts are imposed by Mexico, which has heavily regulated

6. See Congressional Budget Office, "Estimating the Effects of NAFTA."

7. For all U.S. data relating to the automotive sector except those for employment, the motor vehicle industry is defined by Standard Industrial Classification (SIC) 3711 (which also includes firms producing car bodies), and the motor vehicle parts industry is defined by SICs 3465, 3647, 3691, 3694, and 3714. The definitions are the same for employment data except that SIC 3647 (vehicular lighting equipment) is excluded from the definition of the motor vehicle parts industry because no data were available for it.

8. Gary Clyde Hufbauer and Jeffrey J. Schott, *North American Free Trade: Issues and Recommendations* (Washington, D.C.: Institute for International Economics, 1992), p. 209.

9. Ibid., p. 213.

10. Ibid., p. 210.

the manufacture and trade of these products for several decades in an attempt to develop indigenous industries. Compared with Mexican barriers, U.S. barriers are modest.

Tariffs. The United States imposes tariffs of 2.5 percent on cars, 25 percent on trucks, and 3.1 percent on buses; tariffs on auto parts go up to 6 percent, with most in the range of 3.1 percent to 3.7 percent. Buses and most auto parts imported from Mexico, however, are duty free under the U.S. Generalized System of Preferences. For most maquiladora products, U.S. tariffs apply only to the non-U.S. value added; the value added arising from U.S.-made components from which they are assembled is duty free. Mexico imposes tariffs of 20 percent on cars, 10 percent on dump trucks, 20

Table 3-2.
U.S. Shipments and Trade in Motor Vehicles and Parts, 1987-1991 (In millions of dollars)

	1987	1988	1989	1990	1991
			Motor Vehicles and Passenger-Car Bodies[a]		
U.S. Shipments	130,857	139,864	144,448	135,741	124,200[b]
Imports from					
Mexico	1,627	1,910	1,898	3,024	3,442
Canada	15,013	19,080	19,696	20,524	20,615
World	63,853	63,537	61,101	62,238	60,661
Exports to					
Mexico	42	53	89	311	340
Canada	8,332	8,825	8,516	8,042	8,778
World	10,173	12,283	12,900	13,370	15,678
			Motor Vehicle Parts[c]		
U.S. Shipments	88,714	97,002	95,073	86,937[d]	85,249[b]
Imports from					
Mexico	1,261	1,391	1,403	1,436	1,593
Canada	6,806	7,446	7,951	7,411	6,342
World	16,398	18,975	19,599	19,256	17,517
Exports to					
Mexico	1,148	1,454	2,319	3,216	3,757
Canada	6,017	6,968	7,941	10,959	10,505
World	9,380	11,125	13,439	17,719	18,106

SOURCE: Congressional Budget Office based on data from the Department of Commerce, Bureau of the Census and International Trade Administration.

NOTES: Shipments show the total value of products shipped by U.S. producers, regardless of destination.

The values given for imports are landed-duty values, which include the foreign purchase price plus all costs incurred in shipping them to the United States, including U.S. tariffs. The tariff revenues included are those reported by the Bureau of the Census, which probably overstate the actual tariff revenues collected (see note "a" to Table 3-1). The values given for exports are FAS (free alongside ship) values, which are the purchase price plus the cost of transporting them to the port of export in the United States. Because of the change in classification systems used for collecting trade data--from the old Tariff Schedule of the United States Annotated to the new Harmonized Tariff Schedule--the trade data for 1987 and 1988 may not be strictly comparable with those for 1989 through 1991.

a. Standard Industrial Classification 3711.

b. Estimate from Department of Commerce, *U.S. Industrial Outlook 1993* (1993).

c. Standard Industrial Classifications 3465, 3592, 3647, 3691, 3694, and 3714.

d. Estimate from Department of Commerce, *1992 U.S. Industrial Outlook* (1992).

percent on other trucks, 20 percent on buses, and 10 percent or 15 percent on most auto parts, depending on the part.

The Mexican Auto Decrees. Since 1962, in a series of five "Auto Decrees," the Mexican government has heavily regulated its automotive market and industry in an attempt to promote the development of the industry and minimize imports.

The fifth and current decree, issued in 1989, substantially reduced the extent and severity of regulation but left major restrictions in place. The purchases made by each Mexican auto producer from "national suppliers" and "enterprises of the auto parts industry" that are unrelated to the producer must be sufficient to keep the Mexican value-added component of those purchases equal to at least 36 percent of the total value of the auto producer's domestic sales (with an adjustment for the producer's trade balance).[11]

To qualify as an enterprise of the auto parts industry, a firm must manufacture auto parts, operate in Mexico, sell at least 60 percent of its output to auto producers for use as original equipment, meet a 30 percent requirement for domestic value added, and be at least 60 percent Mexican-owned. The 60 percent sales requirement can be and generally is waived because no firm meets it. To qualify as a national supplier, a firm must manufacture certain specified auto parts, operate in Mexico, meet a 30 percent requirement for domestic value added, and neither be majority-owned by nor have a common majority shareholder with auto producers. There is no minimum requirement for Mexican ownership. Maquiladoras cannot qualify as national suppliers.

In Mexico, only auto producers may import new vehicles. Mexican auto producers must maintain a positive trade balance in automotive products. In order to import new vehicles, a producer must generate trade surpluses equal to at least twice the value of such imports in the 1993 model year and 1.75 times the value of such imports in the 1994 model year. The number of vehicles a firm may import is limited to 20 percent of the firm's domestic sales in the 1993 model year.

Other Mexican Restrictions on Trade. The Mexican government prohibits most imports of used cars, trucks, and buses. Further, it regulates production and trade of trucks and buses through its "Autotransportation Decree," which took effect on January 1, 1990. That decree requires each producer of these vehicles to purchase 40 percent of its value added from the domestic parts industry and allows each producer to import vehicles equal to the amount of Mexican value added in its production.

U.S. CAFE Standards. The main U.S. nontariff barrier to trade in motor vehicles and motor vehicle parts is the two-fleet provision of the corporate average fuel economy (CAFE) standards imposed by the Energy Policy and Conservation Act of 1975. The provision requires that a manufacturer's imported fleet and domestically produced fleet each separately meet the specified CAFE standard. A line of automobiles (not an individual automobile) is considered part of a manufacturer's domestic fleet if at least 75 percent of the cost of manufacturing the line is attributable to value added in the United States or Canada; otherwise, it is part of the imported fleet.

The two-fleet requirement makes it more difficult for a domestic manufacturer to meet its CAFE requirement by importing small cars at the expense of domestic production. With separate imported and domestic fleets, a manufacturer must produce small cars domestically in order to meet the CAFE standard for its domestic fleet. In part because of the low average wealth of Mexican citizens, Mexico's growing automobile industry is likely to concentrate on inexpensive small cars. Hence, the U.S. two-fleet CAFE rule could hinder U.S.-Mexican automobile trade. It could also prompt producers in the United States and

11. "National suppliers" and "enterprises of the auto parts industry" are the terms used in NAFTA, not in the Mexican Auto Decree, which uses other terms for the same concepts.

Canada to use fewer parts made in Mexico for small cars.

All General Motors, Ford, and Chrysler autos imported from Mexico are currently in those firms' domestic fleets. Although the individual cars that are imported may not have 75 percent U.S. or Canadian value added, the lines of cars as a whole meet the 75 percent requirement because other cars of the same make and model are produced in the United States or Canada.

Provisions in NAFTA

Many provisions of NAFTA relate specifically to trade in motor vehicles and motor vehicle parts and investment in the firms that produce them. The major features of these provisions are a phasing out of all tariffs, rules of origin that are somewhat different from those of the Canada-U.S. Free Trade Agreement (CFTA), continuation of the U.S.-Canadian Auto Pact (as modified by CFTA), a phasing out of the Mexican Auto Decree (including the requirements for domestic content and trade balance, the limit on imports of new vehicles in relation to total sales, the prohibition on importing used cars, and restrictions on foreign ownership of the auto parts industry), termination of the Mexican Autotransportation Decree, and modification of the two-fleet provision of the U.S. CAFE standards to include value added in Mexico as domestic value added. Highlights of these provisions follow.

Phaseout of All Tariffs. All tariffs on motor vehicles and parts would be eliminated according to various schedules. The U.S. tariff on automobiles would be eliminated on January 1, 1994. The much higher Mexican tariff would be reduced by half on January 1, 1994, and the remainder phased out in equal increments over the following nine years. Both U.S. and Mexican tariffs on light trucks (25 percent and 20 percent, respectively) would be cut to 10 percent on January 1, 1994, and then phased out in equal increments over the following four years. U.S. tariffs on motor vehicle parts would be eliminated January 1, 1994, or phased out in equal increments over five years beginning January 1, 1994, depending on the part. Mexican tariffs would be eliminated immediately or phased out in equal annual increments over five or ten years (depending on the part) beginning January 1, 1994.

Rules of Origin. The rules of origin for motor vehicles and motor vehicle parts in NAFTA are more stringent than those for most other products, and they differ in several respects from those in CFTA, which they would replace. The roll-up/roll-down feature of the rules in CFTA would be substantially curtailed.[12] NAFTA specifies a modified version of the formula in CFTA for calculating the value-added percentage needed to be considered domestic. The new formula makes the calculation more reliable and makes it easier to meet any given percentage requirement. This greater ease would be offset, however, and perhaps more than offset, by increases in the percentage requirements: from 50 percent to 62.5 percent for automobiles, passenger vans, small public-transport vehicles, and parts for these vehicles; and from 50 percent to 60 percent for tractors, large public-transport vehicles, some other vehicles, and parts for all of these vehicles. The increases would be phased in, reaching their final values in 2002.

Continuation of the U.S.-Canadian Auto Pact. The United States and Canada would be allowed to maintain the Agreement Concerning Automotive Products Between the Government of Canada and the Government of the United States of America, commonly known as the U.S.-Canadian Auto Pact, in accordance with certain relevant provisions of CFTA. The rules of origin in NAFTA would

12. An illustrative example of the roll-up/roll-down feature is as follows: if an engine that has 51 percent U.S. or Canadian value added is incorporated into an automobile, the engine is counted as 100 percent domestic value added for the purpose of computing the domestic content of the entire automobile. If the engine has only 49 percent U.S. or Canadian value added, it is counted as having no domestic value added.

replace the relevant rules of origin in CFTA. The Auto Pact becomes moot, however, in 1998 for U.S. exports to Canada and in 2004 for Mexican exports to Canada because by those dates CFTA and NAFTA would have eliminated all Canadian duties on those exports. (The Auto Pact eliminates import duties for auto producers meeting certain Canadian performance requirements.)

Phaseout of Mexican Auto Decree. Subject to the restrictions outlined below, Mexico may maintain until January 1, 2004, any provisions of its Auto Decree and the implementing regulations that would otherwise conflict with NAFTA. Then it must terminate all such provisions.

- The Auto Decree requires that the Mexican value-added component of each automobile producer's purchases from national suppliers and enterprises of the auto parts industry sum to at least 36 percent of the value of the auto producer's sales (with an adjustment for the producer's trade balance). That requirement must be phased out according to a stipulated schedule that reaches 29 percent in 2003. The requirement must then be terminated along with the rest of the provisions of the Auto Decree that conflict with general provisions of NAFTA. A grandfather provision prevents Mexico from requiring any manufacturer that produced vehicles in Mexico before model year 1992 to meet a value-added percentage that is greater than what the manufacturer actually attained in 1992. This provision would benefit four of the five current automobile manufacturers in Mexico.

- The current requirement of 30 percent Mexican value added for firms wishing to qualify as enterprises of the auto parts industry or national suppliers must be lowered to 20 percent, and the requirement that enterprises of the auto parts industry be 60 percent Mexican-owned must be lowered to 51 percent for five years and then eliminated. Independent maquiladoras--those that are neither majority-owned by nor have a common majority shareholder with an auto manufacturer--must be allowed the status of national suppliers.

- Mexico must eliminate immediately the provision in the Auto Decree that limits the number of vehicles a manufacturer may import to 20 percent of its sales in Mexico.

- Under current law, each Mexican producer is required to maintain a positive trade balance in automotive products and parts equal to at least 1.75 times the value of its imports of new vehicles in the 1994 model year. Under NAFTA, the requirement must be reduced for that year to 0.8 times the value, phased down gradually to 0.55 times the value in 2003, and then terminated along with the rest of the provisions of the Auto Decree that conflict with general provisions of NAFTA.

- Between January 1, 2009, and January 1, 2019, Mexico must phase out its prohibitions on imports of used vehicles from the United States and Canada.

Termination of the Mexican Autotransportation Decree. Mexico must eliminate immediately its Autotransportation Decree and the relevant implementing regulations. It may, however, continue to restrain imports of autotransportation vehicles (trucks and buses) within certain limits until January 1, 1999.

Termination of the Two-Fleet CAFE Provision. Beginning with the first model year after January 1, 2004, NAFTA would require that the value added in Mexico, as well as that added in the United States and Canada, be counted as domestic in determining whether a line of vehicles sold in the United States meets the requirement of 75 percent domestic value added and thus may be included in a pro-

ducer's domestic fleet for U.S. CAFE purposes. Before then, the rules in NAFTA differ depending on the manufacturer.[13]

Effects of the Agreement

In the short to medium term, U.S. firms and auto workers should both benefit. The current Mexican trade surpluses in motor vehicles and motor vehicle parts are largely a result of export incentives and the required minimum trade balance imposed by the Mexican government, which NAFTA would phase out. The low U.S. tariffs on automotive imports mean that eliminating these tariffs would not significantly increase the competitiveness of Mexican products in the U.S. market, whereas eliminating the much more substantial Mexican barriers would markedly improve the competitiveness of U.S. products in the Mexican market.

Further, most Mexican assembly plants are not very efficient. As a result of the small size of the Mexican market and the need for Mexican producers to manufacture many models of automobiles (since import restrictions have severely limited the import of models from other countries), Mexican plants produce too few cars of any given model to benefit from the substantial economies of scale that benefit U.S. firms. Thus, U.S. exports to Mexico should initially increase, and additional imports from Mexico would probably not be large.

U.S. firms should also benefit in the longer term. Although the longer-term outlook for U.S. auto workers is less certain, they would more likely be helped than hurt. Mexico is a long-term growth market. It currently has fewer than eight cars for every 100 people, compared with 57 per 100 in the United States.[14] Since three of the five Mexican auto producers are U.S.-owned firms--Chrysler, General Motors, and Ford--a large portion of the growing number of autos sold in Mexico will be produced by U.S. firms, either in the United States or in Mexico.

Once freed of trade and investment barriers and much of its regulation, the Mexican industry should become more efficient. It would probably produce fewer models, achieving diversity of models instead by importing more from the United States. By concentrating on fewer models, the Mexican plants should achieve greater economies of scale and become more efficient and competitive.

The increased competitiveness might enable Mexico to export more cars and parts to the United States, but on balance Mexico would be likely to increase imports from the United States at least as much as it increased exports. The motor vehicle and motor vehicle parts industries are very slightly capital-intensive relative to manufacturing industries as a whole in the United States, which should give U.S. production a small competitive advantage.[15] This advantage would be augmented by the appreciation of the peso that would probably occur as a result of NAFTA

13. Producers manufacturing in Mexico before model year 1992 (or, if applicable, their U.S. distributors) can make a one-time decision anytime between January 1, 1997, and January 1, 2004, to switch to the new 75 percent U.S.-Canadian-Mexican rule with the next model year. Current producers in the United States and Canada (or their U.S. distributors) also have this option unless they begin manufacturing in Mexico, in which case they must count Mexican content in their first model year of Mexican manufacture after 1994. Other producers (or their U.S. distributors) must use the new rule beginning with their first model year or in the next model year after January 1, 1994, whichever is later. The rationale for the different treatment is that it gives current producers time to change their established purchasing practices and contracts in order to conform with the new requirements, whereas new producers have no established practices and contracts to change.

14. Max Gates, "Trade Pact Sets Off Era of Opportunity," *Automotive News*, August 17, 1992, p. 1.

15. The ratio of payroll to new capital expenditures from 1972 through 1988 was 3.7 for the motor vehicle and new car bodies industry (SIC 3711), 4.7 for the motor vehicle parts industries (SICs 3714, 3465, 3647, 3691, and 3694), and 5.1 for all manufacturing. By comparison, the average ratios for two labor-intensive industries were much higher--19.3 for the apparel industry and 21.0 for the nonrubber-footwear industry.

(see Chapter 2). Transportation costs would limit trade in both directions between the United States and Mexico.[16]

Textile and Apparel Industries

The textile industry produces yarn, thread, and fabric. The apparel industry produces clothing and other products made of fabric.[17] Average hourly earnings of workers in both industries in 1991 were low relative to the average for all private nonagricultural industries--only 80.3 percent and 65.5 percent for textiles and apparel, respectively. Because the apparel industry depends heavily on unskilled labor, many people have expressed concern that it is particularly threatened by the low-wage competition from Mexico. Other factors, however, point in the opposite direction. The textile industry would most likely be helped slightly by NAFTA, the effect on apparel firms would be small and of uncertain direction, and apparel workers would fare less well than apparel firms.

The results of the economic models CBO has reviewed suggest that the apparel industry would either be helped less than other industries or be hurt, but that the effect would be small in any case. Estimates of how the textile industry would be affected relative to other industries are all over the map, but the absolute sizes of the effects are also consistently small. The models all assume that NAFTA completely frees up trade in the textile and apparel industries. But the models do not incorporate NAFTA's specific rules of origin; if they did, they would probably show more beneficial effects for the textile industry and even smaller effects for the apparel industry.

Background

The textile and apparel industries have both been large in the past but have suffered declining employment for many years. Employment in the textile industry peaked at 1.0 million in 1973 and has declined in most years since, reaching 672,000 in 1991. Employment in the apparel industry peaked at 1.4 million in 1973 and had declined to 1.0 million by 1991. In 1940, employees of the textile industry accounted for 3.6 percent of total nonagricultural employment in the United States. By 1960 that share had dropped to 1.7 percent, and by 1991 it was only 0.6 percent. The apparel industry's share in 1940 was 2.9 percent, in 1960 it was 3.3 percent, and by 1991 it was down to 0.9 percent.

The U.S. textile industry is competitive internationally. Even when the high value of the dollar in foreign exchange markets made many U.S. products uncompetitive in the mid-1980s, the textile deficit never exceeded 5.7 percent of apparent consumption (actual consumption plus changes in inventories), and by 1991 it was down to 2.7 percent (see Table 3-3 for data on shipments, imports, and exports). The apparel industry is much less competitive. The apparel trade deficit was 1.7 percent of apparent consumption in 1961 but increased almost every year after that, reaching 33.7 percent in 1991.

Mexico was the 15th largest exporter of textiles to the United States in 1991, supplying only 1.7 percent of such exports. It was the second largest importer of U.S. textiles, however, receiving 10.6 percent of such imports. It was the fifth largest exporter of apparel to the United States in 1991, supplying 5.6 percent of those exports, and the largest recipient of

16. One study that has examined the relative cost of producing in Mexico for the U.S. market calculates that the transportation costs for automobiles and some auto parts would be greater than the savings in labor costs, so production of all but a few of the more labor-intensive parts will probably remain in the United States rather than move to Mexico. See Office of Technology Assessment, *U.S.-Mexico Trade: Pulling Together or Pulling Apart?* (October 1992), pp. 147-150.

17. A much more detailed analysis of economic conditions in the textile and apparel industries and the causes of those conditions is contained in Congressional Budget Office, *Trade Restraints and the Competitive Status of the Textile, Apparel, and Nonrubber-Footwear Industries* (December 1991).

Table 3-3.
U.S. Shipments and Trade in Textiles and Apparel, 1987-1991 (In millions of dollars)

	1987	1988	1989	1990	1991
			Textiles[a]		
U.S. Shipments	61,518	63,610	65,747	64,986	66,603[b]
Imports from					
Mexico	87	81	93	116	137
Canada	200	232	287	311	347
World	7,172	6,465	8,718	8,054	8,385
Exports to					
Mexico	209	284	307	417	435
Canada	394	440	500	932	1,040
World	1,956	2,415	2,794	3,635	4,108
			Apparel[c]		
U.S. Shipments	62,119	62,750	61,447	61,962	62,086[b]
Imports from					
Mexico	769	925	1,116	1,337	1,666
Canada	341	371	366	353	417
World	24,929	26,051	28,093	30,123	31,139
Exports to					
Mexico	215	288	487	518	698
Canada	94	116	172	337	414
World	1,387	1,824	2,349	2,848	3,679

SOURCE: Congressional Budget Office based on data from the Department of Commerce, Bureau of the Census and International Trade Administration.

NOTES: Shipments show the total value of products shipped by U.S. producers, regardless of destination.

The values given for imports are landed-duty values, which include the foreign purchase price plus all costs incurred in shipping them to the United States, including U.S. tariffs. The tariff revenues included are those reported by the Bureau of the Census, which probably overstate the actual tariff revenues collected (see note "a" to Table 3-1). The values given for exports are FAS (free alongside ship) values, which are the purchase price plus the cost of transporting them to the port of export in the United States. Because of the change in classification systems used for collecting trade data--from the old Tariff Schedule of the United States Annotated to the new Harmonized Tariff Schedule--the trade data for 1987 and 1988 may not be strictly comparable with those for 1989 through 1991.

a. Standard Industrial Classification 22.

b. Estimates from Department of Commerce, *U.S. Industrial Outlook 1993* (1993).

c. Standard Industrial Classification 23.

U.S. apparel exports, receiving 18.8 percent. Large portions of both the exports to and imports from Mexico are maquiladora trade, in which U.S. firms send apparel parts to Mexico (which count as U.S. apparel exports) to be assembled into finished garments that are exported back to the United States (which count as U.S. apparel imports).

Trade between the United States and Mexico in textiles and apparel is much more significant to the Mexican economy than to the U.S. economy. The U.S. International Trade Commission has estimated that 91 percent of Mexico's exports of textiles and apparel in 1989 went to the United States and that 64 percent of its imports came from the United States.[18] Mexican production is growing rapidly: pro-

18. U.S. International Trade Commission, *The Likely Impact on the United States of a Free Trade Agreement with Mexico*, USITC Publication 2353 (February 1991), p. 4-4.

duction of textiles and apparel by maquiladoras averaged 17 percent annual growth between 1985 and 1989.

Employment has declined in the two industries in the United States, but for different reasons. Because the apparel industry is labor-intensive, it has difficulty competing with producers in developing countries where the wages are much lower than in the United States. But employment losses in the textile industry stem from the decline of its major customer--the apparel industry--and from rapid growth of labor productivity.

Growth in productivity has kept the average wage in the textile industry higher than that in the apparel industry and has kept the industry competitive internationally. Another result, however, is that the industry needs fewer workers than it once did to produce an even larger output.

Current Protection

Mexico currently imposes tariffs on textile and apparel imports that range from 12 percent to 20 percent. Mexican protection, however, is less of an issue for these industries than U.S. protection.

The United States imposes sizable tariffs and a vast array of import quotas. In 1988, the average U.S. tariff rate on textile imports was 10.1 percent, compared with 18.4 percent for imports of clothing and accessories and 3.4 percent for all U.S. merchandise imports. In 1989, the average tariff for textile and apparel imports from Mexico (primarily apparel) was 6 percent, which is substantially lower than the average for imports from the world as a whole because most of the imports from Mexico (90 percent in 1989) are maquiladora products.[19]

The United States maintains a substantial array of quotas on imports of textiles and apparel from developing countries. Most of them are under the legal authority of the Multifiber Arrangement. As of June 7, 1993, the quotas covered 44 countries. The most significant quotas are those imposed on imports from the big Asian producers such as Hong Kong, China, Taiwan, South Korea, and the Philippines.

Imports from Mexico are also covered by quotas, but unlike the quotas on the big Asian producers, most of the quotas on Mexico have not been binding in the past few years because the United States has been increasing them whenever they threaten to hinder Mexican exports. Even so, the quota system may still be reducing Mexican exports to the United States. Potential investors in the Mexican apparel industry cannot know for sure whether the United States will continue to increase the quotas, and therefore they cannot know for sure whether they will be able to sell a sufficient amount of their products in the United States to make their investments profitable. Hence, investment in and growth of the Mexican industry and its exports to the United States may be retarded.

Provisions in NAFTA

Substantial portions of NAFTA relate specifically to textile and apparel trade. The major features are a phasing out of all tariffs and quotas, provisions for safeguards during a 10-year transition period, and the imposition of a "yarn-forward" rule of origin.

Phaseout of All Tariffs. For textile and apparel trade between the United States and Canada, NAFTA would continue the tariff phaseout schedule of the Canada-U.S. Free Trade Agreement. For trade between the United States and Mexico, NAFTA would set up three categories of goods, with elimination schedules ranging from immediate tariff elimination on January 1, 1994, to a 10-year phaseout beginning on the same date. Not-

19. Maquiladoras that produce apparel use parts imported from the United States and assemble them into finished garments that are exported back to the United States. The Mexican government does not impose tariffs on the parts if the finished garments are reexported, and the United States charges tariffs only on the portion of value added that occurs outside the United States (that is, not on the portion represented by U.S.-made parts).

withstanding these phaseout schedules, no tariff would be allowed to exceed 20 percent at any time, and exceptions to the schedules would be made for a few particular goods. The United States must eliminate tariffs on apparel products of maquiladora firms on January 1, 1994, and it may not impose tariffs on hand-loomed fabrics of cottage industries, handmade cottage industry goods made of such hand-loomed fabrics, and traditional folklore handicraft goods.

Phaseout of All Quotas. For textile and apparel imports from Mexico meeting the rules of origin (explained below), the United States must eliminate all of the quotas immediately. For imports that do not meet the rules of origin, the agreement sets up a three-category phaseout schedule, with quotas for the first category being eliminated on January 1, 1994; those for the second category on January 1, 2001; and those for the third on January 1, 2004. The schedule can be accelerated by mutual agreement. Quotas on the apparel products of maquiladora firms would be subject to the same provisions and restrictions as tariffs (discussed above).

Safeguards During Transition. The agreement provides for two unilateral safeguards during the first 10 years to limit any injury to domestic industries that might result from the agreement. The safeguards would be temporary impositions of quotas or higher tariffs: one for goods that conform to the rules of origin, and the other for goods that do not conform. For goods that conform, a country imposing a safeguard action must compensate the exporting country. After the 10-year transition period, no safeguard action may be taken without the consent of the country against which it is imposed.

Rules of Origin. The rules of origin for textile and apparel trade are an important issue, not merely a technicality in the agreement. For most goods, the agreement specifies a yarn-forward rule of origin: to be considered North American (U.S., Mexican, or Canadian) and therefore exempt from tariffs and quotas, an item of apparel must be made in North America from fabric that is made in North America from yarn that is made in North America. Only the fiber from which the yarn is made may be imported. Thus, the rule for apparel is a triple-transformation rule (fiber transformed to yarn transformed to fabric transformed to apparel), which is stricter than the double-transformation rule in CFTA and much stricter than the rules for most other products in NAFTA. For knit fabric made of cotton or man-made fiber, yarns made of spun cotton or man-made fiber, and carpeting made of man-made fiber, the agreement specifies a fiber-forward rule of origin, which is a quadruple-transformation rule. Some fabrics are eligible for a single transformation rule (that is, apparel can be made from imported fabric), but most of these fabrics are not produced in North America.

The agreement sets up separate tariff preference levels (TPLs), which are exceptions to the rules of origin. They would allow limited amounts of a product to receive tariff preferences without meeting the rules. The TPLs apply to apparel made of cotton or man-made fiber, wool apparel, products imported under Harmonized Tariff Schedule (HTS) 9802.00.80.60 (maquiladora products), fabric and made-up goods, and yarn spun from cotton or man-made fibers. The TPLs for U.S. imports from Canada in NAFTA are somewhat larger than those in CFTA to compensate for NAFTA's stricter rules of origin, which would otherwise subject more of those imports to tariffs.

Effects of the Agreement

On first inspection one might conclude that NAFTA would hurt the U.S. apparel industry and have mixed effects on the U.S. textile industry. The apparel industry, being labor-intensive, would be hurt by competition from firms in Mexico with access to low-wage Mexican labor. The textile industry would be hurt by reduced demand from the declining U.S. apparel industry, but would be helped by increased demand from the Mexican apparel industry. The Mexican demand for U.S. textiles

would increase because of the expansion of the Mexican apparel industry and the elimination of tariffs on textile imports from the United States.

Several other factors, however, would limit the harm from NAFTA and could even lead to benefits for both the textile and apparel industries. First, as was discussed above, most of the quotas to be eliminated are currently going unfilled and thus have little effect on trade. Hence, it is mainly the elimination of tariffs that might have large direct effects.

Second, production-sharing arrangements between U.S. and Mexican producers can make U.S. production more competitive with Asian production. Similarly, U.S. producers can set up factories of their own in Mexico to produce for the U.S. market. Both types of arrangements already exist to some extent, and they would become more common if NAFTA were enacted. Some Asian producers have the advantage of paying wages that are lower than those in Mexico, but Mexico has the advantage of being much closer to the U.S. market. The increased competitiveness of U.S. firms that move the more labor-intensive portions of their production to Mexico could help save some employment in the United States that would otherwise be displaced by imports from other countries, but U.S. workers clearly would not fare as well as U.S. producers.

Third, the yarn-forward rule of origin makes it likely that almost all Mexican apparel will be made from yarn and textiles that are produced in the United States. Mexican textile producers are currently not very competitive with U.S. producers. Further, since the textile industry is not labor-intensive, the low cost of labor in Mexico should not put substantial pressure on U.S. textile manufacturers to move there and should not give Mexican manufacturers a significant cost advantage.

Fourth, as was discussed in Chapter 2, large flows of foreign investment into Mexico as a result of NAFTA would cause the peso to appreciate, thereby increasing the competitiveness of all U.S. producers.

Estimates of Costs and Benefits. Several economic studies over the past decade have examined the costs and benefits of the protection the U.S. government gives to its textile and apparel industries.[20] Estimates of the annual cost to consumers exceed $20 billion. Estimates of the annual net welfare cost to the U.S. economy--the amount by which the cost to consumers exceeds the benefit to the industries and their workers plus adjustments for changes in tariff revenues--range from $2.4 billion to $8.1 billion. Estimates of the annual net welfare cost per job retained in the industries by the trade restrictions range from about $9,000 to $18,800. That means each worker who keeps his or her job because of the trade restrictions costs the U.S. economy that amount over and above the wages and benefits that the worker is paid.

Trade with Mexico, however, represents only a small part of the textile and apparel trade covered by U.S. trade restrictions. Moreover, the more restrictive yarn-forward rule of origin would at least partially offset the elimination of tariffs and quotas on imports from Mexico. The net welfare benefit from eliminating the restrictions against Mexico would therefore be less than the $2.4 billion to $8.1 billion in annual net welfare costs mentioned above. The net welfare benefit per job lost in the industries, however, should be of the same order of magnitude as the $9,000 to $18,800 estimate.

Diversion of Trade and the Caribbean Basin. Like the Mexican maquiladoras, Caribbean producers receive the tariff benefits of HTS 9802.00.80, and they have even better quota preferences as a result of the Caribbean Basin Initiative (established in 1986). As a result, those countries' exports of apparel to the United States have increased substantially in recent years. Worried that these exports will

20. For a more detailed discussion of these studies and their results, see Congressional Budget Office, *Trade Restraints*, pp. 42-47.

be displaced by Mexican exports, the Caribbean countries are seeking the same concessions for themselves that Mexico would get from NAFTA.

Energy and Petrochemical Industries

For the most part, the energy chapter of NAFTA sets out exceptions to the principles of free trade with Mexico that the rest of the agreement embraces. In particular, NAFTA would do very little to increase U.S. access to Mexican oil resources, even though oil imports account for over half of the total dollar value of U.S. imports from that country. Nonetheless, the agreement enhances some opportunities for energy-related exports from the United States, and no major U.S. energy industries or groups of energy consumers are likely to be harmed by NAFTA.

Energy imports from Mexico are already virtually unrestricted by the United States and would not be affected by NAFTA. But the agreement may help boost the low level of U.S. energy and energy-related exports to Mexico. NAFTA would be more effective in promoting U.S. energy investments in Mexico. The agreement includes numerous tariff reductions on trade in energy and energy-related goods; however, the trade that would normally benefit from lower tariffs would remain largely constrained by nontariff barriers, including important restrictions on free markets in Mexico that NAFTA would not change. In the nontariff area, however, the agreement would ease restrictions on the export to Mexico of natural gas and basic petrochemicals, allow investments in secondary petrochemical production and in certain types of business that generate electricity, protect those investments from discriminatory treatment, and open the market for contract services with the Mexican government's energy monopolies. (Basic petrochemicals are identified in Annex 603.6 of NAFTA; propane and butane are the two most important basic petrochemicals. Secondary petrochemicals are all other petrochemicals; propylene and butylene are secondary petrochemicals derived from propane and butane.)

Background

Total U.S. production of fossil fuels in 1991 (including crude oil, natural gas, and coal) was valued at $95.8 billion.[21] Of this total, $74 billion was for crude oil and marketed natural gas (see Table 3-4). Significant value is also added in the refining of petroleum products such as gasoline, the production of petroleum-based chemicals, and the generation of electricity. In 1991, U.S. shipments of petroleum products alone were valued at $166.6 billion.[22]

Production of fossil energy accounts for a large share of employment in the United States and is the dominant employer in some regions of the country. In 1991, the mining sector employed 691,000 workers, including workers producing oil, natural gas, and coal and those providing services to oil and gas fields. Additional fossil energy jobs exist in the manufacturing sector for people employed by refineries and gas plants.

Compared with imports of other major industries, energy imports represent a large share of the nation's total supply, especially for crude oil and petroleum products. Net imports of crude oil and petroleum products accounted for about 40 percent of the total value of domestic consumption of petroleum in 1991. Mexico was the United States' fourth largest source of imported oil in that year (after Saudi Arabia, Venezuela, and Canada). The United States exports a small amount of natural gas to Mexico, accounting for about 0.3 percent of total U.S. gas use in 1991.

21. Energy Information Administration, *Annual Energy Review 1991*, DOE/EIA-0384 (1991), Table 33.

22. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business* (1992), Table S-2.

Table 3-4.
U.S. Shipments and Trade in Crude Oil and Natural Gas, 1987-1991 (In millions of dollars)

	1987	1988	1989	1990	1991
U.S. Shipments	76,040	67,760	74,650	85,870	74,130
Imports from					
Mexico	3,921	3,339	4,367	5,397	4,846
Canada	6,779	6,957	7,299	9,832	10,453
World	46,594	43,898	54,503	67,825	57,962
Exports to					
Mexico	510	442	670	780	846
Canada	682	600	791	1,239	872
World	4,585	4,412	5,509	7,432	7,701

SOURCE: Congressional Budget Office using data from the Bureau of the Census and the Energy Information Administration.

NOTES: Shipments show the total value of products shipped by U.S. producers, regardless of destination.

U.S. shipments reflect the value of crude oil and natural gas production as reported by the Energy Information Administration. Imports and exports reflect totals for crude oil, natural gas, and refined petroleum products from Standard Industrial Classifications 131, 132, 291, 295, and 299, as reported by the Department of Commerce. The values given for imports are landed-duty values, which include the foreign purchase price plus all costs incurred in shipping them to the United States, including U.S. tariffs. The values given for exports are FAS (free alongside ship) values, which are the purchase price plus the cost of transporting them to the port of export in the United States. Because of the change in classification systems used for collecting trade data--from the old Tariff System of the United States Annotated to the new Harmonized Tariff Schedule--trade data for 1987 and 1988 may not be strictly comparable with those for 1989 through 1991.

Mexico produces about a fourth as much crude oil as the United States, but only about 5 percent as much natural gas and virtually no coal. Mexico currently produces 2.7 million barrels per day of crude oil from fewer than 5,000 wells and sustains this production base with about 100 active rotary drilling rigs during most of the year. In contrast, the United States profitably produces oil from about 600,000 wells and keeps nearly 1,000 rotary rigs active.[23]

Mexico exports about half of its crude oil and imports relatively small amounts of petroleum products, natural gas, and other energy-related products. In 1991, the U.S. trade deficit in oil and gas with Mexico was $4 billion, or about 8 percent of the nation's total trade deficit in energy. In that year, U.S. exports of petroleum products and natural gas to Mexico were valued at $0.8 billion; petrochemicals at $0.3 billion; oil and gas field equipment and parts at $0.2 billion; and electricity-generating equipment at $0.1 billion.

Current Protection

The United States currently places little restriction on energy imports from Mexico. The U.S. tariff applicable to crude oil from Mexico is very small--only 5.25 cents per barrel for most oil purchased from Mexico, or about 0.3 percent of the average cost of that oil in 1991. Liquefied petroleum gases (such as propane), which account for the biggest share of U.S. imports of petroleum products from Mexico, already enter duty free. Mexico's tariffs on energy and energy-related imports range from duty free to as high as 20 percent. The Mexican tariff on natural gas imports is currently 10 percent. Tariffs on the most important categories of equipment for oil and gas fields (including rotary drilling machinery, rock-drilling tools, and well casings) are 10 percent or 15 percent. The tariff on coal is 10 percent.

23. *Oil and Gas Journal* (December 28, 1992), p. 72; and Energy Information Administration, *International Oil and Gas Exploration and Development*, DOE/EIA-0523 90/4Q (September 1991).

Mexico also restricts trade through nontariff barriers, some of which are related to its constitutional limits on energy markets. In particular, Mexico continues to reserve control of its energy sector through two state energy monopolies--Petroleos Mexicanos (PEMEX) for oil and gas and Comision Federal de Electricidad (CFE) for electricity. Restricted commodities include crude oil, natural gas, basic petrochemicals, most refined petroleum products, electricity, coal, and uranium. Restrictions on foreign participation extend to exploration, production, processing, transportation, storage, and distribution--including generation and transmission of electricity. Mexico also restricts foreign trade in these commodities through the granting of import and export licenses. Mexican law currently distinguishes among three groups of petrochemicals: basic, in which no foreign investment is allowed; secondary, in which the maximum foreign equity is limited to 40 percent; and tertiary, in which foreign investment is unrestricted.

Other nontariff barriers that Mexico maintains include quantitative limits on commodity imports and exports, differential pricing of domestic and exported goods, restrictions on foreign access to government procurement, and restrictions on foreign investment.

Provisions of NAFTA

NAFTA would provide for the gradual elimination of all tariffs on goods qualifying as North American under its rules of origin. For U.S. goods moving south, reductions in Mexican tariffs that would most benefit U.S. exporters of energy and energy-related commodities would come about slowly, over five to ten years. The only tariffs that would be eliminated immediately would be those for selected petroleum products (including gasoline, heating oil, and several secondary petrochemicals) and a couple of high-technology categories of equipment for oil and gas production that Mexico already has difficulty supplying indigenously.

Under NAFTA, Mexico would explicitly maintain its rights to limit energy exports without granting the United States or Canada any preferential access to that reduced supply. Mexico would also retain its rights to price energy exports above the domestic level. (The United States and Canada would restrict their rights to limit energy exports or differentially tax energy imports to circumstances needed to conserve exhaustible resources, deal with shortages, or stabilize prices. But they would share any reduced supply among themselves.) One important consequence of maintaining these rights is that Mexican oil exports will remain at whatever level PEMEX and the Mexican government decide. A further consequence of this failure to win most-favored-nation status for crude oil exports from Mexico is that Mexican oil (unlike Canadian oil) could be subject to any oil import fees the United States might impose in the future.

In easing some restrictions, NAFTA would create a limited number of new opportunities to sell energy and energy-related products to Mexico. Of particular note are investment opportunities related to secondary petrochemicals and electricity generation, and export opportunities for natural gas, basic petrochemicals, coal, and services and equipment for oil and gas fields.

Investment in Petrochemicals. Mexico would retain investment restrictions on almost all refined petroleum products, including nine of the most basic petrochemical feedstocks and components for blending gasoline. But NAFTA would specifically allow unrestricted U.S. and Canadian investment for the first time in the production, distribution, and foreign trade of a long list of secondary petrochemicals and a very short list of non-energy-related petroleum products. The agreement would also offer limited protection to those investments.

NAFTA would continue the practice of disallowing foreign investment in basic petrochemicals, but would move more than half of the previous number of these restricted petro-

chemicals to the secondary group. It would also remove restrictions on U.S. and Canadian investment in secondary petrochemicals, effectively ending the distinction between secondary and tertiary petrochemicals. The longer, unrestricted list of secondary petrochemicals would include all the key aromatics and olefins that are derived from the remaining basic petrochemicals and are the direct input to the production of most chemicals and plastics, including polyesters, molded plastics, polystyrene, and synthetic rubber.

Investment in Electricity. NAFTA presents a second important investment opportunity in Mexico in the area of electricity production. The agreement would allow and protect private investment in facilities that produce electricity for their own use and want to sell their excess supplies, that produce marketable electricity using heat or steam generated by unrelated industrial processes, or that independently produce marketable electricity. The agreement would require that CFE be the sole purchaser of this electricity unless it is to be sold to utilities in the United States or Canada, in which case CFE must be a party to the negotiation.

Exports of Natural Gas and Basic Petrochemicals. Mexico retains exclusive rights to foreign trade, production, transportation, and distribution of natural gas and basic petrochemicals (along with crude oil and most refined products). But NAFTA would allow U.S. and Canadian exporters of natural gas and basic petrochemicals to negotiate directly with potential end users in Mexico, with PEMEX as a third party to the negotiation. In effect, PEMEX would probably be the direct purchaser of the gas or petrochemical, reselling it to the end user.

Export Opportunities for Coal and Other Energy Products. NAFTA would allow unrestricted participation and investment in the markets for a very short list of petroleum products (paraffin, lubricants, and road-surfacing materials) and for coal. This provision would apply to foreign trade, production, distribution, and marketing of these products.

Exports of Energy-Related Goods and Services. A final area in which NAFTA may promote U.S. energy-related exports is in contracting with Mexico's state energy monopolies to provide goods and services, including construction services. Two provisions relevant to contracting are especially noteworthy.

First, Mexico would immediately open a maximum of 50 percent of the large procurement contracts with PEMEX and CFE to U.S. and Canadian businesses, increasing to 100 percent by 2003. NAFTA includes a major rewriting of the government procurement process, designed to ensure that U.S. and Canadian contract bids receive fair consideration. This revision makes an important contribution to building Mexico's legal infrastructure. The agreement applies to procurement actions by government enterprises (PEMEX and CFE) for goods and nonconstruction services worth more than $250,000 and for construction services worth more than $8 million. (Separate, lower dollar thresholds apply for contracts with other government entities.) Second, in a token exception to its prohibition on foreign ownership of energy resources, Mexico would allow (but not require) contracts for oil and gas drilling services to include performance clauses, which provide compensation for certain activities such as the amount of oil or gas discovered.

Effects of the Agreement

Despite significant tariff reductions on energy and energy-related goods, the benefits of those reductions for U.S. importers and exporters would not be great. Most important, the United States should not expect to buy more or receive a lower price for oil from Mexico as a result of NAFTA, because the U.S tariff on crude oil is already very small and because Mexico's energy industry would remain virtually closed to outside participation.

Investment in Petrochemicals. U.S. and Canadian businesses may take advantage of NAFTA to expand their exports of secondary

petrochemicals to Mexico. Or they may take advantage of the new investment climate to build plants for producing secondary petrochemicals in Mexico--either for sale in Mexico or export to the world market. Either way, U.S. exports of certain finished chemicals and plastics to Mexico would probably grow more slowly than they would without NAFTA.

The potential advantages of investing in petrochemicals come not from NAFTA but from the inefficiencies of Mexico's current operations for refining crude oil and processing gas, the inefficiencies of hauling crude oil (from Mexico) and finished products (from the United States) across the Gulf of Mexico, and difficulties in situating new petrochemical facilities in the United States and Canada.

Two key unçertainties could weaken the investment option. The first concern is how PEMEX, as the principal source of feedstocks, would give access to and price the feedstocks needed to produce the secondary petrochemicals. For example, a 1991 report by the General Accounting Office noted that a shortage of basic petrochemicals was already restricting foreign investment in this area.[24] This concern may be lessened by another provision of NAFTA that would allow U.S. and Canadian suppliers of basic petrochemicals to contract directly with end users in Mexico (as discussed in more detail in the section on exports of natural gas and basic petrochemicals). To the extent some of the by-products of the new petrochemical plants are petroleum products that remain on the restricted list, a related problem may be the price that PEMEX, as the likely sole purchaser, would pay for those by-products.

The second concern is whether Mexico's commitment to national treatment for new foreign investments is enforceable. NAFTA would establish a binding arbitration process for investment disputes concerning national treatment, including anticompetitive practices by Mexico's state monopolies. But the agreement states that no party may have legal recourse to settle the dispute unless the anticompetitive practice discriminates against foreign-owned businesses. And if the investment entails the acquisition of a Mexican business, Mexico's National Commission on Foreign Investment reserves the right to reject the acquisition without such recourse. NAFTA would only establish a Working Group on Trade and Competition to report on issues concerning laws and policies on competition.

Investment in Electricity. The economic advantages of the opportunity to invest in certain types of businesses that generate electricity come from the fast-growing market for electricity along Mexico's northern border, from the value of improving overall system reliability by better integrating the cycles of generation and use on both sides of the border, and from the unused heat potential of existing and future industrial activities in Mexico. The opportunity to produce and sell excess electricity may make other types of industrial investments in Mexico more attractive.

As with investments in petrochemicals, potential drawbacks to investments in electricity include the ability to strike and maintain a deal with CFE for electricity sales and to receive national treatment. CFE would probably support these investments because Mexico does not otherwise command sufficient resources to service its growing needs for electricity.

Although direct U.S. and Canadian investors may benefit from this opportunity, that benefit need not extend to North American manufacturers of electrical equipment. Changes in tariff schedules would benefit U.S. manufacturers and construction businesses, but the electrical equipment industry is very competitive worldwide, and suppliers from Asia would probably get a big part of any new business in this area.

Exports of Natural Gas and Basic Petrochemicals. By allowing U.S. and Canadian

24. General Accounting Office, *U.S.-Mexico Energy*, GAO/NSIAD-91-212 (May 1991).

exporters of natural gas and basic petrochemicals to negotiate directly with potential end users in Mexico, sales could be more responsive to consumer requirements for timing, financing, and so forth. However, the necessity of dealing with PEMEX as the owner of the only gas distribution network in Mexico may dampen any new advantage--particularly if PEMEX does not allow construction of dedicated gas lines.

Large industrial users of gas (including potential investors in new electricity capacity) need to secure dedicated, reliable supplies of gas. But the reliability of the PEMEX distribution network is at best unproven. End users would also be suspicious of delivery charges set by PEMEX, which may wish to protect its market for fuel oil from imported natural gas.

Ultimately, however, PEMEX cannot meet Mexico's near-term energy demands with domestic supplies of natural gas or fuel oil. Production of Mexican gas will remain limited because PEMEX cannot afford (and is not seeking foreign investors) to spend more in developing its gas resources or extending its gas pipelines northward. Also, current gas production will continue to focus on producing petrochemical feedstocks and on phasing out industry's use of oil in the polluted central part of Mexico.

NAFTA may greatly facilitate the supply of gas to the fast-growing industrial base in northern Mexico. This new marketing opportunity for gas also complements the opportunity for investments in electricity, since many new generating facilities would most likely find natural gas cheaper than PEMEX-supplied fuel oil. The relative economics of gas are enhanced not only by depressed gas prices in North America, but also by the high sulfur content of Mexican fuel oil and Mexico's growing concern with air quality.

The United States, however, may have to share some of this new market with Canada. Total U.S. and Canadian gas sales may increase faster than the northern Mexican economy for the next few years as Mexico addresses its clean air requirements. For example, preliminary data indicate that U.S. gas sales to Mexico in 1992 will be about double the 1991 level. Ultimately, gas sales would be capped by economic growth in the north (currently about 6 percent annually). And very early in the next century, as gas prices in the United States and Canada rise and as Mexico develops more of its own gas resources, Mexico could become a net exporter to the United States--although nothing in NAFTA promotes that end.

U.S. and Canadian exports of basic petrochemicals may also benefit from NAFTA, subject to PEMEX's willingness to allow competitive sales to Mexican end users. Mexico is currently a net importer of basic and secondary petrochemicals, a position made necessary in part by the nation's inability to develop fully its natural gas resources. In 1991, U.S. exports to Mexico of the petrochemicals that NAFTA defines as basic totaled $86 million.

Any increase in exports of basic petrochemicals would probably be for nonfeedstock uses--particularly propane for agricultural uses such as drying crops and for rural heating. Some of the increased exports of basic petrochemicals could support increased Mexican production of secondary petrochemicals, but those basic petrochemicals would probably have greater value as feedstocks in the north, where U.S. and Canadian petrochemical manufacturers would retain a significant cost advantage.

In general, any increase in North American trade and investment in petrochemicals would increase the efficiency of North American refining and petrochemicals operations (by better balancing production and consumption of the many jointly produced petroleum products), lower production costs, and enhance the competitiveness of U.S. producers in European and Asian markets.

Opportunities for Exporting Coal. NAFTA could give U.S. coal exports a significant boost not only by allowing fuller access to the Mexican market, but also by immediately eliminat-

ing Mexico's 10 percent tariff on North American coal.

If priced low enough, coal delivered by rail from the western United States could compete with exports of natural gas to the new industrial and electricity-generating markets along the border. CFE could also find coal shipped by sea from other countries more economical than domestic gas or residual fuel oil for new generating plants in the central part of the country. But to the extent that CFE plans to add any new coal-fired capacity, NAFTA would at least give U.S. suppliers an advantage over their potential competitors from South America and Australia.

Exports of Energy-Related Goods and Services. Under the most optimistic interpretation of performance clauses, drilling contractors could earn compensation based in part on how much oil or gas was found--a common practice in other oil markets. Such performance clauses based on discovery are especially important for smaller contractors because they represent marketable assets that firms can use in securing needed project financing.

As with other opportunities presented by NAFTA, the real gains here are at best uncertain. Nothing in the agreement requires PEMEX to offer performance incentives in its drilling contracts. And Mexico would probably be unwilling to tie such incentives to the amount of oil or gas found--instead, restricting them to rewards for early or below-budget completion. In the absence of contract incentives tied to discovery amounts, many U.S. firms consider Mexico's current contract requirements for drilling services to be prohibitive--especially requirements for fixed-price bidding on tasks for which the contractor not only would have incomplete information on the overall project, but could not control the entire project, the timing, or, as a result, the costs.

Also, nothing in the agreement would require Mexico to direct any minimum share of PEMEX and CFE procurement business to U.S. and Canadian firms, and the agreement would not apply to procurements with values below the dollar thresholds set therein. Moreover, Mexico may easily circumvent the dollar thresholds in order to place even larger procurement actions outside the agreement. For example, the $250,000 threshold would encompass the total costs for drilling most on- and offshore wells. But the separable costs for many individual drilling services (equipment, logging services, drilling fluids) and services related to wells (well completions, workovers, pump maintenance) would be below the threshold, especially for onshore wells. Similarly, Mexico's state monopolies could easily structure contracts for construction services to parcel out work in increments below the $8 million threshold. Of course, any incentives PEMEX might have for restructuring contracts would be limited to the extent that breaking projects down into smaller tasks raised overall project costs.

No estimates of potential new business for U.S. and Canadian contractors are available, but new business would probably be much smaller than 50 percent of what Mexico has indicated its current total procurement budget to be ($5.2 billion of total expenditures reported by PEMEX for goods, services, and public works in 1991). But PEMEX incurs many of these expenditures itself, so that competitive bidding for these tasks could come about only with a major divestiture of PEMEX functions. Moreover, services for oil and gas fields, other than those performed by PEMEX, are currently provided almost exclusively by Mexican contractors.

Services

Expanded trade in services offers essentially the same benefits as expanded trade in goods: greater efficiency through specialization. Proportionally, those benefits may be even greater because services now account for over half of U.S. gross domestic product. Nevertheless, the overall effect of the agreement on the U.S.

service sector is likely to be positive but very small.

With the exception of the Canada-U.S. Free Trade Agreement and certain sector-specific bilateral agreements, services are generally not now covered by international trade agreements. Barriers to trade in services tend to be based on regulations and other types of restrictions imposed by domestic law rather than on tariffs or quotas.

The provisions of NAFTA on cross-border services--that is, services that are provided through the movement of the service or the consumer across national boundaries--represent a major breakthrough to opening such trade to international agreement.[25] Major services that NAFTA would open to cross-border trade include finance, business services, land transportation, and telecommunications. The agreement is likely to become a model for future negotiations between the United States and other trading partners.

One key aspect of the NAFTA chapter on cross-border services is that it is based on a so-called negative list approach. This approach presumes that all trade in services is unrestricted unless the agreement specifically exempts the service. Under the General Agreement on Tariffs and Trade, by contrast, negotiations have taken a positive list approach--only those services specifically identified would be liberalized.

Economic models that have attempted to project the impact of NAFTA at the sectoral level generally show that it would have little effect on U.S. service providers.[26] Projections of changes in output and employment are almost universally estimated to be less than 1 percent of any service subsector. The models do not agree precisely on the size of effects or even on the identity of gainers and losers. It is fair to assume that whatever changes occur will typically be small and probably overwhelmed by other events transpiring in the economy.

Background

International trade negotiations have only recently begun to address rules for improving trade in services. Thus far the GATT exclusively covers trade in goods, although an agreement on services has been a key part of the ongoing negotiations of the Uruguay Round. The first comprehensive agreement on trade in services was negotiated under the Canada-U.S. Free Trade Agreement, which essentially is extended to Mexico and expanded by NAFTA. In addition, the United States is party to several bilateral agreements and to multilateral agreements covering trade in specific sectors, such as maritime and air transport and telecommunications.

Several aspects of services have impeded their incorporation into international rules of trade. One distinguishing feature is that services are usually not traded over long distances because they are sold directly by the producer to the consumer--examples being haircuts, auto repairs, and dining. Thus, exporting services in many cases requires that a local business branch or subsidiary be established in the importing country. It also means that domestic laws related to foreign investment and ownership are particularly important to trade in services. In other cases, services are sold across borders over long distances, but they are often subject to unilateral regulations by importing countries that can be impediments to trade whether or not they were deliberately established for that purpose. Examples of such services include film and television programs that may be subject to cultural limitations, and certain professional business and financial services that are subject to national as well as state or provincial regulations.

The most basic services are the direct provision of labor and financial capital. Neither

25. Cross-border services exclude services provided by investing in the importing country.

26. See Congressional Budget Office, "Estimating the Effects of NAFTA."

current law nor NAFTA allows for unlimited trade in labor services, the extreme form of which would be unrestricted immigration. Nor is the flow of financial capital completely unrestricted, although NAFTA would greatly expand investment opportunities for capital and completely remove restrictions in most sectors.

Total worldwide cross-border trade in services in 1991 produced a net surplus in the U.S. balance of payments of about $50 billion; investment income, which is the return on capital, added another $16 billion. These surpluses helped offset a net deficit in merchandise trade of $73 billion. Total U.S. exports of private services to the world reached about $152 billion in 1991 (see Table 3-5).

In 1991, the United States imported about the same dollar value of services from Mexico and Canada (about $7.8 billion), but its exports to Canada ($17.8 billion) were more than twice those to Mexico ($8.1 billion). Thus, the net balance of trade in services was in surplus by about $0.3 billion with Mexico and by about $9.9 billion with Canada (see Table 3-5). Mexico accounted for about 5 percent of U.S. exports of services, compared with nearly 15 percent for Canada. Nearly 7 percent of U.S. imports of services were from Mexico.

Travel and transportation make up the largest portion of trade in services, accounting for about 80 percent of such imports from and exports to Mexico. In 1991, exports of all transportation services (which are primarily categorized as travel, or tourism) accounted for $6.6 billion of the total $8.1 billion of U.S. services exported to Mexico. Transportation imports were $6.2 billion of the total $7.8 billion of services the United States imported from Mexico. The net surplus of trade in transportation services with Mexico in 1991 reflects the fact that U.S. transportation exports have more than doubled since 1987; imports increased by about half that amount.

Despite its small share, an important and fast-growing segment of U.S.-Mexican trade in services is the category of "other private services." This catchall category comprises a number of diverse activities ranging from professional and technical business services to transactions between affiliates of multinational corporations. This latter group of transactions includes reimbursements for so-called allocated expenses performed by the parent for the affiliate (such as overhead expenses and research and development charges) and charges for specific services that the parent and affiliate may sell directly to each other. Other categories of private service transactions between firms that are unaffiliated include education, finance, insurance, telecommunications, and other business, professional, and technical services. Over the past five years, the United States has typically run a deficit with Mexico in trade in these private services. As a group, the combined exports of all affiliated and unaffiliated private services grew from $0.8 billion in 1987 to $1.2 billion in 1991. Over the same period, combined imports of such services grew from about $1.1 billion to $1.6 billion.

Provisions of NAFTA

The agreement would liberalize cross-border trade in services primarily by adopting the principles of national treatment and nondiscrimination. In addition, strong enforcement procedures, particularly with regard to investment rights, would ensure compliance with the accord.

The principle of national treatment is one of the basic tenets of GATT rules of trade in goods--that imports must be treated no less favorably than domestic trade. Thus, internal taxes and regulations cannot discriminate between foreign and domestic providers. Such equal treatment prevents a country from using discriminatory national policies to circumvent agreed-upon measures that liberalize trade.

In essence, NAFTA would require each party to treat the others' service firms no less favorably than its own. An important auxiliary rule incorporated into NAFTA is that service

Table 3-5.
U.S. Cross-Border Trade in Services (In billions of dollars)

	1987	1988	1989	1990	1991
			Transportation		
Imports from					
Mexico	4.0	4.4	5.2	5.9	6.2
Canada	3.8	4.2	4.3	4.6	4.8
World	54.4	59.4	62.3	71.4	70.9
Exports to					
Mexico	2.9	3.7	4.9	6.3	6.6
Canada	4.9	5.8	7.2	9.2	10.6
World	48.0	58.0	68.2	81.5	88.0
			Royalties and License Fees		
Imports from					
Mexico	0	0	0	a	0
Canada	0.1	0.3	0.1	0.1	0.1
World	1.8	2.6	2.6	3.1	4.0
Exports to					
Mexico	0.1	0.1	0.2	0.2	0.3
Canada	0.8	0.8	1.0	1.2	1.2
World	9.9	11.8	13.1	16.5	17.8
			Other Private Services		
Imports from					
Mexico	1.1	1.2	1.4	1.6	1.6
Canada	1.8	2.6	2.8	2.8	3.0
World	17.2	18.4	19.1	22.5	25.2
Exports to					
Mexico	0.8	0.9	1.0	1.2	1.2
Canada	3.7	3.8	5.0	5.7	6.0
World	28.9	30.8	36.7	40.2	46.4
			Total		
Imports from					
Mexico	5.1	5.7	6.6	7.4	7.8
Canada	5.7	7.0	7.1	7.5	7.9
World	73.4	80.4	84.1	97.0	100.0
Exports to					
Mexico	3.8	4.7	6.1	7.7	8.1
Canada	9.4	10.4	13.2	16.1	17.8
World	86.8	100.7	118.0	138.1	152.3
Memorandum:					
U.S. Output of Services	2,267	2,461	2,642	2,846	3,030

SOURCE: Congressional Budget Office using data from Department of Commerce, *Survey of Current Business* (various years); and U.S. International Trade Commission, *Potential Impact on the U.S. Economy and Selected Industries of the North American Free-Trade Agreement*, USITC Publication 2596 (January 1993).

NOTE: Cross-border services are provided by the movement of either the provider or the consumer of the service across a national boundary; investment and investment income are excluded.

a. Original data were suppressed to avoid disclosure of individual companies.

providers cannot be required to establish or maintain a residence, representative office, branch, or other form of local presence as a condition for providing a service. If the provider believes a local presence is necessary, however, NAFTA's investment rules would likewise prohibit discrimination. As discussed below and in Appendix A, national treatment is an especially important rule in the general area of investment and specifically in the provision of financial services.

NAFTA would extend the concept of national treatment to include provisions related to professional licensing and certification. Each country would agree to ensure that its licensing and certification procedures are based solely on objective and transparent criteria that are not intended to restrict trade. In addition, the agreement would provide for, but not require, mutual recognition of licenses and certifications.

Reservations and Exclusions. As with all international trade agreements, NAFTA would permit certain exceptions and reservations--limiting conditions that the parties wish to attach to the agreement. An important feature of NAFTA is that each party would be limited to a two-year period during which it could list the specific federal, state, and provincial measures that would not be included (municipal and other local government measures would also be excluded). After two years, all services not listed would be covered by NAFTA.

The services chapter of NAFTA excludes provisions that are superseded by other parts of the agreement dealing with specific sectors such as government procurement, subsidies, financial services, and energy-related services. Also excluded are most air services, basic voice telecommunications, government-provided social services, maritime services, and "sectors currently reserved by the Mexican Constitution to the Mexican State and Mexican nationals." Specific safeguard clauses provide the potential for Mexico to limit the pace of liberalization in financial services. They also set a temporary limit on foreign financial firms' share of the aggregate capital of all financial institutions. In addition, Mexico has reserved the right, following a transition period, to limit the share of capital that can be controlled through acquisition of a commercial bank.

Finally, each country would have the right to deny benefits to firms that provide their services through an enterprise that is owned or controlled by a person or entity of a non-NAFTA country. Benefits may also be denied as a result of legitimate enforcement actions, such as those regarding deceptive business practices.

Separate Rules for Certain Service Sectors

Because financial services (banking and insurance), telecommunications, and land transportation are particularly sensitive sectors for each country's economy, NAFTA provides separate rules governing the scope, coverage, and transition period for opening markets in those sectors. Also treated separately are investment, issues relating to intellectual property, and trade with monopolies and state enterprises.

Financial Services. After a transition period that stretches to January 2000, NAFTA would allow U.S. banks, securities firms, and other financial companies to establish wholly owned subsidiaries in Mexico.[27] Current restrictions that discriminate against foreign firms in Mexico's banking and other financial markets would be lifted for the United States and Canada. Reciprocal rights would be granted in each of the countries that are party to the agreement. This provision represents an important step both for the development of the Mexican banking and financial markets and

27. In addition, NAFTA provides that if the United States adopted interstate branch banking, the agreement would be reviewed with an eye toward permitting direct branch banking rather than requiring separately capitalized subsidiaries.

for U.S. firms wishing to compete in those markets.

The economic effects on U.S. providers of financial services and more broadly on the U.S. economy, however, are likely to be very small but positive. Expansion of U.S. banks into Mexico will depend in part on the overall success of NAFTA itself--that is, the expansion of economic opportunity in Mexico and the stability of the Mexican economy. Such expansion would include the desire of U.S. banks to follow their domestic clients to Mexico, and the opportunities for more efficient U.S. banks to compete in Mexico's previously protected banking industry.

NAFTA would also eliminate restrictions on U.S. ownership and provision of services in the Mexican insurance market. By 1996, U.S. firms with existing joint ventures in Mexico would be able to have as much as 100 percent ownership of insurance firms. New U.S. entrants would share the same right by 2000. Over the long term, the Mexican insurance market, which has been closed to foreign investment and limited by barriers that inhibit cross-border trade, would have a strong potential for growth.

Despite recent unilateral liberalization by Mexico of laws and regulations governing banking and securities brokerage, these markets remain closed to foreign ownership and competition.

Telecommunications. NAFTA would eliminate restrictions on sales and investments by U.S. companies in the Mexican market for telecommunications equipment and services, valued at about $6 billion. Specifically with regard to services, it would open trade opportunities for U.S. exports of so-called enhanced or value-added services--those employing computer-processing applications, such as software and data providers--and would eliminate restrictions on investment and other impediments to the access of private networks to public telecommunications carriers. As is often the case with service transactions, this latter opening would provide added opportunities for equipment manufacturers.

Land Transportation. The agreement opens the market for U.S. and Mexican providers of truck, bus, and rail transport to carry goods between the two countries. The agreement would allow U.S. trucking companies to carry freight to the Mexican states contiguous to the United States by the end of 1995, and to all of Mexico by 2000 (small designated commercial zones in the United States close to the border are now open to Mexican truckers). U.S. operators of charter and tour buses would have full access to Mexico immediately, and U.S. companies that have regular bus routes would gain full access by the end of 1996. U.S. companies would also be granted the right to invest in and operate Mexican port facilities.

Because transportation accounts for a substantial share (about 80 percent) of total trade in services and because more than 80 percent of freight in Mexico is moved by road, this part of the agreement could hold important long-term benefits. The volume of trade between the United States and Mexico is potentially large, but is currently limited by restrictions. As restrictions are lifted, both U.S. and Mexican truckers should see increased business opportunities. The large wage differential between the two groups suggests that Mexican trucking services would grow more than U.S. trucking services.

Effects of the Agreement

The agreement would provide net positive gains for U.S. service providers. By opening access to the Mexican market, it would provide new opportunities for those firms in subsectors that have demonstrated competitiveness in international trade. Not all firms would benefit, and some might find themselves newly exposed to Mexican competitors in the United States. But in general, the benefits should outweigh the costs.

Although some individual firms and subsectors may gain substantially, historical data indicate that travel and transportation services tend to dominate trade in services between the United States and Mexico, and between the United States and the rest of the world. When placed in this perspective, the market-opening opportunities for U.S. providers of business services, finance, and telecommunications must be seen as small but significant.

Perhaps the most important aspect of NAFTA's provisions for services is the precedent they would set for future negotiations in the GATT and elsewhere. They clearly provide a blueprint for how the United States would like to structure rules for expanded trade in services, which if opened worldwide would provide much more than the small benefits derived from NAFTA.

Chapter Four

Agriculture

The North American Free Trade Agreement devotes an entire chapter to trade in agriculture. By such an emphasis, it recognizes the importance and complexity of agricultural markets in the United States, Mexico, and Canada and the trade that connects them. Chapter 7 of NAFTA contains two separate bilateral agreements regarding access to agricultural markets--one between the United States and Mexico, the other between Canada and Mexico. Each addresses a number of issues, including customs duties and quantitative restrictions on imports, standards for grading and marketing products, and special safeguards to prevent surges in imports of some agricultural commodities.

NAFTA also contains specific rules of origin for trade in some agricultural products (which determine whether they receive preferential treatment under the agreement) and a set of trilateral provisions covering subsidies for agricultural exports, domestic farm supports, and sanitary and phytosanitary requirements. (Phytosanitary requirements address standards for plant health.) In general, the rules of the 1989 Canada-U.S. Free Trade Agreement for lowering tariff and nontariff barriers would still apply to trade in agriculture between the United States and Canada.

NAFTA would promote U.S.-Mexican trade in agriculture by removing barriers to trade between the two countries, but its overall effect on agriculture in the United States would be modest. The agreement could also affect the cost of U.S. programs of support for agriculture and revenues from import tariffs on Mexican agricultural products. The net impact on the U.S. Treasury, however, would be small.

Taking each country's farm sector as a whole, most analysts have concluded that producers in the United States would gain from the agreement, and producers in Mexico would lose. For the producers of some commodities, however, those generalizations would not hold. NAFTA could help U.S. producers of grains, oilseeds, and animal products, but it might hurt U.S. producers of some fruits and vegetables. In Mexico, losses for producers of corn could be significant and might affect employment and migration. Mexican consumers, however, would benefit from lower food prices. The transition periods specified in NAFTA of from 5 to 15 years in some instances would allow both countries to adjust to freer trade.

NAFTA is not expected to have a dramatic effect on trade in agriculture between Canada and Mexico or between Canada and the United States (see Box 4-1). The volume of trade between Canada and Mexico is small, and a substantial change under NAFTA is unlikely. With regard to trade between Canada and the United States, NAFTA's provisions for agriculture would probably add little to the changes that are already occurring under CFTA. Because NAFTA would affect trade in agriculture primarily between the United States and Mexico, most analyses, including this one, focus on interactions between the U.S. and Mexican farm sectors and the potential effects of the agreement on those sectors.[1]

1. For a more detailed discussion, see Congressional Budget Office, "Agriculture in the North American Free Trade Agreement," CBO Paper (May 1993).

Box 4-1.
Canadian Trade in the NAFTA Region--Current Patterns of Trade and Provisions for Market Access in Agriculture

The North American Free Trade Agreement is not expected to have a major impact on Canadian-U.S. or Canadian-Mexican trade in agriculture. Trade with Canada is important for the U.S. farm sector, but the rules of the 1989 Canada-U.S. Free Trade Agreement for market access in agriculture would still apply to trade between Canada and the United States. New rules would apply to Canadian-Mexican trade in agriculture, but any increase in trade between those two countries would proceed from a very small base.

Canadian-U.S. Trade

In 1991, Canada ranked third behind Japan and the European Community as an export

Canadian Trade with Mexico, Selected Commodities, Calendar Years 1990 and 1991
(In thousands of Canadian dollars)

Commodity Group	Canadian Imports 1990	Canadian Imports 1991	Canadian Exports 1990	Canadian Exports 1991
Live Animals	98	61	8,844	12,516
Meat and Edible Meat Offal	0	0	14,784	5,809
Dairy Products	0	0	72,846	13,689
Live Trees and Other Plants, Bulbs, Roots, and Cut Flowers	1,508	1,380	0	7
Edible Vegetables	78,624	48,561	7,045	1,357
Edible Fruits and Nuts	46,831	56,822	25	0
Cereals	0	0	9,080	26,781
Oilseeds and Miscellaneous Grains, Seeds, and Fruits	2,118	1,488	820	0
Preparations of Vegetables, Fruits, and Nuts	8,185	4,062	52	585
Beverages, Spirits, and Vinegar	14,021	15,505	520	552
Cotton	3,512	790	56	154
Coffee, Tea, Maté, and Spices	21,830	17,732	0	0

SOURCE: Congressional Budget Office based on Statistics Canada, *Exports by Country*, Catalogue 65-003 Quarterly (January-December 1991), pp. 232-235; Statistics Canada, *Imports by Country*, Catalogue 65-006 Quarterly (January-December 1991), pp. 166-169.

Mexican Agriculture

Agriculture is an important element of Mexico's economy.[2] It accounts for about 9 percent of the country's gross domestic product and employs roughly 26 percent of its active work force. Mexico has about 57 million acres of arable land, or about 0.7 acres for each person.[3]

2. This section draws material from several publications of the Department of Agriculture's Economic Research Service: *Agriculture in a North American Free Trade Agreement: Analysis of Liberalizing Trade Between the United States and Mexico* (July 1992); *The Mexican Economy in the 1990's: Markets Are In; State Control Is Out* (October 1991); *Agricultural Outlook* (December 1991 through May 1992); and *Farmline* (December 1991 and January-February 1992). See also Luis Tellez Kuenzler, "Mexican Agricultural Policy and the Nation's Modernization Process," in Colin Carter, Harold O. Carter, and Ray Coppock, eds., *North American Free Trade Agreement: Implications for California Agriculture* (Davis, Calif.: U.C. Agricultural Issues Center, July 1992).

3. In comparison, the United States has about 464 million acres of arable land, or almost two acres for each person.

market for U.S. agricultural products; it ranked second behind the European Community as a source of U.S. imports. In that year, the value of U.S. exports of agricultural products to Canada was $4.6 billion, and the value of U.S. imports of farm products from Canada was $3.0 billion. The United States typically accounts for about one-third of Canada's farm exports and about 55 percent to 60 percent of its imports. In comparison, Canadian products constituted about 15 percent of all U.S. farm imports in 1991, and Canadian purchases constituted about 12 percent of U.S. farm exports.

Canadian-Mexican Trade

Compared with the flow of trade between Canada and the United States and between the United States and Mexico, Canadian-Mexican trade flows are very small. In 1990, the United States accounted for nearly two-thirds of Canada's agricultural imports and more than one-third of its exports, and Mexico accounted for only 2 percent of Canada's agricultural imports and 1 percent of its exports. Conversely, Canadian exports constituted only 2 percent of the farm products entering Mexico.

Live animals, meat, dairy products, and cereals are the leading farm products that Canada exports to Mexico. Their value, however, totaled only $106 million (Canadian) in 1990 and $59 million (Canadian) in 1991. Vegetables and fruit (fresh and processed), coffee, and beverages are the leading Mexican exports to Canada; they amounted to only $169 million (Canadian) in 1990 and $143 million (Canadian) in 1991 (see the table).

NAFTA's Provisions for Canadian-Mexican Trade

The proposed agreement would eliminate all tariff and nontariff barriers to agricultural trade between Canada and Mexico, with the exception of barriers in the dairy, poultry, egg, and sugar sectors. Canada would immediately exempt Mexico from its restrictions on imports of wheat and barley, beef and veal, and margarine. Both nations would eliminate immediately, or phase out within five years, tariffs on many fruit and vegetable products. Canadian imports of some horticultural products would be subject to special safeguards with 10-year periods of transition. For all products other than dairy goods, poultry, and eggs, Mexico would replace its license requirements for Canadian imports with tariff-rate quotas or ordinary tariffs.

SOURCES: Department of Agriculture, Economic Research Service, *Foreign Agricultural Trade of the United States*, Calendar Year Supplement (1991); Department of Agriculture, Economic Research Service, *A North American Free Trade Area for Agriculture: The Role of Canada and the U.S.-Canada Agreement*, Agriculture Information Bulletin 644 (March 1992); Department of Agriculture, Foreign Agricultural Service, "Canada: The Market for U.S. Food and Farm Products," *Market Profile* (July 1992).

The Mexican farm sector produces a wide range of commodities, in some cases by using "traditional" production systems, and in others, "modern" methods. Mexico's most important agricultural products include corn, dry edible beans, cattle, swine, poultry, tomatoes, potatoes, peppers, melons, onions, and other horticultural crops. Some tropical commodities--such as coffee and sugarcane--are also prominent.

Mexico's policies toward agriculture and its land-tenure laws have had a profound effect on the structure and productivity of its farm sector. In many instances, they have discouraged investment and efficiency. Recently, however, the Mexican government has introduced policy reforms that have reduced its influence over decisions about investment, production, marketing, and consumption. Those reforms have the potential to help modernize and improve the efficiency of the sector, but they could also lead Mexico into a difficult period of transition. Although NAFTA might contribute to the dislocation of workers in the Mexican farm sector, it could eventually cre-

ate new jobs for many of those workers by providing Mexico with better access to international markets and new opportunities for economic expansion in other sectors.

Production

Diversity is a prime characteristic of agriculture in Mexico. The sector includes subsistence farms and commercial enterprises, irrigated and nonirrigated cropland, and free-range and confined livestock operations. The sector produces tropical commodities and plantation crops (such as sugarcane, coffee, and bananas) in the south of Mexico; grains and oilseeds, cattle, and vegetables in the north; and a variety of crops (including corn and dry edible beans) in the country's central states.[4] Comparing the average yields for an acre of land in the United States and in Mexico reveals lower averages for some commodities in Mexico. The lower yields commonly reflect differences in methods of production and lags in technology. The following are some specifics regarding Mexican agriculture:

- Many smallholders produce corn and dry edible beans, often under subsistence or near-subsistence conditions. Both crops are staple items in Mexican diets. Corn occupies more acreage than any other commodity in Mexico, accounting for more than one-half of the country's total cropland.[5] Mexico's corn yields per acre are significantly lower than those in the United States.

- Mexico's principal animal products are beef (and veal), pork, poultry (and eggs), and dairy goods.[6] Many of Mexico's swine, poultry, and egg-layer operations have adopted confined-feeding systems and other modern methods of production, but more traditional methods are used for most of Mexico's beef cattle and dairy herds.

- Mexico's major horticultural crops for export, ordered by the value of shipments to the United States, are tomatoes, peppers, melons (including cantaloupes and watermelons), cauliflower and broccoli, onions, cucumbers, mangoes, table grapes, and squash. Harvest and marketing periods for horticultural crops in Mexico typically complement U.S. production, but some seasonal overlap occurs.[7] In general, the yields per acre of fruits and vegetables in Mexico are lower than those in the United States, and in some cases, Mexican products do not meet U.S. standards for grading and marketing.

Mexico's farm sector stagnated during the 1980s but showed moderate signs of growth in 1990 and 1991. During the 1980-1991 period, the farm sector grew at an average rate of 0.5 percent each year--less than one-third the rate of growth of manufacturing in Mexico.[8] (Growth is measured using constant price data.) The farm sector contracted by 4.6 percent in 1989 but then expanded by 3.4 percent and 3.7 percent in 1990 and 1991, respectively.[9] Those rates were still substantially

4. See Department of Agriculture, Economic Research Service, *Agricultural Outlook* (March 1992), p. 31.

5. Dry edible beans, sorghum, and wheat rank second, third, and fourth, respectively. See Department of Agriculture, Economic Research Service, *Agriculture in a North American Free Trade Agreement*, pp. 18-56, for acreage and yield data.

6. Among Mexico's meat products, beef (and veal), pork, and poultry rank first, second, and third, respectively, ordered by metric tons of production. See Department of Agriculture, Economic Research Service, *Agriculture in a North American Free Trade Agreement*, pp. 60-86, for production data.

7. For a detailed discussion of seasonal overlap, see General Accounting Office, *U.S.-Mexico Trade: Extent to Which Mexican Horticultural Exports Complement U.S. Production* (March 1991).

8. World Bank, *Trends in Developing Countries* (Washington, D.C.: World Bank, September 1992), p. 360.

9. Ibid., p. 360; World Bank, *Trends in Developing Countries* (Washington, D.C.: World Bank, September 1991), p. 364. According to the U.S. embassy in Mexico, the agricultural sector expanded by only 1.2 percent in 1991. See American Embassy, *Economic Trends Report* (Mexico City: American Embassy, February 1992), p. 50.

lower, however, than the rates of growth of the manufacturing sector.

Government Intervention

Recent changes in the Mexican government's policies toward agriculture reflect a major shift in Mexico's overall strategy for economic development: in the mid-1980s, it adopted a new approach based on market-oriented principles (see Chapter 1). By initiating an ongoing process of reform in the farm sector, Mexico extended that approach to agriculture. As a result, many of the government's programs of support for agriculture have been dismantled. Because there are important links between the process of reform and NAFTA, the success or failure of one could affect the success or failure of the other.

Although government intervention in the Mexican farm sector is less prominent than it once was, it has played a critical role in shaping the sector and continues to affect some aspects of decisionmaking. In particular, supports for the prices of agricultural commodities, subsidies for producers and consumers, and restrictions on imports and exports now play a lesser role in Mexican agriculture, but they are still important in some markets--such as those for dry edible beans and corn--and have influenced decisions about investment, production, marketing, and consumption for many years. Some forms of intervention have helped Mexican farmers, but others have not. A recent analysis of NAFTA found that, on balance, government intervention subsidized the production of dry edible beans, corn, pork, poultry, sorghum, soybeans, and wheat between 1982 and 1989, but it effectively taxed the production of beef and milk.[10]

Mexico's land-tenure laws have also had a significant effect on the structure and productivity of the farm sector.[11] Before 1992, the Mexican constitution promised access to land for all landless peasants, and under its provisions, Mexican authorities expropriated and redistributed large tracts of privately held acreage. At the same time, however, the constitution placed significant restrictions on the property rights of the recipients. It thus succeeded in providing land to people who were formerly landless but discouraged private investment and the efficient use of that land. In 1992, Mexico amended its constitution to prohibit expropriation and strengthen the property rights of those holding land.

The country's shift to a less interventionist strategy could promote investment and efficiency in the farm sector, but it could also lead Mexican agriculture through a painful period of adjustment. If the government continues to eliminate programs of support for agriculture, unemployment and rural-to-urban migration could increase. NAFTA could lock in some of the changes made under Mexico's new development strategy, pave the way for additional reforms, and generate growth in other sectors; but it could also contribute to transitional problems if losses from freer trade in agriculture precede gains from freer trade in other sectors. Moreover, the success of the new strategy could affect the success of NAFTA. The agreement could present opportunities for growth in the production of some farm commodities, but Mexico's response to those opportunities would depend on its ability to make investments in new technology and infrastructure.

10. Grennes and others examined a combination of price supports, border controls, subsidies for inputs, and exchange rate distortions. See Thomas Grennes and others, *An Analysis of a United States-Canada-Mexico Free Trade Agreement*, Commissioned Paper 10 (St. Paul, Minn.: International Agricultural Trade Research Consortium, November 1991), pp. 11-13.

11. See Roberta Cook and Kenneth Shwedel, "Mexico Opens Its Doors," *Western Grower and Shipper* (February 1992), pp. 12-19; Santiago Levy and Sweder van Wijnbergen, "Mexican Agriculture in the Free Trade Agreement: Transition Problems in Economic Reform," Technical Paper 63 (Paris: OECD Development Center, May 1992); Grennes and others, *An Analysis of a United States-Canada-Mexico Free Trade Agreement*; Department of Agriculture, Economic Research Service, *Agriculture in a North American Free Trade Agreement*; and World Bank, *Trends in Developing Countries* (September 1992), p. 357.

U.S. Trade with Mexico

Mexico is one of the U.S. farm sector's most important trading partners. In 1991, Mexico ranked fourth behind Japan, the European Community (EC), and Canada as an export market for U.S. agricultural products, and third behind the EC and Canada as a source of U.S. imports. In that year, the value of U.S. exports of agricultural products to Mexico was almost $3 billion, and the value of U.S. imports from Mexico was about $2.5 billion (see Table 4-1).

U.S.-Mexican trade in agriculture constitutes a significant and growing share of all U.S. trade in agriculture, rising from about 6 percent in 1987 to almost 9 percent in 1991. In 1991, U.S. farm exports to Mexico amounted to almost 8 percent of all such exports, and U.S. farm imports from Mexico constituted about 11 percent of all such imports. For Mexico, trade with the United States accounts for the majority of its agricultural commerce--typically, more than half of its farm imports and most of its farm exports.

For the most part, U.S.-Mexican trade in agriculture is complementary (see Table 4-2). Grains, oilseeds, and animal products are the leading U.S. exports of farm products to Mexico. In comparison, fruits and vegetables, live cattle, and coffee dominate U.S. imports of farm products from Mexico. As noted earlier, the principal growing seasons for many fruits and vegetables in Mexico differ from those for similar products in the United States and thus contribute to the complementarity of trade. Furthermore, Mexico's exports of tropical products such as coffee and bananas are noncompetitive--that is, similar or interchangeable items are not produced commercially in the United States. In addition, U.S. exports of some bulk commodities, such as grains and oilseeds, supplement Mexican harvests.

To some extent, however, the current patterns of trade between the United States and Mexico reflect policies toward agriculture in both countries--in the form of seasonal tariffs, import quotas, requirements for import li-

Table 4-1.
U.S. Trade in Agriculture, 1987-1991 (By calendar year, in millions of dollars)

	1987	1988	1989	1990	1991
Imports from					
Mexico	1,867	1,820	2,280	2,611	2,527
Canada	2,214	2,443	2,915	3,152	3,306
World	20,402	20,954	21,749	22,770	22,719
Exports to					
Mexico	1,202	2,235	2,724	2,553	2,998
Canada	1,808	2,019	2,221	4,197	4,554
World	28,709	37,080	39,909	39,363	39,191
Balance of Trade with					
Mexico	-665	415	444	-58	471
Canada	-406	-424	-694	1,045	1,248
World	8,307	16,126	18,160	16,593	16,472

SOURCE: Congressional Budget Office based on Department of Agriculture, Economic Research Service, *Foreign Agricultural Trade of the United States*, Calendar Year Supplements (1987-1991).

censes, other nontariff barriers, and some domestic commodity programs.[12] These patterns differ for the major commodity groups in U.S.-Mexican trade: grains, oilseeds, and dry edible beans; animals and animal products; fruits and vegetables; and other commodities (sugar, orange juice, peanuts, cotton, and tobacco).

Grains, Oilseeds, and Dry Edible Beans

Grains and oilseeds rank first in value among U.S. farm exports to Mexico. In 1991, they accounted for almost $1.3 billion, or more than 40 percent, of the U.S. farm products entering Mexico. Exports of sorghum and corn accounted for about 30 percent and 12 percent, respectively, of the grain and oilseed total. U.S. exports of dry edible beans to Mexico are subject to substantial fluctuation because Mexico uses them to meet irregular shortfalls in domestic production. For the most part, Mexico produces grains, oilseeds, and dry edible beans for domestic consumption rather than export. Its imports of those products are subject to a number of restrictions, such as requirements for import licenses and seasonal tariffs (see the discussion on page 75).

Animals and Animal Products

The balance of trade in this category favors the United States; nevertheless, Mexico exports significant quantities of animals and animal products to the United States. In 1991, animals and animal products accounted for $1.1 billion, or 37 percent, of the U.S. farm products entering Mexico, second in value only to grains and oilseeds. Overall, U.S. exports of animals and animal products to Mexico increased by $462 million, or 70 percent, compared with the previous year.

Mexico requires import licenses for poultry products (including eggs) and for many dairy products. In addition, it assesses import tariffs of 10 percent on condensed, evaporated, and fluid milk and poultry products, and tariffs of 20 percent on butter, cheese, ice cream, yogurt, hogs for slaughter, pork, and edible beef offal. Recently, Mexico introduced temporary import tariffs of 15 percent to 25 percent on live cattle and some beef products to protect Mexican farmers from surges in imports of those items.

In 1991, the value of Mexican exports of live cattle and calves to the United States was $361 million--or about 14 percent of the value of all of Mexico's agricultural exports to the United States and nearly 100 percent of the value of its exports in this category. The United States applies a tariff to imports of live cattle from Mexico, the ad valorem equivalent of which is generally less than 2 percent. The ad valorem measure is the percentage equivalent of a specific tariff; it is used to compare rates of duty on different products. (Such a measure is necessary because specific tariffs are stated in units of currency per unit of product--for example, dollars per metric ton or pesos per liter. If, for example, the United States assessed a specific tariff of 20 cents per kilogram on imports valued at $2 per kilogram, the ad valorem equivalent would be 10 percent.)

In some instances, potential restrictions in the form of import quotas cover U.S. imports of meat products from Mexico under the U.S. Meat Import Act of 1979. The act authorizes the use of quotas if the Department of Agriculture (USDA) expects calendar year imports of certain products to be above a specific triggering amount. (The act applies only to fresh, chilled, and frozen beef, veal, mutton, and goat meat. It does not apply to lamb, pork, poultry, or live animals.) U.S. imports of poultry are subject to tariffs with ad valorem equivalents of up to 4 percent for live animals

12. Publications from the Department of Agriculture's Office of Economics (*Preliminary Analysis of the Effects of the North American Free Trade Agreement on U.S. Agricultural Commodities*, September 1992) and the U.S. International Trade Commission (*Potential Impact on the U.S. Economy and Selected Industries of the North American Free-Trade Agreement*, January 1993) describe U.S. and Mexican barriers to trade (tariff rates, requirements for import licenses, and quota restrictions).

Table 4-2.
U.S.-Mexican Trade in Agriculture, Selected Commodities, 1987-1991
(By calendar year, in millions of dollars)

Commodity	1987	1988	1989	1990	1991
			U.S. Exports to Mexico		
Animals and Animal Products					
Live cattle and calves	30	141	72	55	133
Beef and veal	7	40	78	80	185
Pork	5	30	56	37	68
Poultry meats	16	63	52	57	116
Dairy products	74	137	205	60	121
Fats, oils, and greases	82	101	94	87	97
Hides and skins	80	111	99	96	137
Other	62	205	175	190	267
Total	356	828	831	662	1,124
Grains and Oilseeds					
Grains and feeds					
Corn	275	367	435	401	148
Sorghum	56	135	270	328	371
Barley	0	0	22	27	7
Wheat	13	97	63	51	39
Rice	0	1	65	39	25
Feeds and fodders	11	34	48	57	80
Other	10	11	59	58	69
Subtotal	365	645	962	961	739
Oilseeds and oilseed products					
Soybean meal	11	101	72	58	66
Soybeans	214	367	273	203	344
Vegetable oils	38	64	55	38	60
Other	50	63	44	28	54
Subtotal	313	595	444	327	524
Total	678	1,240	1,406	1,288	1,263
Dry Edible Beans[a]	16	4	67	102	22
Fruits and Vegetables					
Fruits[b]	9	14	35	45	56
Vegetables[c]	30	33	56	88	101
Total	39	47	91	133	157
Sugar and Related Products	2	4	69	117	114
Other Commodities	111	112	260	251	318
Total U.S. Exports to Mexico	1,202	2,235	2,724	2,553	2,998

Table 4-2.
Continued

Commodity	1987	1988	1989	1990	1991
U.S. Imports from Mexico					
Noncompetitive Imports[d]					
Bananas and plantains	13	14	17	31	57
Coffee and related products	399	296	501	338	333
Cocoa and related products	27	31	16	37	14
Other	23	30	20	21	22
Total	462	371	554	427	426
Competitive Imports					
Animals and animal products					
Live cattle and calves	252	262	284	419	361
Other	24	20	29	1	1
Subtotal	276	282	313	420	362
Fruits and vegetables[b]					
Fruits	201	196	228	244	331
Vegetables	545	550	760	1,002	902
Subtotal	746	746	988	1,246	1,233
Orange juice	36	68	57	88	45
Sugar and related products	46	45	54	21	33
Beverages[e]	203	189	156	167	152
Other	98	118	158	242	276
Total	1,405	1,448	1,726	2,184	2,101
Total U.S. imports from Mexico	1,867	1,820	2,280	2,611	2,527
Balance of Trade					
U.S.-Mexican	-665	415	444	-58	471

SOURCE: Congressional Budget Office based on Department of Agriculture, Economic Research Service, *Foreign Agricultural Trade of the United States*, Calendar Year Supplements (1987-1991).

NOTE: All figures are rounded to the nearest million dollars.

a. This commodity is referred to as dried beans in trade data from the Department of Agriculture.

b. Fresh, frozen, or prepared. Fruit juices are excluded.

c. Fresh, frozen, or prepared. Dry edible beans are excluded.

d. Noncompetitive imports are those that do not compete with commercial production in the United States.

e. Juices are excluded.

and up to 15 percent for meat products. In recent years, however, the United States has restricted imports of Mexican poultry because of concerns about disease.

Mexican exports of dairy products to the United States are subject to section 22 of the Agricultural Adjustment Act of 1933. Section 22 authorizes the President to restrict imports by imposing quotas or fees if imports interfere with U.S. programs of support for farm commodities or substantially reduce U.S. production of items processed from farm commodities. Mexico's exports to the United States in this category typically consist of specialty items in small quantities.

Fruits and Vegetables

The balance of trade in this category favors Mexico, but U.S. exports to Mexico are growing. (Much of the recent increase in U.S. exports can be attributed to reductions in Mexico's restrictions on imports.) U.S. exports of fruits and vegetables to Mexico have increased by about 73 percent since 1989 and now account for about 5 percent of all U.S. agricultural exports to that country.[13] Within this category, U.S. exports of fresh apples, pears, and peaches (valued at $33.5 million in 1991) have almost doubled since 1989, and U.S. exports of fresh tomatoes (valued at $4.3 million) have increased more than eightfold.[14] Mexico applies import tariffs of 10 percent to most fresh vegetables and 20 percent to most fresh fruit, including apples, pears, peaches, oranges, and limes. Its imports of fresh table grapes are subject to requirements for import licenses.

Fruits and vegetables rank first in value among Mexican farm exports to the United States. In 1991, they accounted for almost half of all Mexican farm products entering the U.S. market. Mexico's leading exports in this category are tomatoes, peppers, melons (including cantaloupes and watermelons), cauliflower and broccoli, onions, cucumbers, mangoes, table grapes, and squash. The United States imposes tariffs on imports of fruits and vegetables that vary by product and by season. For some products, such as cantaloupes (during certain seasons), the ad valorem equivalents of those tariffs are as high as 35 percent. However, the average tariff rate for all fruits and vegetables is significantly lower.

Other Commodities: Sugar, Orange Juice, Cotton, Peanuts, and Tobacco

The United States imports sugar from Mexico under the U.S. tariff-rate quota (TRQ) system. A TRQ is a kind of tariff and not an import quota. An import quota sets an absolute limit on the quantity of imports that may enter a country. In contrast, a TRQ sets a limit on the quantity of imports that may enter at a particular rate of duty. Most TRQ systems set only one limit: quantities of imports that fall within that limit (the within-quota amount) enter at one rate of duty, and quantities of imports that are over that limit (over-quota imports) enter at a different--and usually higher--rate. Under the U.S. TRQ system for sugar, a small amount of Mexican sugar enters the United States each year at a low-tier (or zero) tariff. For over-quota imports, a second-tier tariff of 16 cents per pound would apply. The USDA specifies the amount of sugar--the quota allocation--that may enter at the low-tier (or zero) tariff.

U.S. exports of sugar to Mexico occur largely under the auspices of the U.S. Refined Sugar Reexport Program. Under that program, refiners in the United States can import raw sugar at the world price--without being subject to tariffs or quotas--if they certify that an equivalent amount of refined sugar will be reexported (at the world price for refined su-

13. The total figures for U.S. exports of fruits and vegetables include fresh, frozen, or prepared fruits and vegetables; they exclude fruit juices and dry edible beans.

14. Department of Agriculture, Foreign Agricultural Service, *AgExporter* (September 1992), pp. 10-11.

gar).[15] In the 1990 marketing year, Mexico shipped almost 8,000 metric tons of sugar to the United States under the TRQ system and purchased about 250,000 metric tons of refined sugar from the United States under the reexport program. In 1989, Mexico eliminated its requirement for import licenses for sugar and now maintains a system of variable levies on such imports.

U.S.-Mexican trade in orange juice, cotton, peanuts, and tobacco represents a small fraction of all U.S.-Mexican trade in farm products. U.S. imports of cotton and peanuts are subject to quota restrictions under section 22 of the Agricultural Adjustment Act, but the restrictions appear to be nonbinding for Mexico. In addition, U.S. imports of long-staple cotton and in-shell peanuts are subject to tariffs of 4.4 cents per kilogram and 9.35 cents per kilogram, respectively. U.S. imports of frozen-concentrate orange juice are subject to tariffs of 9.25 cents per liter. Tariffs on U.S. imports of tobacco vary widely, by the type of product.

Mexico maintains licensing requirements for imports of tobacco and applies tariffs of 15 percent to 20 percent. It maintains a 10 percent tariff on imports of cotton and a 20 percent tariff on most imports of citrus products. There are no Mexican restrictions on imports of peanuts.

Provisions of NAFTA

The provisions in NAFTA for market access in agriculture are written as two bilateral agreements--between the United States and Mexico, on the one hand, and between Canada and Mexico, on the other (see Box 4-1 on pages 60-61).[16] They include special safeguards for a limited number of import-sensitive products in each country. In addition, NAFTA contains special rules of origin for trade in some farm products, as well as a set of trilateral provisions that deal with domestic farm supports, agricultural export subsidies, and sanitary and phytosanitary requirements. Most of the provisions for agriculture are found in Chapter 7 of the agreement; however, other chapters also contain provisions that would affect agricultural markets. In general, the Canada-U.S. Free Trade Agreement would still be the governing framework for trade in agriculture between the United States and Canada.

Provisions for Market Access: The United States and Mexico

The agreement treats several topics that relate to market access, including customs duties and quantitative restrictions, special safeguards for import-sensitive commodities, and standards for grading and marketing. It also contains restrictions on duty drawback.

Customs Duties and Quantitative Restrictions. The proposed agreement would immediately eliminate all tariffs and other restrictions on trade for a large number of agricultural products. For certain other products, however, it would establish periods of transition: 5 to 10 years for most of these products and 15 years for a small number of them. Based on trade in 1991, an estimated $1.6 billion in U.S. farm imports from Mexico and an

15. Department of Agriculture, Economic Research Service, *Sugar and Corn Sweetener: Changing Demand and Trade in Mexico, Canada, and the United States*, Agricultural Information Bulletin 655 (April 1993), p. 4.

16. The review of NAFTA provisions presented in this section draws information from several sources: NAFTA; the "Description of the North American Free Trade Agreement," prepared by the Governments of Canada, the United Mexican States, and the United States of America (August 12, 1992); the "Report of the Agricultural Policy Advisory Committee for Trade on the North American Free Trade Agreement," submitted to the President, the Congress, and the U.S. Trade Representative (September 1992); the "Reports of the Agricultural Technical Advisory Committees for Trade on the North American Free Trade Agreement," submitted to the President, the Congress, and the U.S. Trade Representative (September 1992); and two *Fact Sheets* from the Department of Agriculture's Office of Public Affairs--"The North American Free Trade Agreement: Import Protection" and "The North American Free Trade Agreement: Benefits for U.S. Agriculture" (August 21, 1992).

estimated $1.5 billion in Mexican imports from the United States would be free of tariffs immediately.[17] (Of those imports, however, many products were either free of duty already or subject to low tariffs.) At the outset of the agreement, all nontariff barriers--for example, import quotas--to U.S.-Mexican trade in agriculture would be converted to either tariff-rate quotas or ordinary tariffs. Mexico would also gain immediate exemption from possible quotas under the U.S. Meat Import Act.

NAFTA specifies two types of TRQs: one for commodities with existing nontariff barriers and another for commodities with existing tariffs. For commodities with nontariff barriers, specific quantities of imports--the within-quota amounts--would be admitted duty free, and over-quota tariffs would be applied to additional imports. Within-quota amounts for each commodity would be based on recent average levels of trade and would generally grow at 3 percent each year, compounded. Over-quota tariffs would be set to match a country's current levels of nontariff protection and would be phased out over 10 to 15 years. In particular, this type of TRQ would apply to Mexican exports that are now subject to quota restrictions under section 22 of the U.S. Agricultural Adjustment Act. It would also apply to U.S. exports that are subject to requirements for import licenses in Mexico. For commodities with existing tariffs, TRQs would be used as special safeguards (see the discussion below).

For a small number of products in each country, the proposed agreement would gradually eliminate tariff and nontariff barriers to trade over a transition period of 15 years. For the United States, such products would be limited to asparagus, sprouting broccoli, cantaloupes and some other melons, cucumbers, dried garlic, dried onions, orange juice, peanuts, and sugar. For Mexico, they would be limited to dry edible beans, corn, milk powder, orange juice, and sugar. TRQs would replace nontariff barriers for U.S. imports of peanuts and sugar and Mexican imports of dry edible beans, corn, and milk powder. For U.S. and Mexican imports of orange juice, TRQs would replace tariff barriers but would follow different rules from those established as special safeguards for other products (see the discussion on page 79).

Special Safeguards. NAFTA contains special safeguards for a limited number of import-sensitive products in each country to prevent rapid surges in imports of those products once the agreement is put into place. The U.S.-Mexican safeguards are set up as TRQs with 10-year periods of transition. The within-quota amounts for each product would increase by 3 percent each year, compounded, and would be subject to the applicable preferential rate of duty established under NAFTA. Over-quota imports would be subject to tariffs that are not to exceed the most-favored-nation rate (the lowest rate applied to imports from any third country) as of July 1, 1991, or the prevailing most-favored-nation rate, whichever is lower. The tariff rate for over-quota imports could be applied for the remainder of the season or the calendar year, depending on the product. Within-quota tariffs would be reduced gradually over 10 years; over-quota tariffs would be eliminated after 10 years but would not be reduced during the transition period. The United States would have special safeguards for seven horticultural items. Mexico would have special safeguards for 17 items including swine for slaughter, fresh apples, and some pork, potato, and coffee products.

Grading and Marketing Standards. The U.S.-Mexican agreement would require like treatment for domestic and imported products destined for processing.

Restrictions on Same-Condition Substitution Duty Drawback. NAFTA states that "beginning on the date of entry into force of the agreement, neither Mexico nor the United States may refund the amount of customs duties paid, or waive or reduce the amount of

17. "Report of the Agricultural Policy Advisory Committee for Trade," p. 4.

customs duties owed, on any agricultural good imported into its territory that is substituted for an identical or similar good that is subsequently exported into the territory of the other Party."[18] For example, Mexico could not refund the customs duties that were paid on an agricultural product that it imported from a non-NAFTA country and used as a substitute (in the domestic market) for an identical Mexican product that it then exported to the United States. These restrictions on what is known as duty drawback could prevent an undue increase in U.S.-Mexican trade.

Other Provisions

Although most of the provisions related to agriculture are in NAFTA's Chapter 7, the agreement contains provisions in other chapters that could affect U.S.-Mexican trade in the sector:

- In general, the agreement would not affect the policies of the NAFTA signatories on domestic farm supports. Each would retain its "rights and obligations" under the GATT but "should endeavor to work toward" measures for domestic support that do not distort trade or affect production.[19]

- Under NAFTA, the parties would affirm that "it is inappropriate for a Party to provide an export subsidy for an agricultural good exported to the territory of another Party where there are no other subsidized imports of that good into the territory of the other Party." NAFTA would not affect the rights of the signatories to apply countervailing duties to subsidized imports from any source.[20]

- In general, the agreement would require that bulk commodities be of 100 percent NAFTA origin. Furthermore, the rules of origin established in Chapter 4 of NAFTA would apply to trade in processed agricultural products as well. However, the agreement would establish special rules of origin for some products (see Box 4-2).

- Each party to the agreement would be allowed to "adopt, maintain or apply any sanitary and phytosanitary measure necessary for the protection of human, animal or plant life or health in its territory, including a measure more stringent than an international standard, guideline or recommendation." The measure must be based, however, on scientific principles and a risk assessment and can be applied only to the extent necessary to achieve such protection. Furthermore, no party to the agreement may apply a measure that would "arbitrarily or unjustifiably discriminate between its goods and like goods of another party, or between goods of another party and like goods of any other country, where identical or similar conditions prevail." In addition, the measure must not act as a disguised restriction on trade.[21]

- NAFTA would establish a trilateral Committee on Agricultural Trade to monitor and promote cooperation in implementing and administering the agricultural trade section.

- In turn, the Committee on Agricultural Trade would establish an Advisory Committee on Private Commercial Disputes to provide recommendations for developing systems in each country to resolve such disputes promptly and effectively.

NAFTA's provisions for land transportation, investment, and intellectual property

18. See NAFTA, Annex 703.2, Section A.

19. See NAFTA, Article 704.

20. See NAFTA, Article 705.

21. See NAFTA, Article 712.

Box 4-2. Special Rules of Origin Under NAFTA for Trade in Agriculture

Rules of origin are a key element of the agreement because they determine whether goods traded among the United States, Canada, and Mexico qualify for preferential treatment under the North American Free Trade Agreement. The U.S. International Trade Commission has summarized the rules contained in Chapter 4 of the agreement: in general, "imports from non-NAFTA countries must be processed significantly, or substantial value must be added, in North America before the goods into which they are incorporated can qualify for NAFTA benefit." For the most part, bulk commodities must be of 100 percent NAFTA origin, and processed goods must conform to the rules in Chapter 4. However, special rules of origin would apply to some items:

- For dairy products, no non-NAFTA milk or milk products may be used to make milk, cream, cheese, yogurt, ice cream, or milk-based drinks.

- For citrus products, all single-strength juices must be made from 100 percent NAFTA fresh citrus fruit. Reconstituting concentrated juices or fortifying juices does not confer origin. There is no *de minimis* allowance for citrus products. (Under a *de minimis* allowance, or rule, a certain percentage of the value of a good--typically 7 percent--may derive from nonqualifying materials without the good's losing its eligibility for preferential treatment.)

- For coffee, roasting, decaffeinating, grinding, or packaging does not confer origin. The rule of origin for coffee is a "bean-forward" rule. Coffee beans (93 percent or more) must be grown in NAFTA territory to qualify for preference under the agreement.

- For cocoa, 100 percent non-NAFTA cocoa beans, paste, butter, and unsweetened powder may be used to make bulk chocolate and chocolate candy for retail sale. For sweetened cocoa powder, 65 percent of the cocoa and 65 percent of the sugar must be of NAFTA origin.

- For cigarettes and cigars, the *de minimis* rule is no more than 9 percent of the value of each shipment. For all other agricultural and industrial products, the general *de minimis* provision of 7 percent applies.

- For trade in peanut products with Mexico, only peanuts harvested in Mexico may be used to make peanut products for export with preferential treatment under NAFTA. For trade with Canada, the rule confers origin on peanut butter made from non-NAFTA peanuts.

- For crude vegetable oils, refining does not confer origin--with the exception of certain industrial fatty acids and acid oils. Making margarine and hydrogenated oils from imported crude oil does not confer origin. The *de minimis* provision applies only to a few oils, including tropical oils, hydrogenated oils, and margarine.

- For sugar, refined sugar or molasses made from imported raw sugar does not originate. Refining does not confer origin. However, sugar confectionery that is made with imported sugar qualifies for NAFTA preference.

SOURCES: U.S. International Trade Commission, *Potential Impact on the U.S. Economy and Selected Industries of the North American Free Trade Agreement*, USITC Publication 2596 (January 1993), p. 3-2; information provided by the Department of Agriculture, Foreign Agricultural Service.

rights could also have an impact on U.S.-Mexican trade in agriculture.[22] Under the agreement, U.S. trucking firms would gain access to Mexican markets, and if that access promoted improvements in land transportation in Mexico, U.S. trade with Mexico could expand more rapidly than is now possible. A lack of adequate transportation in Mexico is commonly cited as a major obstacle to U.S.-Mexican trade, particularly in cases involving highly perishable commodities.

With regard to investment, NAFTA would enable U.S. firms to establish new agricultural enterprises, acquire shares of existing businesses, and receive the same treatment, with limited exceptions, as domestic companies (see Appendix A). In addition, provisions in the agreement would protect U.S. investors from expropriation and allow them to repatriate all of their profits and capital in hard currency. The agreement also contains provisions that would prohibit the Mexican government from requiring U.S. investors to export their goods and that would exempt them from requirements to "buy Mexican." These measures could encourage U.S. investment in Mexico, leading to the modernization of Mexican production and processing facilities and the expansion of trade. Moreover, NAFTA's provisions for intellectual property rights, which would establish rules of protection for most inventions, could encourage research aimed at the specific needs of the Mexican market.

Effects of the Agreement

Overall, NAFTA could have a significant impact on agriculture in Mexico but would probably affect agriculture in the United States only modestly. Several recent studies--some completed in advance of NAFTA's drafting and some completed after its release--address these potential effects.[23] Most of the studies, in considering each country's farm sector as a whole, indicate that U.S. producers would gain from the agreement but that those in Mexico would lose. NAFTA's effects would vary for specific commodities within each sector: U.S. producers of grains, oilseeds, and some animal products would benefit, and U.S. producers of some horticultural products could face additional competition.

Some of the studies examine the potential effect of the agreement on labor markets and migration.[24] They suggest that NAFTA could promote rural-to-urban migration in Mexico, as well as migration from Mexico to the United States; however, the size of the effect would depend largely on changes in Mexico's domestic policies for agriculture. U.S. competition, particularly in the production of corn, could contribute to a loss of jobs in Mexico and might encourage migration. Ultimately, though, if NAFTA promotes overall economic growth in Mexico and new opportunities for employment arise in sectors other than agriculture, it could reduce migratory pressures on the U.S. border. Transition periods of up to 15 years for phasing in some provisions could provide enough time for both countries to adjust.

22. See Department of Agriculture, Office of Public Affairs, *Fact Sheets* (August 21, 1992): "The North American Free Trade Agreement: Agricultural Transportation"; "The North American Free Trade Agreement: Investments in Agriculture"; and "The North American Free Trade Agreement: Intellectual Property Protection."

23. For a review of several studies completed in advance of NAFTA, see Tim Josling, "NAFTA and Agriculture: A Review of the Economic Impacts," in Nora Lustig, Barry P. Bosworth, and Robert Z. Lawrence, eds., *North American Free Trade: Assessing the Impact* (Washington, D.C.: Brookings Institution, 1992), pp. 144-175. For evaluations completed after the release of the agreement, see Department of Agriculture, Office of Economics, *Preliminary Analysis of the Effects of the North American Free Trade Agreement on U.S. Agricultural Commodities*; and U.S. International Trade Commission, *Potential Impact on the U.S. Economy and Selected Industries.*

24. See Sherman Robinson and others, "Agricultural Policies and Migration in a U.S.-Mexico Free Trade Area: A Computable General Equilibrium Analysis," Working Paper 617 (University of California at Berkeley, Department of Agricultural and Resource Economics, December 1991); Levy and van Wijnbergen, "Mexican Agriculture in the Free Trade Agreement."

Although the emphasis of this analysis is on the effects of provisions for market access, there are many other factors that could influence trade in agriculture under NAFTA. For example, conditions in the macroeconomic environment could have an impact on competition in some markets. In particular, adjustments in the value of the Mexican peso could affect U.S.-Mexican trade. If the peso continues to appreciate in real (inflation-adjusted) terms, Mexican products could become less competitive in the United States. A recent analysis notes that the costs of production are similar for a number of horticultural commodities in Mexico and the United States; the analysts define "similar" as costs within a range of 10 percent.[25] For those commodities in which Mexico has only a slight advantage, a moderate appreciation of the peso could more than offset the difference in costs.

Several additional factors could affect whether the agreement brings the hoped-for benefits of freer trade to Mexico and the United States. In the short to medium term, U.S. standards for grading and marketing agricultural products, U.S. sanitary and phytosanitary requirements, and inadequate facilities for transportation and storage in Mexico could limit the growth that is expected in U.S.-Mexican trade.[26] Those constraints could be reduced or eliminated--through increases in investment and improvements in technology--in the medium to long term. Also to be considered over the long term are the effects of environmental conditions, such as the scarcity of water in some regions of Mexico, which could inhibit expansion.

Evaluating NAFTA's potential effects on trade in specific commodities requires attention to tariff rates, tariff-rate quotas, special safeguards, and transition periods. Those elements differ by commodity within the four categories of products that were considered earlier: grains, oilseeds, and dry edible beans; animals and animal products; fruits and vegetables; and other commodities (sugar, orange juice, peanuts, cotton, and tobacco).

Grains, Oilseeds, and Dry Edible Beans

U.S. exports of grains, oilseeds, and dry edible beans are expected to increase under NAFTA. As a percentage of current U.S. exports to Mexico, that increase could be substantial, but considering the relative size of the U.S. market, the gains for U.S. producers would probably be modest. (At present, U.S. exports to Mexico amount to less than 1 percent of U.S. production; overall demand for corn in Mexico amounts to about 8 percent of U.S. production.) Rising incomes in Mexico could also affect demand for U.S. products. If higher incomes lead to an increase in demand for animal-based proteins, demand for corn and dry edible beans as staple commodities could decline, but demand for grains and oilseeds as feed for livestock could increase.

Ongoing, unilateral changes in Mexico's domestic policies for agriculture could also play an important part in shaping demand for U.S. grains, oilseeds, and dry edible beans. Significant reforms have already occurred throughout the Mexican farm sector, but some forms of domestic intervention still influence decisions about the production and use of those commodities. For example, although Mexico has moved to a system of agreement prices for most major commodities, the government still guarantees the prices of corn and dry edible beans.[27] (An agreement price is set through

25. Sherman Robinson, Raúl Hinojosa-Ojeda, and Roberta Cook, "The Macroeconomic Implications of a North American Free Trade Agreement," in Colin Carter, Harold O. Carter, and Ray Coppock, eds., *North American Free Trade Agreement: Implications for California Agriculture* (Davis, Calif.: U.C. Agricultural Issues Center, July 1992), pp. 50-51.

26. General Accounting Office, *U.S.-Mexico Trade: Impact of Liberalization in the Agricultural Sector* (March 1991), pp. 34-35 and p. 40.

27. The guaranteed price of yellow corn in Mexico in 1991 was roughly double the average market price in the United States and substantially higher than the target price. For details of prices in Mexico, see Department of Agriculture, Economic Research Service, *Agriculture in a North American Free Trade Agreement*, p. 20.

negotiations among the Mexican government, producers, processors, and distributors, and typically is linked to world prices.) Moreover, Mexican law prohibits the use of corn as feed for livestock.[28] Because domestic intervention affects decisions about production and use, it also affects demand for imports. (NAFTA would not require that Mexico eliminate its domestic programs for agriculture, but the agreement would undermine remaining efforts to support domestic prices by removing barriers to trade and placing downward pressure on those prices.)

NAFTA specifies transition periods of 15 years for Mexican restrictions on imports of dry edible beans and corn, and 10 years for barley and malt, rice, soybeans, and wheat.[29] The agreement would immediately allow Mexican imports of sorghum from the United States to enter the country duty free; TRQs would apply to Mexican imports of barley and malt, dry edible beans, and corn (see Table 4-3). U.S. imports of dry edible beans and most grains and oilseeds from Mexico would also be given immediate duty-free status under the agreement. However, 10-year periods of transition are specified for U.S. import restrictions on rice and wheat.

Animals and Animal Products

NAFTA could stimulate demand for U.S. exports of animals and animal products to Mexico by giving U.S. exports a competitive advantage in Mexico relative to other nations. In addition, incomes in Mexico may rise as a result of NAFTA, which could generate an increase in demand for animal-based proteins. Although some of that demand could be met internally, particularly if the prices of the commodities used for feed in Mexico drop, U.S. producers would still benefit from the increase. Moreover, the agreement could promote two-way trade in some markets. For example, some analysts predict an increase in Mexican exports of feeder cattle to the United States and an increase in U.S. exports of beef products to Mexico.[30]

The proposed agreement would provide 10- and 15-year periods of transition for U.S. and Mexican import restrictions on some products in this category of trade. Ten-year TRQs would replace Mexican requirements for import licenses on U.S. poultry products, and 15-year TRQs would replace Mexican requirements for import licenses on U.S. milk powder. Special safeguards would apply to Mexican imports of swine for slaughter and some pork products. The quota restrictions now imposed by the United States on imports of Mexican dairy products under section 22 of the Agricultural Adjustment Act would be replaced with 10-year TRQs. The agreement would immediately eliminate U.S. tariffs on imports of Mexican cattle, other livestock, and meat products, and would exempt Mexico from potential quota restrictions under the U.S. Meat Import Act.

Despite the removal of the section 22 quota restrictions on U.S. imports of Mexican dairy products, most analysts agree that U.S. dairy producers would benefit from the agreement. At present, Mexico is a net importer of dairy products, importing large quantities from the EC, New Zealand, the United States, and Canada. Facing a shortage of productive capacity, the Mexican dairy sector lacks the technology and infrastructure to expand rapidly. Access to the U.S. market, as well as changes in domestic policies, could encourage some investment in and expansion of the sector over the

28. Despite the prohibition, some use of corn as feed for livestock generally occurs. Total use of corn in Mexico breaks down as 75 percent for human consumption, 12 percent for animal feed, 6 percent for industrial purposes, and 1 percent for seed (the balance is lost). See Department of Agriculture, Economic Research Service, *Agriculture in a North American Free Trade Agreement*, pp. 18-19.

29. The U.S.-Mexican agreement for market access sets up a tariff-rate quota for a combination of barley and malt (malted barley). NAFTA uses a conversion factor (700 kilograms of malt for each metric ton of barley) to define equivalent units of the two products.

30. Department of Agriculture, Economic Research Service, *Agriculture in a North American Free Trade Agreement*, pp. 64-65.

long term, but a dramatic change in Mexican exports to the United States is unlikely.

Fruits and Vegetables

Mexico's exports of fruits and vegetables to the United States could increase under NAFTA, and U.S. exports to Mexico of some fresh commodities--for example, apples, pears, peaches, and high-quality citrus--could also expand. As seasonal tariffs on U.S. imports of Mexican products are eliminated, some U.S. producers--particularly those who produce fresh winter crops that have overlapping seasons in Mexico--could face additional competition. (For example, with NAFTA, Mexican exports of cucumbers, peppers, squash, and tomatoes are expected to grow.) NAFTA is expected to promote Mexican exports of fruits and vegetables to the United States, but some of the pressure on U.S. producers (from Mexican competitors) could be relieved if NAFTA causes incomes in Mexico to rise and thus creates additional demand there for fresh fruits and vegetables.

Table 4-3.
Mexican Policies for Grains, Oilseeds, and Dry Edible Beans and Mexican Imports from the United States

	Corn	Sorghum	Wheat	Rice
Mexican Import Policies				
Current policies	License	Seasonal tariff: 15 percent (May 16-Dec. 15)	License and ordinary tariff: 10 percent	Ordinary tariff: 10 percent to 20 percent
NAFTA's immediate provisions for imports from the United States	Tariff-rate quota:[a] 2.5 mmt duty free[b]	Duty free	Ordinary tariff: 15 percent base[c]	Ordinary tariff: 10 percent to 20 percent base
	Over-quota tariff: $206 per mt or 215 percent base			
NAFTA's phaseouts	15 years	Immediate	10 years	10 years
Mexican Domestic Pricing Policies	Guarantee	Agreement[f]	Agreement	Agreement
Mexican Imports from the United States (By calendar year, in metric tons)				
1989	3,844,294	2,268,379	392,358	196,610
1990	3,486,369	2,899,982	357,944	119,520
1991	1,312,540	3,300,891	312,464	90,298

SOURCE: Congressional Budget Office based on the October 1992 draft of NAFTA and Department of Agriculture, Economic Research Service, *Foreign Agricultural Trade of the United States*, Calendar Year Supplements (1989-1991).

NOTE: mt = metric ton(s); mmt = million metric tons.

a. A tariff-rate quota entails the application of a higher tariff rate to imported goods after a specific quantity of the product has entered the country at a lower, or zero, tariff rate. The "specific quantity" is commonly referred to as the within-quota amount, and any imports above that amount are commonly referred to as over quota.

b. The duty-free amount would increase 3 percent each year, compounded.

In general, fruits and vegetables with growing seasons that overlap in the United States and Mexico have been granted lengthy phaseouts of restrictions on trade, some in the form of special safeguards. For example, 10-year periods would be used to phase out existing tariffs--some seasonal and some year-round--on U.S. imports of avocados, cauliflower and headed broccoli, celery, some citrus, lettuce, some melons, mushrooms, and frozen strawberries. Phaseouts of 15 years would apply to existing U.S. tariffs on asparagus, sprouting broccoli, cantaloupes and some other melons, cucumbers, dried garlic, and dried onions. Special safeguards would apply to U.S. imports of seven additional items (see Table 4-4).

Ten-year periods of transition would apply to existing tariffs--some seasonal and some year-round--on a similar list of Mexican imports from the United States. The list includes asparagus, avocados, cauliflower and broccoli, celery, cucumbers, dried garlic, grapefruit, lettuce, nectarines, dried and fresh onions, peaches, tomatoes, and watermelons and some

Table 4-3.
Continued

	Barley	Soybeans	Dry Edible Beans
Mexican Import Policies			
Current policies	License and ordinary tariff: 5 percent	Seasonal tariff: 15 percent (Aug. 1-Jan. 31)	License
NAFTA's immediate provisions for imports from the United States	Tariff-rate quota: 120,000 mt duty free (barley and malt)[d]	Seasonal tariff: 10 percent base (Oct. 1-Dec. 31)	Tariff-rate quota: 50,000 mt duty free[b]
	Over-quota tariff: $155 per mt or 128 percent base[e]		Over-quota tariff: $480 per mt or 139 percent base
NAFTA's phaseouts	10 years	10 years	15 years
Mexican Domestic Pricing Policies	Agreement	Agreement	Guarantee
Mexican Imports from the United States (By calendar year, in metric tons)			
1989	136,440[g]	978,861	90,119
1990	161,739	842,002	153,327
1991	52,913	1,481,433	38,000

c. The base tariff is the initial tariff specified by NAFTA. For example, the tariff on wheat would be reduced to zero from a base of 15 percent.

d. The duty-free amount is for barley and malt and is measured in barley-equivalent units. (The conversion factor is 700 kilograms of malt for each metric ton of barley.) The duty-free amount would increase 5 percent each year, compounded.

e. The over-quota tariff base of $155 per metric ton refers to barley-equivalent units; the ad valorem rate of 128 percent refers to the value of barley.

f. An agreement price is a price set through negotiations among the Mexican government, producers, processors, and distributors and typically is linked to world prices. Private traders must purchase the entire domestic harvest at the agreement price before purchasing imports.

g. These import figures (1989-1991) are for barley only.

Table 4-4.
Safeguards Under NAFTA for U.S. and Mexican Imports of Fruits and Vegetables: Tariff-Rate Quotas with 10-Year Periods of Transition

Commodity[a]	Current Tariff	Initial Within-Quota Amount (Metric tons)	Imports (Metric tons) 1989	1990	1991
U.S. Safeguards for Imports from Mexico					
Tomatoes (March 1 to May 14)	4.6 cents per kg	165,500	102,204	98,086	136,629
Tomatoes (November 15 to end of February)	3.3 cents per kg	172,300	153,779	172,930	135,264
Onions and Shallots (January 1 to April 30)	3.9 cents per kg	130,700	91,532	96,366	124,415
Eggplant (April 1 to June 30)	3.3 cents per kg	3,700	2,867	2,261	3,463
Chili Peppers (October 1 to July 31)	5.5 cents per kg	29,900	25,589	30,014	27,147
Squash (October 1 to June 30)	2.4 cents per kg	120,800	74,933	73,845	75,896
Watermelon (May 1 to September 30)	20 percent ad valorem	54,400	51,717	38,564	36,585
Mexican Safeguards for Imports from the United States					
Frozen Potatoes	15 percent ad valorem	1,800	140	349	810
Dried Potatoes	20 percent ad valorem	200	5	18	51
Fresh Apples	20 percent ad valorem	55,000	8,218	12,027	21,625
Frozen French Fries	20 percent ad valorem	3,100	832	2,075	3,509
Other Preserved Potatoes	20 percent ad valorem	5,400	501	5,102	999

SOURCE: Congressional Budget Office based on Department of Agriculture, Foreign Agricultural Service, *Horticultural Products Review* (September 1992), pp. 22-23; NAFTA; and the October 1992 draft of NAFTA.

NOTES: The Department of Agriculture cites the Department of Commerce, Bureau of the Census, as its source for trade information and states that some import figures are approximations. A tariff-rate quota entails the application of a higher tariff rate to imported goods after a specific quantity of the product has entered the country at a lower tariff rate. The "specific quantity" is commonly referred to as the within-quota amount, and any imports above that amount are commonly referred to as over quota. The within-quota amount would increase at a rate of 3 percent each year, compounded. The base tariff rate on the within-quota amount would equal the prevailing rate at the time the agreement took effect, but it would be reduced by a linear schedule over the 10-year period of transition. The tariff rate on over-quota imports would equal the prevailing tariff rate at the time the agreement took effect or the current most-favored-nation rate, whichever is lower. The tariff rate on over-quota imports would not be phased out but would be eliminated at the end of the 10-year transition.

kg = kilogram.

a. Dates in parentheses indicate the period during which the safeguard is in effect. Mexican safeguards are in effect year-round.

other melons. TRQs with 10-year phaseouts would replace Mexican requirements for import licenses on fresh potatoes, and ordinary tariffs with 10-year phaseouts would replace Mexican requirements for import licenses on table grapes. Special safeguards would apply to Mexican imports of five additional items (see Table 4-4).

Other Commodities: Sugar, Orange Juice, Cotton, Peanuts, and Tobacco

In the short term, Mexico would probably continue to import more sugar than it exports. In the medium to long term, however, Mexico could become a net surplus producer of sugar. (A net production surplus under NAFTA means the quantity by which a party's domestic production of sugar exceeds its total consumption of sugar during a marketing year. A net surplus producer is a party with a net production surplus.) The promise of access to the U.S. market could encourage investment and expansion, and changes in industrial practices could affect Mexico's demand for imports. For example, Mexico could eventually shift to alternative sweeteners--such as high-fructose corn syrup--in its domestic soft-drink industry. Based on trade and production data for the marketing year beginning November 1990, shifting to the high-fructose sweetener could free up as much as 1.3 million metric tons of sugar for other uses and would account for nearly all of Mexico's imports.[31] Such a shift, however, could take several years to complete.

31. For trade and production data, see Department of Agriculture, Economic Research Service, *Agriculture in a North American Free Trade Agreement*, pp. 149-150; and Department of Agriculture, Economic Research Service, *Sugar and Sweetener Situation and Outlook* (September 1992), p. 8.

Mexican exports of orange juice to the United States could increase under NAFTA, but the net effect on U.S. imports would be smaller than the change in Mexican shipments because some of those shipments would displace imports from Brazil and other non-NAFTA countries. Two-way trade in cotton and tobacco could expand under NAFTA, but large changes in trade are not expected. For tobacco, Mexican imports of high-quality U.S. leaf could increase, as could U.S. imports of filler-quality Mexican leaf. Little change is expected in U.S.-Mexican peanut trade, but some concerns have been expressed that U.S. producers will market "excess" peanuts in Mexico (those that are not eligible for price supports in the United States) and that the peanuts will return to the United States as processed products. If the special rules of origin for peanuts and peanut products under NAFTA were strictly enforced, they would prevent such "circular" shipments (see Box 4-2 on page 72).

NAFTA specifies 15-year periods of transition for U.S. and Mexican import restrictions on sugar and orange juice, and 10-year periods of transition for cotton and tobacco. The agreement also specifies a 15-year period of transition for U.S. restrictions on imports of peanuts. (Peanuts are not subject to import restrictions in Mexico.) For sugar, the United States would phase out its TRQ on imports from Mexico, and Mexico would eventually eliminate its variable levy on imports from the United States. (Mexico would also reduce its tariff on imports of high-fructose corn syrup over 10 years.)

For orange juice, the provisions are somewhat different from those for other commodities (see Table 4-5). The United States and Mexico would replace existing tariffs with TRQs of identical structure but different magnitude. The within-quota amounts for those TRQs would not increase during the 15-year periods of transition. For cotton and peanuts, the United States would replace quota restrictions under section 22 with TRQs, and for cotton, Mexico would gradually eliminate its current tariffs. For tobacco, the United States

would phase out its existing tariffs, and Mexico would replace its requirements for import licenses with ordinary tariffs.

NAFTA's provisions for trade in sugar depend on Mexico's export status (see Table 4-6). If Mexico were to become a net surplus producer of sugar for two consecutive years during the 15-year period of transition, it would gain additional access to the U.S. market. If Mexico were to remain a net deficit producer during the 15-year transition, it would retain its first-tier quota allocation (under the current TRQ system) until the end of the transition. Regardless of its export status, Mexico would establish border protection equal to that of the United States for imports of sugar from the rest of the world by the end of the sixth year of the transition.

Exports of refined sugar to Mexico under the U.S. Refined Sugar Reexport Program would be exempt from NAFTA provisions restricting drawback and duty-deferral programs. The reexport program would remain in place under NAFTA, but refined sugar shipped to Mexico under the program would be subject to most-favored-nation duties rather than receive preferential treatment.

Table 4-5.
NAFTA's Provisions for U.S. and Mexican Imports of Orange Juice: Tariff-Rate Quotas with 15-Year Periods of Transition

Commodity	Current Tariff	Within-Quota Tariff[a] (Cents per liter)	Over-Quota Tariff (Cents per liter)	Within-Quota Amount (1,000 liters)	Imports (1,000 liters) 1989	1990	1991
			Frozen-Concentrate Orange Juice[a]				
U.S. Imports from Mexico	9.25 cents per liter	4.625	9.25	151,416	136,829	169,659	176,026
Mexican Imports from United States	20 percent ad valorem	4.625	9.25	735	15	1,660	379
			Single-Strength Orange Juice				
U.S. Imports from Mexico	5.3 cents per liter	2.650	5.30	15,380	28,371	53,090	10,815
Mexican Imports from United States	20 percent ad valorem	2.650	5.30	130	0	122	339

SOURCE: Congressional Budget Office based on NAFTA, the October 1992 draft of NAFTA, and information from the Department of Agriculture's Foreign Agricultural Service.

NOTE: A tariff-rate quota entails the application of a higher tariff rate to imported goods after a specific quantity of the product has entered the country at a lower tariff rate. The "specific quantity" is commonly referred to as the within-quota amount, and any imports above that amount are commonly referred to as over quota. The within-quota tariffs would be in effect (and constant) until the within-quota tariffs and the over-quota tariffs intersect; they would then be reduced linearly. The over-quota tariff on frozen-concentrate orange juice is the current most-favored-nation rate reduced by 15 percent over six years (to 7.8625 cents per liter), held constant for four years, and reduced linearly for the remaining five years. The over-quota tariff on single-strength orange juice is the current most-favored-nation rate reduced linearly over the 15-year period of transition. The within-quota amounts would not increase during that time.

a. Measured in liters of single-strength equivalent.

How NAFTA Might Affect the Cost of the U.S. Farm Program and Receipts from Tariffs

NAFTA could affect the cost of supports for the U.S. farm sector. In particular, it could influence the cost of domestic programs for grains, oilseeds, and dairy products, as well as the cost of programs to promote U.S. exports. Moreover, the agreement would eventually eliminate collections of revenue from import tariffs on Mexican agricultural products.

NAFTA would probably have a small net effect on the cost of U.S. commodity programs. If exports of grains, oilseeds, and related products rise, the cost of U.S. programs of support for those commodities could fall, but any such drop would depend on the Secretary of Agriculture's use of discretionary policy mechanisms--in particular, whether the Secretary lowers the acreage reduction requirements for

Table 4-6.
NAFTA's Provisions for U.S. Imports of Sugar and Syrup Goods from Mexico

	Within-Quota Amount[b] (Metric tons)		
Marketing Year[a]	If Net Deficit Producer	If Net Surplus Producer	Over-Quota Tariff (Cents per pound)
Base	7,258[c]	25,000 maximum[d]	16.0
1	7,258	25,000 maximum	15.6
2	7,258	25,000 maximum	15.2
3	7,258	25,000 maximum	14.8
4	7,258	25,000 maximum	14.4
5	7,258	25,000 maximum	14.0
6	7,258	25,000 maximum	13.6
7	7,258	150,000[e]	12.1
8	7,258	165,000	10.6
9	7,258	181,500	9.1
10	7,258	199,650	7.6
11	7,258	219,615	6.0
12	7,258	241,577	4.5
13	7,258	265,734	3.0
14	7,258	292,308	1.5
15	n.a.	n.a.	0

SOURCE: Congressional Budget Office based on NAFTA, Annex 703.2, paragraphs 13 through 22.

NOTE: n.a. = not applicable.

a. The North American Free Trade Agreement defines the marketing year for sugar as October 1 through September 30. If the agreement enters into force on January 1, 1994, the first marketing year of the agreement would begin October 1, 1994.

b. Based on projections as of July 1. "Net surplus producer" refers to sugar and syrup goods; it does not refer to nonsugar sweeteners. Within-quota amounts enter the U.S. market duty free; sugar entering the U.S. market under the Refined Sugar Reexport Program does not count toward the within-quota amount. (See Annex 703.2, paragraphs 13 and 22, of NAFTA.)

c. From Annex 703.2, paragraph 14, of NAFTA: "Each Party shall accord duty-free treatment to a quantity of sugar and syrup goods that are qualifying goods not less than the greatest of (a) 7,258 metric tons raw value; (b) the quota allocated by the United States for a non-Party within the category designated other specified countries and areas. . . ;" or (c) the other party's projected net production surplus for that marketing year subject to the limits outlined below in notes d and e.

d. From Annex 703.2, paragraph 15, of NAFTA: "The duty-free quantity of sugar and syrup goods under paragraph 14(c) shall not exceed the following ceilings: (a) for the first six marketing years, 25,000 metric tons, raw value; (b) for the seventh marketing year, 150,000 metric tons, raw value; and (c) for each of the eighth through 14th marketing years, 110 percent of the previous marketing year's ceiling."

e. From Annex 703.2, paragraph 16, of NAFTA: Beginning with the seventh marketing year, the ceiling described in paragraph 15 shall not apply where "the Parties have determined the exporting party to be a net surplus producer (a) for any two consecutive marketing years beginning after the date of entry into force of the agreement; (b) for the previous and current marketing years; or (c) in the current marketing year and projected it to be a net surplus producer in the next marketing year, unless subsequently the Parties determine that, contrary to the projection, the exporting Party was not a net surplus producer for that year."

those commodities.[32] Moreover, the cost of the U.S. dairy program could fall if an increase in exports to Mexico caused a decrease in purchases of surplus dairy products by the U.S. government or a reduction in the surplus stocks that it holds.

In addition to the commodity programs, NAFTA could affect the cost of programs to promote exports of U.S. farm products--for example, the GSM-102 export guarantee program. This program, which offers guarantees backed by the U.S. government on loans with repayment periods of up to three years, currently plays a significant role in U.S.-Mexican trade. Mexico is one of the single largest participants in the GSM-102 program. In fiscal year 1991, Mexico ranked second behind the former Soviet Union as a recipient of GSM-102 guarantees, accounting for $1.1 billion, or almost one-fourth of the total program. (The "total program" and all allocations refer to approved guarantees.) Of the $1.1 billion, $164 million, $278 million, and $338 million were allocated to corn, coarse grains other than corn (barley, sorghum, and oats), and oilseeds, respectively. Those allocations accounted for more than one-third of the value of Mexico's purchases of U.S. farm products in fiscal year 1991 and almost 80 percent of its purchases of U.S. corn.

In the short to medium term, Mexico could use the GSM-102 program to finance a substantial portion of its agricultural purchases from U.S. suppliers. If Mexican imports of U.S. grains, oilseeds, dry edible beans, and animal products increase under NAFTA, Mexico's participation in the GSM program could also increase. The net cost of the increase could equal the subsidy associated with the additional guarantees, but it would depend on adjustments made elsewhere in the GSM program. (The "subsidy" is the expected cost of the guarantee. It is estimated by using the net present value of expected defaults and eventual repayments.)

The effect on the federal budget of an increase in Mexico's participation in the GSM program would depend on changes in both the size of the total program and the distribution of allocations by country. If the size of the overall GSM program remains the same--that is, if allocations to other countries are reduced--the net effect on the budget could be zero, depending on the relative riskiness of the remaining portfolio. But even if the size of the program remains constant, its cost could change if the additional guarantees extended to Mexico carried a different rate of subsidy from the rate for the reduced guarantees. The expected cost of extending export credit guarantees to Mexico is small: for each increase of $100 million in GSM-102 allocations with no decreases or reallocations elsewhere, the cost of the program would increase by less than $5 million.

After 15 years, the United States would no longer collect revenue from tariffs on imports of Mexican farm products. During the NAFTA transition period, tariffs would be collected for some products at reduced rates, but the reduction in tariff rates could generate an offsetting increase in the demand for imports. As a rough approximation, the United States could use current collections of tariffs to estimate the long-term effect of the agreement on tariff revenue. In 1991, Mexico's exports of agricultural products to the United States accounted for about $140 million in tariff revenue--approximately 25 percent of all tariffs collected on Mexican exports to the United States.[33] Tariffs collected on Mexico's exports of vegetables, nuts, and fruits amounted to about $95 million of the total, accounting for about 68 percent of the tariffs collected on all of Mexico's exports of agricultural products. Tariffs collected on Mexico's exports of prepared or preserved food amounted to about $36 million, accounting for another 26 percent of the total.

32. For further details of the acreage reduction program, see Congressional Budget Office, *The Outlook for Farm Commodity Program Spending, Fiscal Years 1992-1997* (June 1992), pp. 10-11.

33. The total amount ($140 million) does not include tariffs collected on imports of leather goods and fur ($10 million) or wood products ($2 million).

Chapter Five

Workers Displaced by NAFTA

Many workers in the United States worry that the implementation of the North American Free Trade Agreement could cost them their jobs. Permanent loss of a job--referred to as "displacement" or "dislocation"--can be costly to the worker involved. It often takes many months to find another job, and that job might not be as good as the one lost. Workers who thought there was a chance that NAFTA could lead to their displacement might oppose the agreement, even if they thought that chance was small. One way of reducing the costs to these workers, and thereby mitigating their concerns, is to provide them with temporary income support and help in finding new employment.

Currently, the main public source of income support for workers who lose their jobs is unemployment insurance. This program generally provides up to 26 weeks of cash benefits to experienced workers who lose their jobs, whether or not the loss is permanent. In addition, the Economic Dislocation and Worker Adjustment Assistance program provides federal funds for training and related employment services to help displaced workers get new jobs. Workers who are displaced because of increased imports may be eligible for additional cash benefits, training, and related services through the Trade Adjustment Assistance program.

Key issues for the 103rd Congress to address when it considers NAFTA are the number of workers that would be displaced because of the agreement and whether the existing programs for helping displaced workers are sufficient to meet their needs. As background for Congressional deliberations, this chapter reviews the information available about the potential effects of NAFTA on displacement in the United States, the experiences of workers who lost their jobs during the 1980s, and the programs available to help displaced workers. The main findings are these:

- Implementing NAFTA would cause some U.S. workers to lose their jobs, with the total number likely to be substantially less than half a million, spread over at least a decade. Viewed as part of a larger, dynamic labor market in which nearly 20 million workers were displaced during the 1980s, the effects of NAFTA would be relatively small.

- The consequences for some of the workers who lost their jobs would be considerable, however, if the losses incurred by workers displaced during the 1980s are used as a guide. For example, half of the workers displaced then either were not working or were making less than 80 percent of their previous earnings one to three years later.

- Workers displaced because of NAFTA could have greater-than-average difficulty finding new jobs to the extent that they were less skilled than the average displaced worker. But the differences in outcomes are likely to be small.

- Existing programs--particularly unemployment insurance--would provide a basic safety net, but many of the dis-

placed workers would run out of benefits before finding new jobs.

NAFTA and the U.S. Labor Market

In considering NAFTA's potential impact on the U.S. labor market, it is useful to distinguish three types of effects. First, implementing the agreement could increase or decrease the total number of job opportunities for U.S. workers and raise or lower the average wage. Most economists who have tried to estimate the effects of NAFTA believe that these overall impacts would be positive but small.

Second, regardless of the magnitude of the overall impacts, the implementation of NAFTA could redistribute job opportunities and wages. Employment opportunities in some industries, such as industrial machinery, might increase because of the agreement, and opportunities in other industries, such as apparel, might fall. Likewise, workers with certain characteristics might gain job opportunities or higher wages, and others might lose. For example, some workers with a college degree might be better off as a result of NAFTA, whereas workers with less than 12 years of education either might not gain as much or might be worse off.

Third, the implementation of NAFTA could cause some U.S. workers to be displaced--that is, to lose their jobs because their employers went out of business, moved, or cut the size of their work force--even though other workers (and consumers) would gain by the new opportunities provided through increased trade. The number of workers displaced could be larger or smaller than the net number of jobs lost in the industries adversely affected by NAFTA, as will be discussed below.

In considering each of these potential effects, care must be taken to distinguish between the likely impact of NAFTA and what would occur anyway in the absence of an agreement. This distinction is particularly important because many of the feared consequences of NAFTA would be the continuation of phenomena that are already occurring. For example, the average real wage of workers without a high school diploma has been declining for many years, as has the number of workers employed in the apparel industry and in other industries that have voiced concern about NAFTA. The issue is whether--and to what extent--NAFTA would exacerbate these problems.

Overall Effects

Implementing NAFTA would probably expand total employment in the United States in the short run as increased exports to Mexico raised the demand for labor. Net gains ranging from 35,000 jobs to 170,000 jobs have been forecast.[1] But most analyses of the potential impact of NAFTA have either assumed that the agreement would have no long-term effect on total employment or have concluded that it would increase the total number of jobs by a modest amount. With almost 120 million people currently employed, NAFTA's expected contribution to total employment is negligible.

Larger impacts are expected for certain sectors of the economy than for the economy as a whole; employment is expected to increase in some industries as a result of NAFTA and to decrease in others. The study that estimated a net gain of 170,000 jobs, for example, forecast that the industries whose employment would increase because of NAFTA would gain about 320,000 jobs, and the industries whose employment would decrease because of NAFTA would lose almost 150,000 jobs.[2]

1. U.S. International Trade Commission, *Potential Impact on the U.S. Economy and Selected Industries of the North American Free-Trade Agreement*, USITC Publication 2596 (January 1993), p. 2-5.

2. Gary Clyde Hufbauer and Jeffrey J. Schott, *NAFTA: An Assessment* (Washington, D.C.: Institute for International Economics, February 1993), pp. 14-22.

Overall, most estimates of the number of jobs that would be lost in industries adversely affected by NAFTA are less than 200,000 jobs spread over a decade or more.[3] Although one analysis estimated that between 300,000 and 500,000 jobs would be lost, that study's estimates appear to be derived from highly questionable assumptions.[4]

Considerable concern has been raised about NAFTA's potential impact on the wages of U.S. workers, especially those with limited education. Workers in Mexico are paid much less than workers in the United States. The fear is that reduced barriers to trade and investment between the two countries would reduce the wages of those U.S. workers whose skills can most easily be duplicated by Mexican workers. A related concern is that disruptions in the Mexican agricultural sector could lead to increased immigration of unskilled Mexican workers north of the border, also depressing U.S. wages.

In fact, most of the economists who have analyzed the potential effects of NAFTA conclude that the average wage of U.S. workers should increase as a result of the agreement.[5] If NAFTA is successful in stimulating investment in Mexico and in reallocating resources on the North American continent in ways that will increase the efficiency of workers in the United States (as well as in Mexico and Canada), then U.S. workers should benefit. These gains would show up, at least in the long run, in higher wages. But the increase in the average wage rate forecast by the models has typically been well under 0.5 percent.[6]

NAFTA might have a negative effect on the wages of some groups of workers, however. Estimates from the economic models that attempt to forecast wage effects by area or industry are difficult to compare. For example, one study estimated that NAFTA would decrease the average wages of rural workers and urban unskilled workers by about 1.5 percent, but would increase those of skilled and white-collar workers by 0.1 percent. Another study estimated that the average pay of high-wage manufacturing workers would decline by about 1 percent, whereas that of low-wage service workers would increase by over 2 percent. A third study estimated that rural workers would lose, but other workers would gain.[7]

3. See Congressional Budget Office, "Estimating the Effects of NAFTA: An Assessment of the Economic Models and Other Empirical Studies," CBO Paper (June 1993). In addition, a study by Robert M. Stern, Alan V. Deardorff, and Drusilla K. Brown estimated that a trade agreement with Mexico that eliminated bilateral tariffs and expanded foreign direct investment in Mexico would eliminate about 75,000 jobs in the adversely affected industries; see "A U.S.-Mexico-Canada Free Trade Agreement: Sectoral Employment Effects and Regional/Occupational Employment Realignments in the United States," in National Commission for Employment Policy, *The Employment Effects of the North American Free Trade Agreement: Recommendations and Background Studies*, Special Report No. 33 (October 1992).

4. Timothy Koechlin and Mehrene Larudee, "The High Cost of NAFTA," *Challenge* (September-October 1992), pp. 19-26. The authors assume that the additional investment in Mexico by the United States would reduce total investment in the United States by the same amount and that the U.S. capital-to-labor ratio would not fall, so that employment would necessarily decline. This assumption is criticized by Raúl Hinojosa-Ojeda and Sherman Robinson, "Labor Issues in a North American Free Trade Area," in Nora Lustig, Barry P. Bosworth, and Robert Z. Lawrence, eds., *North American Free Trade: Assessing the Impact* (Washington, D.C.: Brookings Institution, 1992), pp. 84-85; and by Hufbauer and Schott, *NAFTA: An Assessment*, p. 19.

5. These studies have recently been reviewed in Congressional Budget Office, "Estimating the Effects of NAFTA," and in U.S. International Trade Commission, *Potential Impact on the U.S. Economy and Selected Industries*. Similarly, a survey of research on labor issues related to NAFTA by Hinojosa-Ojeda and Robinson in 1992 concluded: "At the aggregate level, the effect on wages, profits, employment, and investment in the United States will be tiny, much smaller than the year-to-year fluctuations typically observed historically." See "Labor Issues in a North American Free Trade Area," p. 97.

6. The U.S. International Trade Commission survey, for example, reported estimates ranging from less than 0.1 percent to 0.3 percent; see *Potential Impact on the U.S. Economy and Selected Industries*, p. 2-4.

7. These results are examined in Congressional Budget Office, "Estimating the Effects of NAFTA." The U.S. International Trade Commission, in its recent report, concluded: "Although the evidence on the direction of wage effects for low-skilled and high-skilled U.S. workers is mixed, the preponderance of evidence indicates an almost indiscernible effect on U.S. wage rates for both low-skilled and high-skilled groups." See *Potential Impact on the U.S. Economy and Selected Industries*, p. 2-6.

Although the focus of this chapter is on the potential effects of NAFTA on U.S. workers, not workers in Mexico, the two are not entirely separable. As in the United States, the implementation of NAFTA would produce winners and losers among Mexican workers. Increases in job opportunities and wages in Mexico because of NAFTA could reduce the incentive to migrate to (or remain in) the United States. Conversely, disruptions in some parts of the Mexican economy could increase the incentive for people in the affected sectors to leave. As discussed in Chapter 4, large employment losses could occur in Mexico's agricultural sector because of increased imports of U.S. corn.[8] A large increase in the number of Mexican workers seeking jobs in the United States--presumably unlawfully--could reduce wages here, particularly for jobs in which few skills are needed.

Effects on Specific Industries

As discussed in Chapter 3, empirical studies of NAFTA confirm the commonsense notion that the U.S. industries likely to be hurt the most or helped the least are ones that are now protected by tariffs and quotas and ones that use a large amount of unskilled labor relative to skilled labor and capital. But many of the studies lack sufficiently detailed information to estimate which industries would be most affected. Moreover, the studies that do make industry-specific forecasts often do not agree on which industries would be most affected or even, in some cases, on whether the impact would be positive or negative.

The apparel industry is one sector in which employment is widely expected to decline as a result of implementing NAFTA, although even this prospect is not universally accepted. Employment in the apparel industry has dropped by over 25 percent since 1973 and probably would continue to fall in the absence of NAFTA's implementation. The issue is whether (and by how much) NAFTA would accelerate this fall. One study estimates that the agreement would reduce employment in the apparel industry by 1.2 percent, whereas another study forecasts a 0.4 percent reduction, and yet another forecasts a gain of 0.4 percent.[9] On a base of about 1 million apparel workers, these forecasts translate into changes in employment of no more than 12,000 jobs.[10]

Other industries in which NAFTA is expected to reduce employment, according to one or more models, include such diverse sectors as glass products, sugar, fruits and vegetables, and TV, radio, and phonographs. Generally, the job losses (as well as the gains forecast in other industries) are under 1 percent of each industry's employment level in the absence of NAFTA.

The Number of Workers Displaced by NAFTA

The basis for forecasting the number of job losses associated with NAFTA is quite weak, as the preceding discussion indicates. Perhaps 100,000 to 200,000 jobs lost would be a reasonable range, but considerable skepticism is warranted. Moreover, such estimates--even if they accurately forecast the industry-by-industry effects of NAFTA on employment--could either underestimate or overestimate the number of workers who would actually be displaced.

They would underestimate the effects to the extent that NAFTA caused any reshuffling of employment *within* an industry (that is, some companies laying off workers and other com-

8. See also Congressional Budget Office, "Agriculture in the North American Free Trade Agreement," CBO Paper (May 1993).

9. Congressional Budget Office, "Estimating the Effects of NAFTA," Appendix B.

10. The U.S. International Trade Commission's recent report on NAFTA notes that "Most of the expected decline in U.S. apparel output and employment will likely occur among smaller firms, especially contractors." See *Potential Impact on the U.S. Economy and Selected Industries*, p. 8-9.

panies in the same industry hiring them). This result could occur even in an industry in which total employment increased because of NAFTA. None of the models used to project the effects of NAFTA on an industry-by-industry basis is able to estimate company-by-company and plant-by-plant impacts.

The automobile industry is one example of a sector in which the trade agreement could lead one part of an industry to expand while causing another to contract. Most models of NAFTA estimate that it would increase U.S. employment in the motor vehicle industry as a whole. But it is certainly conceivable that the increased links between Mexico and the United States from NAFTA would result in some restructuring of the industry. The recent U.S. International Trade Commission report on the agreement concludes, for example, that NAFTA would probably increase employment in the auto parts industry, but decrease employment in automobile production.[11]

Industry-based estimates would overstate the number of workers who would be displaced to the extent that reductions in employment were achieved by attrition or other voluntary means rather than through involuntary separations. A reduction in the number of workers hired and an offer of incentives for early retirement, for example, can reduce the need for layoffs. Such voluntary measures are more achievable, though, if there is a long adjustment period rather than an abrupt one. A firm that suddenly loses its major customer and goes out of business cannot be expected to reduce employment through attrition.

The numerous transition provisions in the trade agreement should serve to reduce the number of displaced workers relative to what it would have been without such provisions, even though they might not affect the long-term employment levels reached. In some cases, reductions in trade barriers would be phased in over 10 to 15 years.

In sum, despite all of the analyses that have been conducted on various aspects of NAFTA, good information for answering the question "How many workers would be displaced if NAFTA were implemented?" simply does not exist. These analyses do suggest, however, that the number would be quite small compared with the size of the U.S. labor force, the number of workers displaced during the past decade, and even the number of jobs in the affected industries.

Even if the number of workers displaced because of NAFTA were twice the high end of the range of job losses given above, that would still be less than 400,000 losses in an economy with nearly 120 million jobs. By way of comparison, total employment in the United States normally increases by more than four times this number each year. Also, as discussed in the next section, these losses would be a small proportion of the number of workers displaced for all reasons.

Lessons from the Experiences of Workers Displaced in the 1980s

Permanent job loss is a familiar occurrence to millions of U.S. families. From 1981 through 1990, an average of 2 million U.S. workers per year lost full-time jobs and were not recalled by their former employers. The experiences of these displaced workers provide some insights into the difficulties that workers displaced because of NAFTA might encounter and into what assistance they might need.[12]

11. Ibid., pp. 4-18, 4-19.

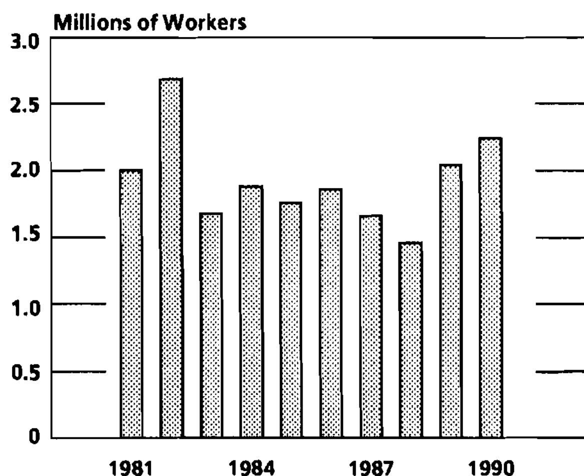
12. Most of the findings reported in this section are drawn from Congressional Budget Office, *Displaced Workers: Trends in the 1980s and Implications for the Future* (February 1993). The data and methods that underlie these estimates are described in that study.

How Common Is Displacement?

Workers lose jobs virtually every day as part of the normal operation of the economy, as employers go out of business, move, downsize, or reorganize. During the 1980s, the annual number of displaced workers generally mirrored the overall state of the economy. The number ranged from a high of 2.7 million workers displaced in the weak labor market of 1982 to a low of 1.5 million in the relatively strong labor market of 1988 (see Figure 5-1). Workers in the service sector accounted for an increasing share of displaced workers during the decade, reflecting this sector's increasing share of the nation's total employment and these workers' increased risk of being displaced. On the whole, however, workers in service industries remained much less likely to be displaced than workers in goods-producing industries.

The characteristics of displaced workers were remarkably stable during the 1980s, despite a wide swing in the business cycle, changes in the industrial composition of displacement, and changes in a broad array of government policies. For example, throughout the decade, slightly more than 20 percent of all displaced workers were aged 45 or older, 60 percent were male, and about 50 percent had been with their previous employer for at least three years.[13] The percentage of displaced workers with schooling beyond high school grew from about 30 percent to 40 percent, though, mirroring the increased educational attainment of the work force as a whole.

Figure 5-1.
Number of Displaced Workers, by Year of Job Loss, 1981-1990



SOURCE: Congressional Budget Office tabulations of data from the January 1984, 1986, 1988, 1990, and 1992 Current Population Surveys.

Regardless of whether NAFTA is ratified, the number of workers who will be displaced during the next few years may be somewhat larger than the number displaced in the late 1980s, because the economy is likely to be weaker and defense-related employment is expected to keep shrinking. The Congressional Budget Office forecasts a gradual economic recovery, with the unemployment rate falling from 7.4 percent in 1992 to 6.0 percent in 1996. The latter rate would still be one-half of one percentage point above the unemployment rate in 1990, the final year of the 10-year period examined in CBO's study. Moreover, the downsizing of the defense sector that began in the late 1980s is expected to continue, with that sector projected to lose more than 1 million jobs during the next five years.

How Many Displaced Workers Incur Substantial Losses?

Although some of the workers displaced during the 1980s found new jobs with little trouble, others experienced substantial difficulties. This finding is based on three measures

13. Most analyses of displaced workers have focused on workers who had been with their employer for at least three years (half of the 19.2 million workers who reported being displaced between 1981 and 1990). The Congressional Budget Office's analysis uses a broader definition, in part because the events that create interest in displacement--such as NAFTA--are often couched in terms of the number of workers who would lose their jobs, not just the number who had been with their employer for at least three years.

    It could be argued that workers who had been with their employer for less than one year should not be counted as displaced. This group makes up a small portion (only one-sixth) of all workers displaced during the 1980s.

used by CBO to examine the consequences of displacement, each based on survey questions asked of displaced workers one to three years after they lost their jobs:[14]

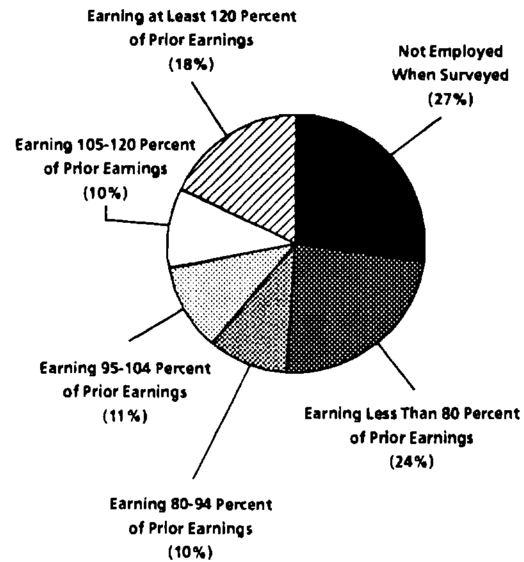
- o whether or not they were employed at the time of the survey;
- o how long they had been jobless; and,
- o the earnings of the reemployed workers in their new jobs relative to their previous earnings.

One to three years after being displaced, half of the workers who lost jobs over the past decade either were not working or had new jobs with weekly earnings that were less than 80 percent of their old earnings (see Figure 5-2). In contrast, more than a quarter of the displaced workers were reemployed and earning at least 5 percent more than their previous weekly earnings; nearly one in five was earning at least 20 percent more.

Moreover, the vast majority of displaced workers who had found new employment experienced some period of joblessness after displacement. Many were without work for a substantial period of time. The average duration of joblessness for people reemployed at the time of the survey was just under 20 weeks. The reemployed workers who had incurred the biggest wage reductions, on average, also had taken the longest time to find new jobs. For instance, those whose earnings had declined by more than 20 percent had been jobless for an average of 26 weeks, whereas those whose earnings had increased by at least 20 percent were jobless an average of 14 weeks.

The state of the economy had an important influence on the extent of joblessness after displacement. It did not appear, however, to affect the proportion of reemployed workers who

Figure 5-2.
Earnings of Workers Displaced in the 1980s One to Three Years After Losing Their Jobs



SOURCE: Congressional Budget Office tabulations of data from the January 1984, 1986, 1988, 1990, and 1992 Current Population Surveys.

incurred large losses in their earnings. The average duration of joblessness fell from almost 30 weeks in 1981 (during a recession) to 15 weeks in 1988. But the percentage of reemployed workers whose earnings had fallen by at least 20 percent was not substantially higher in 1981 than in 1988.

The displaced workers who incurred the largest losses were disproportionately those who were least well educated, oldest, and had the longest tenure with their previous employer. In fact, these groups were far less likely than other displaced workers to be working at all at the time of the survey. For example, less than 60 percent of the displaced workers without a high school diploma had found new jobs, compared with more than 70 percent of the displaced workers who had completed exactly 12 years of schooling and almost 90 percent of those who were college graduates.

Likewise, the less-educated, older, and longer-tenured workers who did find new jobs

14. The questions were part of supplements to the Current Population Survey, a monthly survey of approximately 60,000 households administered by the Census Bureau for the Bureau of Labor Statistics. CBO used data from the January 1984, 1986, 1988, 1990, and 1992 supplements.

generally took longer to find them and were more likely to incur substantial wage reductions than were other displaced workers. For example, reemployed workers who had not completed high school were jobless for an average of 39 weeks, and two in five of them incurred an earnings loss of more than 20 percent. By contrast, reemployed workers with at least 16 years of education were jobless an average of 22 weeks, and only one in four of them incurred so large a wage loss.

Although workers' outcomes after displacement varied over the business cycle, the relationships between workers' characteristics and their likelihood of employment difficulties were quite stable. That is, the kinds of workers who were jobless longer in bad years were also jobless longer in good years, and similar workers incurred substantial losses in earnings in both good and bad years.

Would Workers Displaced Because of NAFTA Fare the Same as Other Displaced Workers?

As with other displaced workers, many who lost their jobs because of NAFTA would probably find comparable new jobs in less than a month, though others would not be as fortunate. An issue that has been raised, however, is whether workers displaced because of NAFTA would be expected to have greater-than-average difficulty finding new jobs. The answer is a qualified yes, based on the characteristics of the workers thought to be most at risk. However, the experiences of displaced apparel workers, discussed below, illustrate the uncertainty of this finding.

The main basis for expecting that workers displaced because of NAFTA would, as a group, fare somewhat worse is that they are likely to have less education, on average, than the typical displaced worker. Trade theory suggests that unskilled workers in the United States (many of whom have limited education) would be the most vulnerable, and highly skilled workers the least vulnerable, to being displaced.[15] In addition, workers in certain industries--notably apparel--are thought to be especially at risk because the United States has maintained substantial tariffs and other barriers to foreign competition in those industries. If the barriers were removed, U.S. apparel manufacturers, for example, might be inclined to move more of their production to Mexico and export their products to the United States.

But the experiences of the half-million apparel workers displaced during the 1980s show the uncertainty of any predictions about the adverse effects of NAFTA on low-wage workers in the United States.[16] Many of the characteristics of these displaced workers are usually associated with above-average difficulty finding new jobs. In particular, the apparel workers were twice as likely as the average displaced worker to have less than 12 years of schooling, and a far higher proportion of them were female (see Table 5-1). Moreover, somewhat higher proportions of them were 45 or older and had worked for their former employer for at least 10 years. Each of these characteristics is associated with a below-average likelihood of being reemployed one to three years after displacement, with taking longer to find a new job, and with earning at least 20 percent less in a new job.

15. Hufbauer and Schott, however, point out that this conventional wisdom is not supported by data on the recent composition of trade between Mexico and the United States. Overall, they find no evidence that imports from Mexico have disproportionately displaced low-skilled jobs or that exports to Mexico have generally supported high-skilled jobs. They estimate that the median weekly wages associated with imports from Mexico and exports to Mexico were nearly identical in 1990. See Hufbauer and Schott, *NAFTA: An Assessment*, p. 21.

16. The half-million estimate is based on CBO's analysis of data from the Current Population Survey, using the same methods as CBO's analysis of all displaced workers. The estimated number of displaced workers in the apparel industry is more than double the net decline in employment from 1980 through 1990 (about 200,000), probably reflecting changes within the industry as some firms contracted and others grew.

Although the displaced apparel workers did, on average, have more trouble finding new jobs than other displaced workers, the differences were not very large. In particular, slightly fewer were employed when surveyed (67 percent of the displaced apparel workers compared with 73 percent of all displaced workers), and those who were working again took only a little longer to find new jobs (21 weeks versus 19 weeks).

Moreover, only about one-quarter of the former apparel workers who found new jobs saw a substantial drop in their weekly earnings, compared with one-third of all workers who found new jobs. Based on their characteristics--particularly their relatively low educational attainment and the high proportion of women in the group--the differences in reemployment rates and weeks without work are surprisingly small, and the difference in the

Table 5-1.
Selected Characteristics and Experiences of Workers Displaced in the 1980s, by Industry (In percent)

	All Industries	Apparel	Motor Vehicles
Number Displaced (Thousands)	19,230	540	410
Characteristics of Displaced Workers			
Schooling Completed			
Less than 12 years	19	37	17
12 years	44	50	49
13 or more years	37	14	34
Sex			
Male	63	18	75
Female	37	82	25
Job Tenure			
Less than 3 years	50	43	33
3 to 4 years	16	13	15
5 to 9 years	17	21	16
10 or more years	16	24	35
Age			
18 to 44	78	71	75
45 or older	22	29	25
Experiences Following Displacement			
Percentage Employed 1 to 3 Years After Being Displaced	73	67	69
Average Duration of Joblessness Among Those Reemployed (Weeks)	19	21	30
Percentage of Reemployed Workers Earning Less Than 80 Percent of Previous Earnings	32	24	42

SOURCE: Congressional Budget Office tabulations of data from the January 1984, 1986, 1988, 1990, and 1992 Current Population Surveys.

proportion with large wage reductions is opposite the expected direction.[17] These discrepancies underscore the difficulty of accurately forecasting which displaced workers would have the most trouble finding new jobs.

The postdisplacement experiences of workers in the automotive industry during the 1980s were more in line with expectations. The displaced auto workers tended to have worked more years for their former employer and to be somewhat older--two characteristics associated with above-average difficulty finding new jobs (see Table 5-1). Partially offsetting these effects was the fact that a higher fraction of them were men. Consistent with these characteristics, a slightly below-average percentage were reemployed, they took longer to find new jobs, and a higher percentage incurred a substantial reduction in earnings in their new jobs.[18]

Programs to Help Displaced Workers

If the results of the economic models reviewed by CBO are correct, substantially less than half a million workers would be displaced over the next decade as a result of NAFTA, accounting for a very small percentage of all displaced workers. For those who do lose their jobs, the federal government, together with state governments, offers a wide range of programs that provide temporary income assistance and help in preparing for and finding a new job. Unemployment insurance (UI) is the main program that makes cash payments to displaced workers (as well as to other workers who lose their jobs). The Economic Dislocation and Worker Adjustment Assistance (EDWAA) program and the Trade Adjustment Assistance (TAA) program provide reemployment assistance.

Unemployment Insurance

The UI program pays weekly benefits to experienced workers who lose their jobs, whether or not the loss is permanent. Work histories determine the specific duration and weekly amount of benefits for workers, but benefits are generally available for no more than 26 weeks. When unemployment in a state is sufficiently high, the federal/state Extended Benefit program provides additional weeks of benefits. The Emergency Unemployment Compensation program, enacted in 1991 and amended in both 1992 and 1993, temporarily enables unemployed workers who have exhausted regular UI benefits to get additional payments.

Displaced workers who received UI benefits (about 60 percent of the workers displaced in the 1980s) were much more likely than other UI recipients to exhaust their benefits without having found a job. During the 1980s, about half of the displaced workers who got UI benefits exhausted them, compared with about one-third of all UI recipients.

The Congress might want to consider expanding the potential duration of UI benefits for all displaced workers or for specific groups of them--those with relatively long job tenure, for example, or those who enroll in a retraining program or a program that helps participants find new jobs faster. Extending the maximum duration of UI benefits would help cushion the losses that many displaced workers otherwise incur. Extending benefits might encourage recipients to remain unemployed

17. In Chapter 3 of Congressional Budget Office, *Displaced Workers*, a statistical technique known as regression analysis was used to quantify the independent effects of these and other characteristics on the likelihood of reemployment and the duration of joblessness for all displaced workers. Based on the estimates from those equations, CBO would have expected a smaller proportion of the apparel workers to find new jobs (60 percent rather than 67 percent) and would have expected them to take slightly longer to do so (23 weeks rather than 21 weeks). About 40 percent (rather than 24 percent) of the reemployed apparel workers were expected to incur a large reduction in earnings.

18. The estimates from the equations were 70 percent reemployed, 21 weeks jobless, and 38 percent incurring a large wage reduction. The actual outcomes were 69 percent reemployed, 30 weeks jobless, and 42 percent incurring a large wage reduction.

longer, however. Linking the additional benefits to participation in some kind of reemployment assistance program (as is done in the TAA program, discussed below) could speed workers' adjustment, but it would be a major undertaking and would add significantly to the administrative costs of the UI program.

EDWAA and TAA

EDWAA and TAA each provide reemployment assistance that could be used to help at least some of the workers displaced by NAFTA. Under Title III of the Job Training Partnership Act (JTPA), as amended by the Economic Dislocation and Worker Adjustment Assistance Act of 1988, states receive federal funds to help displaced workers obtain employment through training and related employment services. Although the criteria for qualifying for services are quite broad, eligible workers are not automatically entitled to services under EDWAA. Closely related programs exist for workers displaced because of defense cutbacks and implementation of the Clean Air Act. The funds for all of these programs are used mainly to provide classroom training, on-the-job training, and job-search assistance to the participants. Last year, about 250,000 displaced workers participated in EDWAA and related programs.

TAA provides income-replacement benefits, training, and related services to workers who become unemployed because of competition from imports. To get assistance, workers from a firm must first petition the Secretary of Labor for certification and then meet other requirements for eligibility. For a group of workers to qualify, the Secretary must conclude that a significant share of the firm (or a subdivision) is threatened with displacement; that sales or production have decreased; and that increased imports have "contributed importantly" to the reductions in employment and in sales or production. Cash benefits are available to certified workers, but only after their UI benefits run out. Certified workers are also eligible for training and other reemployment assistance. Participants can get up to one year of cash assistance if they are taking part in an approved training program. (Cash assistance is available for a shorter period for certified workers not participating in a training program.) In recent years, about 25,000 displaced workers received cash assistance, and fewer received training or other reemployment assistance.

In principle, the retraining assistance provided through either program could help displaced workers develop new skills or adapt their old ones, making them more valuable to new employers and thus helping them find new jobs at wages comparable with their previous wages. Despite widespread support for retraining displaced workers, however, little is known about the effectiveness of the current programs in increasing the earnings of their participants. The EDWAA program has not been evaluated, and recent findings from an evaluation of TAA suggest that the training received by its participants has not increased their average earnings or their likelihood of being employed.[19] Evaluations of earlier demonstration programs for displaced workers in specific sites suggest that job-search assistance was effective, but short-term training was not.[20] Whether a better-designed, and possibly more extensive, training program would be more effective is uncertain.

Neither EDWAA nor TAA would necessarily be available for all workers displaced because of NAFTA unless these programs were amended. Although workers displaced by NAFTA would be eligible for reemployment assistance under EDWAA, no funds have been specifically earmarked for them. Moreover, these displaced workers would not automatically be eligible for TAA benefits. If, for example, they lost their jobs because their employer

19. Walter Corson and others, *International Trade and Worker Dislocation: Evaluation of the Trade Adjustment Assistance Program*, report submitted by Mathematica Policy Research, Inc., to the Department of Labor (April 1993).

20. See Duane E. Leigh, *Does Training Work for Displaced Workers?* (Kalamazoo, Mich.: W.E. Upjohn Institute for Employment Research, 1990), p. 108.

closed the plant in which they were working and opened one in Mexico, they probably would not qualify. In that case, increased imports would not have contributed to the employment reduction--even if the company subsequently sold the output from the new Mexican plant in the United States.

One approach to helping workers displaced because of NAFTA would be to establish a program analogous to EDWAA or TAA specifically for them. A new section could be added to Title III of the JTPA, for example, as was done for workers displaced because of the Clean Air Act. Alternatively, eligibility for TAA benefits could be expanded specifically to include workers displaced because of NAFTA.

One rationale for this approach is that workers whose displacement is attributable to NAFTA have a special claim to extra aid precisely because the federal government was responsible for their plight. On this basis, assisting a worker displaced because of a federal policy might be more appropriate than assisting a similar displaced worker whose job loss was entirely the result of changes in demand that had nothing to do with federal policy. Moreover, compensating those hurt by NAFTA could help gain wider acceptance for the agreement. The principle of compensating workers hurt by a change in trade policy is well established.[21]

But the rationale for singling out workers displaced because of NAFTA--as opposed to other federal policies that might also cause workers to be displaced--is unclear. For example, what distinguishes a worker displaced because of NAFTA from one displaced because of a change in tax policy or a reduction in federal spending for a program that provides grants and contracts?

Moreover, if the Congress decided to enact a program specifically for workers displaced by NAFTA, criteria for identifying them would need to be developed and applied. With or without NAFTA, workers will continue to lose jobs. And with or without NAFTA, U.S. companies will continue to move some of their operations to Mexico. The experience with TAA certifications shows how hard it is to determine accurately when increased imports "contributed importantly" to a reduction in a company's employment.[22] Determining when a reduction in employment is attributable to the enhanced opportunities for trade and investment in Mexico that result from NAFTA could be a more formidable undertaking.

The Clinton Administration is expected to propose an alternative approach for aiding displaced workers later this year. In its budget submission for 1994, the Administration stated that it would propose a comprehensive program for displaced workers that would address readjustment needs resulting from NAFTA, defense cuts, and enforcement of environmental legislation, as well as displacement for any other cause. Meanwhile, the Administration proposes to triple the funding for EDWAA, from about $600 million in 1993 to over $1.9 billion in 1994. This level of funding would assist about 850,000 participants if the average cost remained at its current level of about $2,200 per participant.[23]

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21. For example, the original TAA program was established under the Trade Expansion Act of 1962.

22. General Accounting Office, *Dislocated Workers: Improvements Needed in Trade Adjustment Assistance Certification Process* (October 1992).

23. This paragraph is based on *Budget of the United States Government, Fiscal Year 1994* (April 8, 1993); and Department of Labor, "Fiscal Year 1994 Budget: Detailed Briefing Materials" (April 7, 1993).

Chapter Six

Environment

Environmental issues and interest groups have had an unprecedented influence on the North American Free Trade Agreement. Much of the discussion about the environment has focused on issues between the United States and Mexico. As do most neighboring nations, the United States and Canada share environmental concerns, but the greater differences between the United States and Mexico in the level of development and the stringency of enforcement of laws protecting the environment direct most of the attention to the south. Issues raised during the public debates and negotiations leading to NAFTA include the following:

- **"Level playing field."** Will firms in the United States be at a disadvantage because firms in Mexico face lower pollution control costs? And will U.S. firms move to Mexico as a result?

  Most analysts say that differences in pollution control costs should not cause widespread movement of U.S. manufacturing facilities to Mexico, mainly because such costs constitute a small portion of total costs.

- **Concern for environmental conditions in Mexico.** Will rapid economic development in Mexico resulting from the agreement be "sustainable," or will it cause permanent harm to Mexico's environment and natural resources? Many environmental groups, as well as such international organizations as the World Bank, have adopted sustainability as a goal for economic development.

  U.S. citizens also care about improving environmental conditions in Mexico. Pollution levels along the U.S.-Mexican border already compare unfavorably with virtually all other areas in both the United States and Mexico. Pollution from Mexico can directly affect U.S. citizens. Less direct, but of concern to some U.S. citizens, are the implications of development in Mexico for emerging global environmental issues, including global climate change, biological diversity, and loss of tropical forests.

  Over the longer run, the quality of the environment in Mexico should benefit from the income growth and reduction of poverty that NAFTA promises to bring. In the shorter term, the environment in Mexico could suffer unless appropriate infrastructure, such as sewage and water treatment facilities, and tougher enforcement of environmental laws accompany the economic growth.

These two issues are similar in many ways, but the perspectives from which they are viewed are inherently different. U.S. labor groups, concerned about the loss of jobs and downward pressure on U.S. wages, have joined environmental groups in calling upon Mexico to impose tougher environmental standards. Although the motives of the two groups differ, neither wants Mexico to become a pollution haven.[1]

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1. Preliminary report of the Labor Advisory Committee on the North American Free Trade Agreement, September 16, 1992.

U.S. health and safety standards and environmental conditions on the U.S.-Mexican border are two other important issues. Those who are concerned about health and safety standards feel that the agreement could undermine the relatively high standards in the United States and make it more difficult to raise them in the future. NAFTA offers new protections that would help defend tough U.S. standards against attack as barriers to trade. Environmentalists worry, however, about lack of public involvement in the proceedings for dispute resolution and about new requirements that may open current standards to challenge. How U.S. standards would fare would depend partly on how vigorously the Administration chose to defend them.

The United States and Mexico have agreed to a plan to improve environmental conditions along the U.S.-Mexican border.[2] The plan, which is separate from NAFTA, includes investing in environmental infrastructure such as water and sewage treatment facilities, coordinating enforcement activities, and sharing technical knowledge. The plan is ambitious and has drawn much criticism. Some environmentalists believe that the plan must be part of NAFTA to ensure the commitment of future governments. Moreover, in some commentators' views, the plan is not sufficiently comprehensive and lacks specific goals and funds to carry it out.[3]

Environmental issues remain controversial. Some environmental groups claim that safeguards in the agreement are not sufficient to prevent NAFTA-related economic growth from extensively harming the environment. They say that sustainable development is not really promoted by the agreement, but should be.[4]

2. Environmental Protection Agency and Secretaria de Desarrollo Urbano y Ecologia, *Integrated Environmental Plan for the Mexican-U.S. Border Area* (February 1992).

3. For a discussion of the plan and its criticisms, see Office of Technology Assessment, *U.S.-Mexico Trade: Pulling Together or Pulling Apart?* (October 1992), p. 128.

4. John Audley and others, *U.S. Citizen's Analysis of the North American Free Trade Agreement* (Washington, D.C.: The Development Gap, December 1992), p. 8.

By contrast, some analysts of trade policy argue that most environmental issues, aside from those affecting standards for traded goods, are distinct from trade issues and do not belong in the same agreement. Some business organizations also oppose the inclusion of environmental provisions in NAFTA itself, arguing that they would distort the purpose of the agreement.[5]

It is not possible to draw firm conclusions about the environmental implications of NAFTA or the parallel agreements that are being negotiated. Understanding of the effects of trade and growth on the environment is sketchy, in general as well as specifically for Mexico. Economists and others are analyzing the problem, but are hampered by poor data. Moreover, the environmental outcomes depend largely on future actions taken by governments, particularly in enforcing environmental laws and standards and in building environmental infrastructure. In the eyes of many environmentalists, the stated commitments of both governments to protect the environment are too vague and, even with good intentions, would be hard to keep without committed sources of funding.[6]

Will U.S. Firms Move to Mexico?

NAFTA would reduce barriers to trade and investment between the United States and Mexico and change patterns of economic activ-

5. Statement of the United States Council for International Business, "Cooperative Efforts of the U.S. and Mexican Business Communities to Address Labor and Environment Issues in the NAFTA" (United States Council for International Business, Washington, D.C., September 11, 1992).

6. For discussions of trade and environmental issues that include consideration of the General Agreement on Tariffs and Trade as well as NAFTA, see Office of Technology Assessment, *Trade and Environment: Conflicts and Opportunities*, OTA-BP-ITE-94 (May 1992); and Susan Fletcher and Mary Tiemann, *Environment and Trade*, CRS Issue Brief IB92006 (Congressional Research Service, 1992).

ity. Reducing barriers to trade and investment would free businesses to take advantage of differences between the two countries in factors that affect costs of producing goods and services, such as wage rates. Differences in the costs of complying with environmental regulations could also affect patterns of economic activity. Environmentalists and U.S. labor are concerned that lower environmental compliance costs in Mexico will give an advantage--that some argue is unfair--to production south of the border.

Although Mexico's environmental laws are in some respects similar to those in the United States, they are not strictly enforced. Mexico has recently stepped up enforcement, but government personnel and funding are still inadequate for the job.[7] Moreover, there are significant differences between U.S. and Mexican laws. For example, Mexico has no hazardous waste liability law similar to that of the Superfund or the Underground Storage Tank programs in the United States. This potential liability affects the ways in which U.S. firms handle their wastes and therefore affects their production costs.

Lower environmental control costs for firms operating in Mexico give them some cost advantage over similar firms operating in the United States. The key question related to this issue--whether or not these differences affect investment or trade--has received much attention. But another question affects whether anything should be done about the first, namely, is this competitive advantage unfair?

Would Differences in Environmental Control Costs Matter?

Studies of the effects of environmental compliance costs have generally concluded the following:

- There is no reason to expect large-scale movement of U.S. firms to Mexico to avoid the stricter enforcement of environmental laws in the United States.

- Differences in the enforcement of environmental laws, resulting in differences in environmental control costs, may give some competitive advantage to firms operating in Mexico, but the effects would be small.

Two arguments support the view that the effects would not be substantial. First, average costs of environmental control measures are small. One recent study estimated that operating costs resulting from efforts to control pollution produced by U.S. industry averaged 0.54 percent of the value of output, with the cement industry topping the list at 3 percent.[8] The study further concluded that policy measures such as a tax on imports intended to "level the playing field" for pollution control costs would be largely ineffectual in altering trade patterns and would have uncertain environmental effects.

Empirical studies of world trading patterns have found that differences in the costs of complying with environmental laws do not significantly affect trade and that the most likely explanation is that the effects are too small to be discernible.[9] The findings lead some analysts to conclude that the effects of differences in compliance costs on decisions about plant location and the relative competitiveness of firms located in the two countries would be small. Manufacturing plants whose management chooses to locate in Mexico rather than the United States would more likely do so because

7. Justin Ward and Glen Prickett, "Prospects for a Green Trade Agreement," *Environment* (May 1992), p. 2.

8. Patrick Low, "Trade Measures and Environmental Quality: The Implications for Mexico's Exports," in Patrick Low, ed., *International Trade and the Environment*, World Bank Discussion Papers No. 159 (Washington, D.C.: World Bank, April 1992), p. 113.

9. James A. Tobey, "The Effects of Domestic Environmental Policies on Patterns of World Trade: An Empirical Test," *Kyklos*, vol. 43 (1990), p. 190. See also Gene Grossman and Alan Krueger, "Environmental Impacts of a North American Free Trade Agreement," Working Paper No. 3914 (National Bureau of Economic Research, Cambridge, Mass., November 1991).

of significant differences in labor costs than because of the apparently small differences in environmental control costs.

The second reason that analysts believe the effects of differences in environmental control costs would be small, particularly on investment decisions, is that Mexico has claimed that it will improve its law enforcement. Strict enforcement would reduce any cost advantage enjoyed by firms in Mexico and would reduce the incentive to avoid more costly U.S. regulations by locating manufacturing facilities in Mexico. Some firms, anticipating stricter enforcement or hoping to improve their public relations, have said that they would build plants in Mexico designed to meet high environmental standards anyway. Firms that locate near the border may be especially likely to adhere to high environmental standards because of the attention that both Mexican and U.S. environmental groups will be paying to investment in this environmentally sensitive area.

Are Lower Environmental Control Costs Unfair?

Whether a competitive advantage derived from lower environmental control costs is an "unfair" advantage, in the same sense that many would judge explicit government subsidies of an industry to be unfair, is not clear. There are two reasons. First, production in different countries or in different areas within the same country often takes place under diverse conditions that determine the environmental effects of the production activity. The ability of the air or water to assimilate pollutants depends on many factors, including the ambient concentrations of contaminants and weather conditions. Moreover, the harm caused by any level of pollution, particularly its effect on human health, depends on population concentration and other factors. It follows that the effects of any given level of pollution may be quite different in different places. Even with the same environmental goals, various levels of control and diverse levels of cost might be entirely appropriate. There are, in other words, technically appropriate reasons for differing environmental control costs among countries.

The second--and sometimes more controversial--reason that different levels of environmental protection (and associated compliance costs) might be appropriate in different countries is that some countries may wish to use their scarce resources in divergent ways. Although no country wants to degrade its environment, some nations, especially those with low incomes, may concentrate limited resources first on developing their economies and alleviating poverty, and later on enhancing the environment.

There may be some technical reasons that lower environmental control costs are appropriate for firms operating in Mexico, but the dominant reason could be perceived as a political choice between economic development and environmental protection, in which development takes precedence. Some U.S. manufacturers might claim that lower costs create an unfair advantage for competitors operating in Mexico, but like most other issues involving fairness, the conclusion is difficult to justify on analytical grounds.

Effects of Sustainable Development on the Mexican Environment

Given Mexico's legal and regulatory framework, environmental groups worry that increased investment and trade resulting from NAFTA would harm an already deteriorating environment. There may be global effects, and there would certainly be some across boundaries since many of the expansionary effects of NAFTA on Mexican manufacturing may take place along the border. In fact, transboundary pollution is a serious problem. Most border communities on the U.S. side have been forced out of compliance with U.S.

air quality standards by pollution that crosses the border from Mexico. Still, most of the environmental degradation would affect the citizens of Mexico.

During negotiations, the United States argued that NAFTA would be good for Mexico's environment. U.S. officials said that Mexico is not only improving its enforcement record, but that the greater resources that would be available to the government with NAFTA-induced economic growth would lead to further environmental improvements.[10] They argued that to deny Mexico the opportunity for income growth from freer trade would slow environmental improvements and could encourage exploitation of natural resources.

Analyses of Trade, Development, and the Environment

Recently, attention has been focused anew on the effects of increased trade and economic development on the environment. Economists have studied trade, development, and the environment and, in some cases, specifically examined the potential effects of NAFTA. Inadequate data have hampered the research, making definitive conclusions impossible. Moreover, economic analysis cannot resolve these issues even with better data and methods, because the outcomes rest on the commitments and future actions of governments. Nevertheless, such analyses have enriched the debate, particularly about the relationship between economic growth and environmental quality and the success of using trade policies to enforce environmental regulations.

10. Office of the Special Trade Representative, "Report of the Administration on the North American Free Trade Agreement and Actions Taken in Fulfillment of the May 1, 1991 Commitments" (September 18, 1992).

Relationship Between Economic Growth and Environmental Quality

Some studies show a positive relationship between economic growth and quality of the environment.[11] They explain that environmental conditions improve as economies develop, because the desire and ability of consumers and their governments to safeguard the environment increase as incomes increase, and because as it develops, industry shifts away from activities that are particularly tough on the environment.

The studies show that environmental quality does improve with income growth (after the earlier stages of economic development). But the findings do not apply to all causes of environmental degradation. Emissions of toxic substances and carbon dioxide, for example, appear to continue rising with income. Moreover, some analysts believe that wealthier countries move their contaminants offshore by importing, rather than manufacturing, materials that are especially polluting to produce. Rising wealth may improve that nation's environment, but at the expense of other countries' environments.

Many environmentalists acknowledge that poverty is a root cause of environmental degradation and depletion of resources. They further acknowledge that economic growth is necessary to protect the environment. But they believe that a "grow now, clean up later" philosophy is shortsighted and contrary to the objectives of sustainable growth. A World Bank study concludes that "where appropriate environmental policies are in place, where growth is associated with environmentally friendly technological change, or where trade

11. Grossman and Krueger, "Environmental Impacts of a North American Free Trade Agreement"; and "Development and the Environment," in *World Development Report 1992* (Washington, D.C.: World Bank, 1992), cited in Office of the Special Trade Representative, "Report of the Administration on the North American Free Trade Agreement." See also Marian Radetzki, "Economic Growth and Environment," in Low, ed., *International Trade and the Environment.*

liberalization reduces environmentally destructive economic distortions or increases productive efficiency, the effects of increased growth on the environment are likely to be positive."[12] Environmentalists say that NAFTA could help establish such conditions, but currently does not.

Using Trade Policy to Achieve Environmental Objectives

Border policies--tariffs, quotas, and trade restrictions--are tempting but generally inefficient ways for one country to impose its environmental standards on another. That is particularly the case when trade in an offending item has little direct association with the environmental problem, as is often true. An example is a proposal to prohibit imports into the United States of raw logs from tropical forests.[13] Most analysts believe that such a restriction, even if extended to processed wood products, would have little effect on the cutting of tropical forests, presumably the goal of the policy. Traded wood products are a small part of the total harvest; the vast majority is used for fuel.

In almost all instances, policies that hold producers responsible for the costs of pollution or other effects that they generate would be more effective than trying to change behavior through trade restrictions.

Sometimes, though, a large country or a group of countries might use the threat of such a trade restriction in a political effort to change the behavior of another country that is degrading the environment or unwisely depleting resources.[14] Similarly, countries might use trade restrictions to enforce an international agreement. The potential effect of the action must be serious enough to change the offending nation's behavior.

How Does NAFTA Address the Environmental Effects of Freer Trade and Investment?

NAFTA negotiators recognized that the economic development the agreement generated would affect Mexico's environment and natural resources and included "green" language in the agreement. For example:

- The preamble of the agreement states that one of the accord's objectives is to promote sustainable development and strengthen the development and enforcement of environmental laws and regulations.

- The investment chapter of the agreement states that new investment may be subjected to stricter environmental standards than would apply to existing facilities.

- The agreement renounces the lowering of environmental standards by a nation to attract or retain investment in its territory and provides for consultations between parties if one of them believes that another has relaxed environmental standards.

Measures taken outside of the agreement to help allay environmentalists' concern about the effects of freer trade and investment include establishment of a joint U.S.-Mexican environmental commission to oversee the environmental aspects of NAFTA and their application. Further, a trinational commission, including representatives of Mexico, the United States, and Canada, was agreed upon in September 1992. But as this publication is being printed, the exact duties and responsibilities of the commission remain under negotiation. The participants have not fully deter-

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12. Patrick Low, "International Trade and the Environment: An Overview," in Low, ed., *International Trade and the Environment*, p. 1.

13. See Office of Technology Assessment, *Trade and Environment*, p. 42; and "GATT Report on Trade and the Environment," *Inside U.S. Trade*, February 14, 1992, p. S-2.

14. William Baumol and Wallace Oates, *The Theory of Environmental Policy* (New York: Cambridge University Press, 1988), p. 276.

mined its role. Then-Ambassador Carla Hills stated that its functions would include carrying out environmental provisions of NAFTA, promoting cooperative environmental problem solving among the three nations, and providing a forum for public participation in the process.[15] The National Wildlife Federation proposes that this trinational group be given even more responsibility, including the power to levy fines directly in some cases in which environmental laws are not enforced.[16]

Remaining Concerns

The agreement falls far short of some environmentalists' hopes that it could be a way to improve, enforce, and fund environmental laws. They had wanted the agreement to declare lax enforcement of environmental laws an unfair trade practice that would be subject to discipline. They remain concerned that lower costs of complying with environmental laws will attract manufacturing firms to Mexico, or that firms that are attracted to Mexico for other reasons will violate Mexico's environmental standards, further degrading its environment.[17]

NAFTA has no means of enforcing environmental laws or of funding agreements and commitments. If, as many environmentalists suspect, new investment and economic development, particularly in Mexico, harm the environment, solutions will not be automatic, as might be the case if assured funding and enforcement mechanisms were included in the agreement. The fundamental remaining concern is whether the participating NAFTA governments will do what is needed to promote protection of the environment and sustainable growth. Supplemental agreements, yet to be negotiated, could allay these concerns. Environmental groups are working to influence their form.[18]

Health, Safety, and Environmental Standards

International trade standards are used for evaluating the condition of goods as they cross the border (product standards) or monitoring the ways in which the goods are produced (process standards). Among the subjects of product standards are pesticide residues on foods or the presence of banned substances, such as polychlorinated biphenyls (PCBs). Product standards are commonly included in trade agreements and received much attention in NAFTA. Process standards that have environmental implications include the ways in which hazardous wastes are treated by producers or what pollution control equipment is used. Other standards set limits on the use of timber-harvesting practices that are not sustainable or the use of fishing techniques that harm other valuable or endangered species--the subject of the recent tuna/dolphin conflict with Mexico. Process standards, in contrast with product standards, are not commonly specified in trade agreements. Process standards are part of the issues dealing with sustainable development and the establishment of a level playing field.

Product standards are further divided into two types. First are the sanitary and phytosanitary standards, which protect human, animal, and plant health from chemical contaminants such as pesticides or residues on foods and from plant and animal pests and diseases.[19] Other standards are technical--those that generally apply to trade in goods other

15. Letter from Carla Hills, U.S. Trade Representative, to Jay Hair, President, National Wildlife Federation, reprinted in *Inside U.S. Trade*, October 2, 1992, p. 6.

16. National Wildlife Federation, *The North American Commission on Environment and Other Supplemental Agreements: Part Two of the NAFTA Package* (Washington, D.C.: National Wildlife Federation, February 4, 1993).

17. Audley and others, *U.S. Citizen's Analysis of the North American Free Trade Agreement.*

18. Ibid.

19. See Donna Vogt, *Sanitary and Phytosanitary Measures Pertaining to Food in International Trade Negotiations*, Report No. 92-700 SPR (Congressional Research Service, September 11, 1992).

than food, animal, and plant products. Environmental concerns are expressed as regulations such as those affecting emissions equipment on automobiles and prohibitions on imports of hazardous materials.[20]

Environmentalists are concerned that high U.S. standards in these areas could be weakened in the interest of freer trade. For instance, U.S. standards could be challenged as nontariff barriers to trade; could be bargained away in efforts to harmonize standards (the concern being that downward harmonization would be the norm); and could suffer because domestic producers would exert pressure to have them relaxed, arguing that more costly standards put U.S. producers at a competitive disadvantage.

NAFTA addresses these concerns in ways that have been applauded by environmental groups. For example, the agreement states the right of the United States to maintain strict standards. All parties may have stricter standards than those applied internationally if they are based on scientific principles and applied without discrimination. Subnational governments may likewise retain more stringent standards, provided they are scientifically based. The agreement encourages harmonization of standards, and "upward" harmonization is specifically called for. Finally, if standards are challenged as being nontariff barriers to trade, the burden of proof is on the challenger--a change from current procedures within the General Agreement on Tariffs and Trade.

There are still concerns about the limited degree of public participation in the process of dispute resolution, which is largely conducted behind closed doors. Environmentalists believe that open proceedings would make the government more responsive to their interests--for example, to defend U.S. health and safety standards more vigorously. Furthermore, environmentalists believe that social concerns would be more likely to affect the proceedings if they were open to the public.[21] Others fear that open proceedings would allow environmentalists to manipulate public opinion in order to sway decisions.[22]

State governments are also concerned that the provisions in NAFTA may affect standards.[23] States are active in setting standards for products sold within their borders and in safeguarding their discretionary powers. Furthermore, disputes concerning state laws may arise. States want to have a voice in the international proceedings that would settle disputes involving their own laws. They feel that the legislation putting NAFTA into effect should clarify their relationship with the federal government in settling those disputes.

Conditions Along the U.S.-Mexican Border

The state of the environment along the border has affected the NAFTA negotiations and is being affected by them. Pressing environmental problems include air, surface-water, and groundwater pollution; depletion and degradation of aquifers, wetlands, and other resources; and the generation and casual disposal of hazardous materials.[24] The problems are known, although limited monitoring equipment has made it difficult to record their extent fully. The poor living conditions in the area have affected public health--an American

20. Office of Technology Assessment, *Trade and Environment*, p. 59.

21. Audley and others, *U.S. Citizen's Analysis of the North American Free Trade Agreement.*

22. "Don't Green GATT," *The Economist*, December 26, 1992, p. 15.

23. For discussion of the concerns of state government on this and other issues, see Matthew P. Schaefer, *An Analysis of the North American Free Trade Agreement's Impact on the U.S. States* (Washington, D.C.: Western Governors' Association, May 1993).

24. Environmental Protection Agency and Secretaria de Desarrollo Urbano y Ecologia, *Integrated Environmental Plan for the Mexican-U.S. Border Area.*

Medical Association group described parts of the border as "a virtual cesspool and breeding ground for infectious diseases."[25] The conditions are mostly the result of rapid industrial development and growing concentrations of people on both sides of the border. This growth, coupled with poor enforcement of environmental regulations and grossly inadequate facilities to handle sewage, provide clean water, and treat hazardous materials, contributed to the problems.

Environmentalists point to the conditions along the border, and perhaps rightly so, to illustrate the environmental problems associated with unfettered and unaccommodated economic growth. Some claim that NAFTA, without stricter enforcement of environmental laws and sufficient investment in needed environmental infrastructure, could cause other parts of Mexico to suffer similar problems. Moreover, the border area itself may be subject to more intense industrial development following the approval of NAFTA.

The previous Administration acknowledged the problem and, as part of a compromise to obtain approval of fast-track negotiating authority, agreed to work toward cleaning it up. The result was a review of U.S.-Mexican environmental issues and a plan for border cleanup, called the Integrated Environmental Plan for the Mexican-U.S. Border Area (the "Border Plan"), issued early in 1992.

What the Border Plan Does

The Border Plan is the latest in a series of cooperative efforts between the United States and Mexico aimed at dealing with common resource and environmental problems. The International Boundary and Water Commission, in place more than 100 years, addresses water problems on the border between the two countries. The commission's responsibilities include apportionment of surface-water supplies, water sanitation projects, and the planning and operation of several wastewater treatment plants.

Environmental concerns associated with industrialization and the growth of population along the border led to the 1983 La Paz Agreement for Cooperation on the Environment. The La Paz Agreement supplemented the work of the International Boundary and Water Commission by tackling a broader range of pollution problems. The agreement itself is mostly a series of vague promises for cooperative action on the environment. Real bilateral cooperation on such issues as the shipment of hazardous wastes across boundaries and the construction of wastewater facilities has taken place through separately negotiated annexes to the agreement.

The International Boundary and Water Commission and the La Paz Agreement have not corrected widespread environmental contamination. The agreements have been rendered ineffective by lack of enforcement and financial commitment. They also lack mechanisms for public participation, which many observers believe is needed for such efforts to succeed.

The Administration described the Border Plan as a strengthening of existing agreements and the beginning of an increased cooperative effort to improve the environment along the border.[26] Included in the Border Plan are the following objectives:

- Strengthen enforcement of existing laws. This objective includes commitments to enforce each country's laws internally and to exchange information, coordinate, and cooperate on enforcement efforts.

- Improve facilities to protect the environment. This goal includes commitments to

25. Justin R. Ward, *Comments of the Natural Resources Defense Council on the Integrated Environmental Plan for the Mexico-U.S. Border* (Washington, D.C.: National Resources Defense Council, September 30, 1991).

26. Environmental Protection Agency, *Summary of the Environmental Plan for the Mexican-U.S. Border Area* (February 1992).

expand wastewater treatment facilities in some border areas; build drinking-water facilities for *colonias* (unincorporated, crowded communities on either side of the border); improve handling of solid and hazardous wastes; and enhance air quality by improving roads, bridges, and traffic circulation in Mexican border cities.

- o Increase cooperative training and education for environmental personnel and the public in the border area.

- o Continue to study the problems of the border area. The plan will be reviewed and revised in 1994.

Funding to carry out the plan is supposed to come from public and private sources. The Mexican government committed itself to spend $147 million in 1992 and $460 million over the 1992-1994 period, mostly for development of environmental infrastructure along the border. Federal funding for such projects in the United States is subject to annual appropriations. For 1993, the President requested $241 million in funds intended for environmental improvements (mostly sewage treatment) along the border. The Congress denied some requests for new funds. Nevertheless, the Environmental Protection Agency and other agencies with responsibilities along the border are believed to have sufficient resources to fulfill the 1993 commitment.

Remaining Concerns

Environmentalists claim that the Border Plan will not solve the environmental problems in the border area and--of at least equal concern--that there is no mechanism for funding the area's enforcement, monitoring, and infrastructure needs over the long run.[27] Suggestions to create new sources of funds for environmental projects and enforcement include taxes on new investment, user fees levied on industries operating in the border region, taxes on shipments of hazardous substances, cancellation of Mexican debt in exchange for the building of needed infrastructure, and taxes or fees on all trade crossing the border.[28] Another proposed funding mechanism is a new North American Development Bank and Adjustment Fund, which would sell government-guaranteed bonds to raise capital for environmental and development projects.[29] Some of these proposals would create distortions to trade and investment similar to those NAFTA is trying to eliminate. A group representing business interests has argued against using new taxes of this sort, favoring instead the use of general revenues or market-based environmental policies (perhaps including taxes and fees) to fund needed projects.[30] In addition, business favors adopting tax incentives to encourage pollution abatement activities by the private sector.

Environmentalists have also criticized the lack of a formal link between NAFTA, the Border Plan, and other environmental agreements. Some believe that including the environmental agreements as part of NAFTA would increase the commitment and perhaps the enforceability of the agreements, particularly as new governments come to power. Others argue, however, that extending the trade agreement to cover these areas outside of trade could threaten the agreement, making it more difficult to gain cooperation.

27. Testimony of Justin Ward, Natural Resources Defense Council, before the Subcommittee on International Trade, Senate Committee on Finance, September 16, 1992.

28. See Mary Kelly, *Facing Reality: The Need for Fundamental Changes in Protecting the Environment Along the U.S./Mexico Border* (Austin, Texas: Texas Center for Policy Studies, October 1991); and "Agriculture Panel Chairman Wants to Use Customs Fee to Help Mexican Border," *Inside U.S. Trade*, September 11, 1992, p. 16.

29. Albert Fishlow and others, "Proposal for a North American Regional Development Bank and Adjustment Fund," in *Proceedings of a Conference on the North American Free Trade Agreement* (Dallas: Federal Reserve Bank of Dallas, June 1991).

30. "U.S. Council Critique of NAFTA Environmental Provision," *Inside U.S. Trade*, August 28, 1992, p. 7.

Conclusion

NAFTA goes beyond previous trade agreements in addressing environmental issues. Attention to some of the issues was heightened by their coincidence with the interests of labor--particularly the prospects that lax Mexican environmental laws would attract U.S. industry and U.S. jobs and put downward pressure on U.S. wages. Although there is little in the agreement itself that deals directly with this possibility, the Mexican government has tried to reassure those who are concerned by stating that it would not let itself become a haven for dirty industries. Furthermore, analyses of the effects of differences in environmental laws on international competitiveness and industry relocation, though quite limited, reveal little cause for concern. But some people still want stronger measures that would toughen enforcement of Mexican laws or extend U.S. environmental laws to U.S. firms operating in Mexico.

NAFTA supports tough U.S. health and safety standards that would apply to products imported from Mexico. Harmonizing product standards eases trade flows, and efforts toward harmonization will continue. Environmentalists are still concerned that tough U.S. standards might be sacrificed in the interests of freer trade. NAFTA protects, but does not "grandfather," existing food health and safety laws, as some environmentalists want.

Some of the issues, such as the environmental conditions along the U.S.-Mexican border, are immediate, and there is a consensus that something needs to be done. Some of the initial promises to improve conditions along the border, which both governments made, may have been motivated by a desire to blunt opposition to NAFTA. The adequacy of the plans for border improvements and the lack of a reliable source of funding are still being criticized.

The Clinton Administration expects to negotiate additional supplemental agreements addressing both environmental and labor issues. These agreements would be presented to the Congress as part of a NAFTA legislative package. The content of these agreements has yet to be determined. Many Members of Congress have said that their support for NAFTA will hinge on their satisfaction with these agreements.

Appendixes

Appendix A

Investment Provisions of NAFTA

The proposed North American Free Trade Agreement (NAFTA) would substantially liberalize the regime for foreign investment in Mexico. The agreement's chapter on investment asserts the broad principles that are to govern the rights and freedoms of business investors from one NAFTA country who invest in another. Under the agreement, the signatories must allow the repatriation of profits and capital, freely and promptly, in the currency of the investor's choice.

The agreement's broad principles on investment are qualified by a list of exceptions and transitional arrangements, but in the case of Mexico, most of these details would apply only during a five- to ten-year period while existing restrictions on foreign investment were phased out (see Box A-1). The agreement also provides an institutional framework for resolving disputes.

A separate chapter of NAFTA provides for a more controlled transition to a fully liberalized regime for foreign investment in financial services, but nevertheless would achieve a major liberalization in Mexico within the decade. Although the proposed agreement contains no explicit restriction on or framework for macroeconomic policies, the continuing liberalization of the financial sector and the treatment of capital flows envisioned in the agreement may alter the macroeconomic policy constraints under which Mexico operates. Concerns about such consequences are behind the measured pace of NAFTA's proposals on financial services.

The investment provisions of NAFTA would supersede Mexico's 1973 Foreign Investment Law, which forbids foreign involvement in some sectors of the economy and restricts it to minority stakes in businesses in most other sectors. Mexico has already relaxed its policies insofar as the restrictive 1973 law allows. As early as 1984, Mexico issued guidelines for a more liberal interpretation of its restrictions, and a 1986 change narrowed the coverage of the tightest restrictions on basic petrochemicals. Since May 1989, all previous regulations under the 1973 law have been repealed and replaced with more liberal ones, permitting partial foreign ownership in petrochemicals, banking, and insurance and providing for some foreign investment in the Mexican stock market. NAFTA would go much further, however, allowing full foreign ownership and control in most cases.

The General Principles on Investment

Articles 1102, 1103, and 1104 provide that investors from one NAFTA country with an investment in another should be treated no less favorably by federal, state, or provincial governments than are the investors or investments of the domestic country, or those of any other country. The proposed agreement is worded to ensure that its liberalizing provisions specifically cover a wide range of forms of business investments and investment-related transactions.

Article 1109 is a key provision guaranteeing the free movement of capital. It requires that each party permit all transfers and international payments relating to an investment to be made freely and without delay, in a free-

ly usable currency at the market rate of exchange prevailing on the date of transfer.

Although the rights, freedoms, and protections of the agreement are not offered to investors from countries not included in NAFTA, the agreement should not inhibit the flow of capital from the rest of the world into Mexico. The preferential treatment accorded the United States may, however, persuade some non-NAFTA investors to channel their capital into Mexico through U.S. financial institutions, U.S.-owned businesses, or subsidiaries based in the United States. Article 1113 allows Mexico to deny the investment benefits of NAFTA to subsidiaries owned by non-NAFTA investors, but only if those businesses have "no substantial business activities" in the NAFTA country in which they are registered.

As a complement to the investment provisions, the United States and Mexico signed their first bilateral tax treaty in September 1992. This treaty furthers the harmonization of taxes and, in particular, ends double taxation.

Provisions on Trade and Investment in Financial Services

Mexico promises to relax restrictions on its various markets for financial services in the hope that one of the ultimate benefits of NAFTA for the Mexican economy will be

Box A-1.
Some Detailed Provisions in NAFTA on Investment in Mexico

The North American Free Trade Agreement would not change Mexico's constitutional restrictions forbidding foreign ownership of land in border and coastal territory. In addition, foreigners would still be prohibited from owning land for agricultural, livestock, or forestry purposes. (More precisely, foreigners may not own more than 49 percent of the special type of equity that must be set aside to represent the land holdings of an agricultural, livestock, or forestry enterprise.) But existing legal arrangements already provide alternative ways for business investment to circumvent these restrictions.

The Mexican government would modify, but not lift, its right to review acquisitions. It would do this by raising the threshold value of the acquired company from $25 million to $150 million (in constant U.S. dollars) after 10 years. This reservation carries some risk that the free flow of investment might be subject to bureaucratic interference at some point in the future. The direction of Mexico's current policies suggests, however, that this risk is low.

The agreement would maintain existing constitutional restrictions in a number of industries. Perhaps the most prominent is the restriction on foreign ownership in petroleum-related activities--from exploration, through basic petrochemicals, to retail. The Mexican state reserves the right (in Annex II) to refuse foreign investments in a range of public utilities, communications industries, and infrastructure. The domestic (purely intra-Mexican) trucking industry would also remain closed to foreign ownership.

Foreign investors would not be allowed to establish controlling interests in several industries until after a transition period. Part of the telecommunications sector (videotext and enhanced packet-switching services) would be protected from majority foreign control until 1995. A five-year phase-in period must elapse before foreign investors could take a controlling interest in mineral extraction and exploitation businesses; and the restriction on foreign control of construction firms would be phased out over five years.

The agreement provides for a more complex phaseout of restrictions for the automobile industry. Full ownership of firms that make parts for motor vehicles would be permitted after five years, and all other Mexican restrictions that conflict with NAFTA would have to be phased out within 10 years.

access to more efficient financial services. The special place of banking and financial services in the monetary sector of the economy causes policymakers to treat reform of financial services with special care, however, so NAFTA proposes a cautious path of managed liberalization.

The agreement would recognize the right of financial services providers from one NAFTA country to establish financial institutions in another, and the right of consumers to obtain financial services from providers in another NAFTA country. Portfolio investment in existing Mexican financial institutions would be allowed, but subject to limits that reserve a majority of the equity for Mexican ownership. Investors from other NAFTA countries may, however, establish their own financial services providers in Mexico. Such foreign direct investments must satisfy various regulations established in NAFTA to cover "foreign financial affiliates," notably restrictions that would limit the market share (based on measures of capitalization) that foreign participants may claim during a transition period ending in 2000 (see Box A-2). These limits would become steadily less onerous as the transition proceeds, and few restrictions would apply after the transition period. In a notable quali-

Box A-2.
Some Detailed Provisions in NAFTA Relating to Investment in Financial Services in Mexico

The North American Free Trade Agreement would permit investors from Canada and the United States to own and control providers of financial services in Mexico, but only under NAFTA's regulations for foreign financial affiliates (FFAs). As detailed in Annex VII(B) of NAFTA, FFAs could be established only with the authorization of the Mexican government. During the transition period (up to 2000), the capital of individual FFAs would be tightly restricted; limits for the total share of foreign capital in each sector would be fairly low, though they would rise over time.

At the end of the transition period, in 2000, the individual and total capital limits on FFAs (the limits vary for banks, security firms, insurance companies, and so forth) would be removed. However, Mexico would retain the right to impose a three-year freeze on the total capital share of FFAs if it reached 25 percent for commercial banks and 30 percent for security firms during the four years following the transition period (that is, by 2004).

NAFTA would also permit portfolio investment in the equity of existing Mexican financial institutions but would not permit foreign control except in approved foreign financial affiliates. Excluding FFAs, Mexico would limit total foreign investments in banks, security firms, and financial holding companies to 30 percent, and in most other kinds of financial institutions to 50 percent. Foreign capital would be prohibited in foreign exchange firms and credit unions unless they were FFAs.

Following the transition period, Mexico would authorize the acquisition of a commercial bank by a financial services provider from another NAFTA country only if the authorized capital of all the commercial banks controlled by the acquirer would not exceed 4 percent of the Mexican market. But this restriction would not limit the growth of existing FFAs after the transition period: the cap would apply only to acquisitions.

Despite the provision in Article 1405 of NAFTA that guarantees free access to nonresident financial services from another NAFTA country, nonresident providers of financial services would not be permitted to provide peso-denominated instruments to Mexico or to Mexicans. Mexico attributes this reservation to the need to safeguard the conduct of its monetary and exchange rate policies and appears to be trying to prevent the establishment of an officially sanctioned offshore market in short-term peso instruments. Such a measure would permit future controls on short-term peso credit, but it might crowd the peso out of domestic credit markets.

fication of the general principles, financial services providers based outside of Mexico would not be allowed to offer peso-denominated services to the Mexican market.

The Mexican government wishes to obtain the benefits of a more efficient financial sector. But it is also concerned about protecting the interests of the people who bought shares in Mexican banks during their recent privatization. Temporary restrictions on the individual size of foreign entrants and their share of the total market would help protect the domestic banking industry during the transition period.

Opening financial services markets to foreign competition should lead to efficiency gains in that sector: the Mexican economy should become more effective in channeling funds from savings or global financial markets to the most productive investment projects. How fast these efficiency gains are won depends on how effectively the transition arrangements shelter Mexico's domestic financial institutions and on how they respond to increased competition.

As proposed, NAFTA contemplates further liberalization of financial services on the explicit condition that the United States first reforms its banking legislation. If the United States liberalizes its existing measures and permits Mexican and Canadian commercial banks to expand throughout the U.S. market, the three countries would reconsider trade in financial services and may allow investors more freedom in establishing direct investments in financial services.

Appendix B

Macroeconomic Simulations of NAFTA

The illustrative simulations of the North American Free Trade Agreement in Chapter 2 were conducted using a version of the McKibbin-Sachs Global (MSG) model, extended to include Mexico by Warwick J. McKibbin, Tomas Bok, and the Congressional Budget Office. CBO has used the MSG model (without Mexico) to analyze the macroeconomic effects of events such as the economic transformations in Europe, cutbacks in defense spending, and the savings and loan crisis. This appendix discusses briefly the rationale for using the MSG model, its most important features, the modifications CBO made for this project, and some of the results.

Macroeconomic Analysis in the NAFTA Literature

The flow of capital into Mexico and growth in productivity are very important in determining the potential effects of the North American Free Trade Agreement, but most empirical studies have not treated these issues in a satisfactory way.[1] The bulk of this work allows investment flows to be determined from outside the model or by projection from historical trends rather than by interactions within the model. Studies in which investment flows have been determined within the model have used extreme assumptions. For example, some studies assume that all of the capital flows into Mexico come only from the United States, instead of also allowing capital flows from the rest of the world.[2] Growth in productivity could have profound dynamic effects on the Mexican economy--indeed, that may ultimately be NAFTA's greatest impact.[3] This factor, however, has not been adequately analyzed.

The models that have been used to study the effects of NAFTA in the empirical literature--computable general-equilibrium models (predominately) and macroeconometric models (much less frequently)--are not entirely suitable for analyzing these issues. Computable general-equilibrium (CGE) models simulate the static, long-run structural effects of policy

1. The modeling of NAFTA is discussed in Nora Lustig, Barry P. Bosworth, and Robert Z. Lawrence, eds., *North American Free Trade: Assessing the Impact* (Washington, D.C.: Brookings Institution, 1992); U.S. International Trade Commission, *Economy-Wide Modeling of the Economic Implications of a FTA with Mexico and a NAFTA with Canada and Mexico* (May 1992); and Congressional Budget Office, "Estimating the Effects of NAFTA: An Assessment of the Economic Models and Other Empirical Studies," CBO Paper (June 1993).

2. William E. Spriggs, "Potential Effects of Direct Foreign Investment Shifts Due to the Proposed U.S.-Mexico Free Trade Agreement," testimony before the House Committee on Energy and Commerce, May 15, 1991. Spriggs uses a model with a 10 percent reduction of the risk premium in Mexico over 10 years to show investment flows of $44 billion coming from the United States, which will reduce employment by 550,000 jobs because any gain in investment by Mexico comes at the expense of the United States. See Clyde V. Prestowitz, Jr., and Robert B. Cohen, with Peter Morici and Alan Tonelson, *The New North American Order: A Win-Win Strategy for U.S.-Mexico Trade* (Washington, D.C.: Economic Strategy Institute, 1991). Prestowitz and colleagues also project employment losses from NAFTA because they assume that new Mexican investment can come only from the United States.

3. Timothy J. Kehoe illustrates this possibility in "Modeling the Dynamic Impact of North American Free Trade," in U.S. International Trade Commission, *Economy-Wide Modeling*.

changes, and they incorporate behavior consistent with microeconomic theory. They allow a change in one market (such as the removal of trade protection) to affect other markets and can capture in detail the resulting relative changes in price and structure by sector. But most CGE models tend to be weak or inappropriate for analyzing macroeconomic issues such as unemployment and trade deficits. CGE models (including all those used in the NAFTA debate) typically do not have asset markets, capital flows, and financial variables such as money and inflation.

Macroeconometric models are inherently dynamic; they can estimate the short-term movements of variables and can deal with the macroeconomic issues mentioned above. But because they lack a strong foundation in microeconomic theory and institutional structure, they can give misleading estimates of the effects of policy changes such as the liberalization of trade.

This study uses the MSG model because it is an international macroeconomic model that links the international flows of capital together and can look at the macroeconomic consequences of NAFTA via these linkages. The model links international flows of capital, goods, and assets via exchange rates and terms of trade, and these linkages are affected by forward-looking expectations. Although other models also have these features, the MSG model is convenient to use--model and data changes are easy to make--and its results are representative of macroeconomic models.

The MSG Model in Brief

The MSG model is an economic simulation model designed to look at global macroeconomic issues in general equilibrium and is particularly consistent in analyzing dynamic effects.[4] It includes several industrial countries and groups of other countries that are linked worldwide by trade and financial flows that satisfy equilibrium balances over time.

The model's long-run behavior is conventional. All economies follow a standard neoclassical growth model, but they reflect different exogenous technical progress and population growth.[5] Households make the best use of their resources over time according to a standard life-cycle model of consumption. Firms base their investment decisions on the real rates of return on investments.

Three features set the MSG model apart from other models and are especially important to macroeconomic analysis of the long-term liberalization of trade. First, the model carefully accounts for the long-term consequences of assets or debts that accumulate as a result of budget and trade surpluses or deficits.

Second, it models expectations explicitly so that the consequences of current and future policies affect current behavior. Some consumers and some producers are forward-looking, meaning that their current behavior depends on their expectations of the future. Their decisions about consumption and business investment today are based on anticipated future income, expected rates of return, profits, earnings, and taxes. These expectations are consistent within the model, so that actual realizations are the same as expected outcomes in the absence of unexpected shocks.

Third, asset markets are efficient and consistent in the MSG model. Asset prices are perfectly flexible and depend on investors' expectations of future movements in those prices. Markets are affected by the expected future paths of macroeconomic variables such as output, prices, and savings. Bond and asset markets are linked internationally and over time by exchange rates and interest rates that

4. Further details on the MSG model are in Warwick J. McKibbin and Jeffrey D. Sachs, *Global Linkages: Macroeconomic Interdependence and Cooperation in the World Economy* (Washington, D.C.: Brookings Institution, 1991).

5. This is the standard Solow-Swan growth model. Reassuringly, assuming flexible exchange rates and capital mobility in the MSG model generates behavior of capital flows that is qualitatively similar to that from the standard Mundell-Fleming theoretical model; see McKibbin and Sachs, *Global Linkages*.

adjust to balance supply and demand in equilibrium.

Like any model, it is highly simplified: the most important simplification is that the model does not reflect many characteristics of Mexico, especially the urban/rural nature of Mexico's labor market. For this reason, the model's predictions of employment effects are not particularly useful. The model is not able to capture efficiency gains that arise from shifting productive resources among sectors. But the MSG model can elucidate the factors that underlie capital flows and exchange rates, which are central to Chapter 2's focus on investment flows, productivity gains, and the macroeconomics of NAFTA.

Modifications by CBO

The standard MSG model is inappropriate for studying NAFTA because it is based on developed countries (which excludes Mexico). For this project, Warwick J. McKibbin extended the model to add Mexico, a semi-industrialized country.[6] CBO made two sets of changes to reflect special characteristics of Mexico and to model the effects of NAFTA and related reforms.[7] Because NAFTA is inextricably linked with other reforms, the simulations refer to the impact of liberalization reforms since the mid-1980s and not just NAFTA itself.

The Base Case: Modeling Mexico's Structural Characteristics

CBO modified the submodel for Mexico to capture two important features of that country. The two most important modifications were inserting a risk premium of 10 percentage points on foreign investment in Mexico and reducing the percentage of forward-looking consumers from 30 percent to 10 percent. These modifications reflect the most important characteristics of the base case against which NAFTA is evaluated.

The first modification captures an important feature of Mexico's capital markets before the beginning of liberalization by assuming that Mexican borrowers pay a risk premium necessary to compensate foreign investors for various types of risks in Mexico.[8] These risks include:

- **country risk**, which reflects policy-induced macroeconomic instability and political risks, such as expropriation and reversals of various economic reforms;
- **convertibility risk**, which is the risk associated with Mexico's ability to make future payments, denominated in foreign exchange, on its foreign obligations; and
- **currency risk**, which is associated with the future level of Mexico's exchange rate.

This premium, inserted in the arbitrage condition between rates of return in Mexico and the United States, drives a wedge between the rate of return that foreign investors require on

6. McKibbin also made minor changes to deal with data problems. These adjustments include lowering the capital-to-output ratio for Mexico, using 1990 data for the base year (except for bilateral trade levels), and other modifications to account for revenues from Mexico's value-added tax and from Petroleos Mexicanos (PEMEX), the government oil producer.

7. For guidance, CBO examined the effects of economic liberalizations in other, similar semi-industrialized countries, as described in "Economic Reforms and Capital Flows: The Experience of Countries That Have Liberalized Their Markets," CBO Staff Memorandum (July 1993).

8. The importance of this factor can be seen in the movements of prices in the Mexican stock market in response to developments in the NAFTA debate. See, for example, "Free Trade Battering Mexico's Bolsa," *The New York Times*, September 14, 1992; "Mexico Cheered by Support of Clinton for Trade Accord," *The New York Times*, October 6, 1992; "In Mexico, It's All a Matter of Trade," *The New York Times*, February 7, 1993; and "Fortunes are Cast in Mexican Stocks," *The New York Times*, April 12, 1993.

U.S. investments and the rate of return they require on Mexican investments. The size of the risk premium is not easy to estimate, but the data suggest it was large during the mid-1980s--perhaps as much as 20 to 30 percentage points (see Figure 2-1 in Chapter 2).[9] In this light, the 10 percentage points used in this study is a conservative assumption.

The second modification affects consumption behavior. The behavior of consumers in the MSG model is guided by behavior observed in developed countries. The model assumes that 30 percent of consumers are forward-looking, meaning that their wealth is important in determining how much they consume. The remaining consumers are not forward-looking; they consume according to their current income rather than their wealth.

CBO reduced the proportion of Mexican consumers that the model assumes to be forward-looking. Studies of consumption in developing countries suggest that far fewer consumers in those countries have the resources or access to markets and credit to be able to plan ahead than their counterparts in developed countries.[10] Households in developing countries typically face not only poorly developed financial markets, but also economic uncertainty from politically motivated policies, such as credit limitations (especially interest rate ceilings on loans and deposits) and the crowding out of private capital by government bonds. For a sample of countries whose per capita gross domestic product (GDP) is similar to that of Mexico, the proportion of consumers who behave as if they are forward-looking may be half to less than a quarter of the proportion for developed countries. Changing this proportion makes consumption more responsive to current income and less determined by expected future wealth, but it has relatively small effects on the results in the simulations of this study.

Key Modifications for NAFTA and Their Implications

NAFTA, complemented by other liberalization reforms, is widely expected to lower the risk of investment and increase capital flows into Mexico, which should lead to greater productivity and eventually higher long-term growth rates. CBO made two modifications to illustrate these effects of NAFTA: it increased productivity growth in Mexico, thereby boosting the level of GDP in the long term; and by eliminating the risk premium, it reduced the amount of risk that investors face, which contributes to an increase in capital flows to Mexico.

Increased Productivity and Growth of the Mexican Economy. To model the increased growth in Mexico that is expected to occur under NAFTA, CBO increased the rate of total factor productivity (TFP), which is the addition to growth after accounting for growth in the inputs of capital and labor. The magnitude of the assumed increase in TFP growth is conservative (as discussed in Chapter 2), based on the stylized facts of economic performance of other developing countries, regression analyses of growth such as that by Chenery and colleagues, and a recent study by Edwards.[11] The contribution of TFP to total

9. Proxies for currency risk can be derived from the difference between Mexican and U.S. interest rates, but because the underlying instruments are denominated in different currencies, large errors can occur in translating and using expected currency exchange rates.

10. See, for example, Angus Deaton, "Savings in Developing Countries: Theory and Review" and "Comments," *Proceedings of the World Bank Annual Conference on Development Economics, 1989* (1990), pp. 61-108; K. Schmidt-Hebbel, S. B. Webb, and G. Corsetti, "Household Savings in Developing Countries: First Cross-Country Evidence," *World Bank Economic Review*, vol. 6, no. 3 (1992), pp. 529-547; and Nadeem U. Haque and Peter J. Montiel, "Consumption in Developing Countries: Tests for Liquidity Constraints and Finite Horizons," *Review of Economics and Statistics*, vol. 71, no. 3 (1989), pp. 408-415.

11. Hollis B. Chenery, Sherman Robinson, and Moises Syrquin, *Industrialization and Growth: A Comparative Study* (New York: Oxford University Press, 1986); and Sebastian Edwards, "Trade Liberalization Reform in Latin America: Recent Experiences, Policy Issues and Future Prospects" (paper presented at the UCLA Economic Forecasting and Public Policy Conference, University of California at Los Angeles, December 1992).

GDP growth rates typically ranges from 25 percent to 60 percent, with the Asian newly industrialized countries (NICs) on the high end.[12]

CBO examined two scenarios for the increase in productivity, both with a reduction in the riskiness of investment. One scenario assumes that the rate of TFP increases one-half of one percent annually for 11 years following the ratification of NAFTA, bringing the cumulative increase in the level of TFP to 5.5 percent by the 11th year. The other scenario assumes that the addition to TFP gradually builds over 11 years to a cumulative increase of just 1.5 percent.

In the 5.5 percent scenario, Mexico's current-account deficit, capital stock, and output stabilize at about 7 percent, 16 percent, and 12 percent, respectively, above the baseline level. In the 1.5 percent scenario, Mexico's current-account deficit, capital stock, and output are permanently about 6.5 percent, 12 percent, and 6 percent, respectively, above the baseline level. Figure 2-4 in Chapter 2 illustrates the impact of these changes on Mexico's real output. Unless Mexico grows faster than the Asian NICs, a reasonable range of results is between the two scenarios for productivity.

Reduction in the Riskiness of Investment. NAFTA is expected to lower the level of risk of investing in Mexico. In the MSG model, this expectation is represented by the elimination of the assumed 10 percent risk premium over three years.

The assumed reduction in the level of risk represents the average change in the risk premium attributable to Mexico's program of liberalization, including both the reforms carried out since the mid-1980s and the full implementation of NAFTA. The baseline, with the assumed risk premium, corresponds to the mix of policy in the Mexican economy in 1986 or most of 1987; that is, it includes substantial reductions in the Mexican government's deficit, but little other effective reform at the macroeconomic level. The reduction in the risk premium in the illustrative scenarios reflects the full implementation of all the major reforms begun since early 1988, including the reduction in foreign debt and completion of NAFTA.

The reduction in the risk premium assumed by CBO represents the net reduction over all three classes of risk (country, convertibility, and currency risks), but is based primarily on evidence for significant reductions in country risk associated with investments in Mexico. The default risk (roughly the sum of country risk and convertibility risk) on Mexico's external debt fell by about 7 percentage points between early 1990 and mid-1991. The yield on Mexico's dollar-denominated external debt has dropped by 9 percentage points. This drop reflects the completion of a comprehensive debt reduction package with foreign commercial banks in early 1990, in conjunction with a deepening of Mexico's structural reforms and progress achieved in negotiations for NAFTA.[13] In addition, a different measure of country risk dropped by about 5 percentage points between early 1990 and March 1992.[14] This latter measure declined by an additional 3 percentage points by the end of 1992.

Although it is very difficult to estimate how much currency risk may have fallen in anticipation of NAFTA, CBO believes that there would be some reduction in the sum of convertibility and currency risks between the two scenarios. Using the overall reduction in the risk premium in the simulations gives results that seem broadly consistent with historical observations.

12. See, for example, Oli Havrylyshyn, "Trade Policy and Productivity Gains in Developing Countries: A Survey of the Literature," *World Bank Research Observer*, vol. 5, no. 1 (January 1990), pp. 1-24.

13. See Hoe E. Khor and Liliana Rojas-Suarez, "Interest Rates in Mexico: The Role of Exchange Rate Expectations and International Competitiveness," *IMF Staff Papers*, vol. 38, no. 4 (December 1991).

14. See Annex IV, "Interest Rates and Capital Flows" in Organization for Economic Cooperation and Development, *OECD Economic Surveys: Mexico, 1991/1992* (Paris: OECD, 1992).

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