USITC Publication 3419 March/April 2001

INTERNATIONAL ECONOMIC REVIEW

United States International Trade Commission
Office of Economics

International Trade Developments

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Robert B. Koopman, *Director*

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Lumber in North America: The Calm Before the Storm?

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The expiration of the U.S.-Canada Softwood Lumber Agreement at the end of March 2001 has been anticipated on both sides of the border for the past year. Supporters and opponents in each country include lumber producers, legislators, environmentalists, consumer spokespersons, and trade policy analysts. The relative peace of the last five years is likely to be followed by more division on the bilateral trade front.

Overview

Lumber has been the subject of one of the longest running bilateral disputes between the United States and Canada, dating from 1982.[2] During that time, there have been three investigations, a series of CFTA panel reviews,[3] and a memorandum of understanding between both governments. The U.S. industry–faced with increased market share by Canada–threatened another countervailing duty (CVD) action in late 1995-early 1996. This would have been the fourth such investigation in 14 years. High-level negotiations resulted in a 5-year agreement-in-principle between both countries. Under the terms of the Softwood Lumber Agreement (SLA), which became effective in the spring of 1996, Canada agreed to apply fees to exported amounts in excess of 14.7 billion board feet destined for the United States, while the United States agreed to take no official action against lumber imports from Canada.

U.S.-Canadian Softwood Lumber Agreement

On May 29, 1996, the United States and Canada formally entered into a 5-year agreement "intended to ensure that there is no material injury or threat thereof to an industry in the United States from imports of softwood lumber from Canada."[4] The agreement was originally announced on April 2, 1996, and the legal details were finalized over the subsequent 8 weeks.

The 5-year agreement established annual allocations and fees for lumber exports to the United States from the Canadian provinces of Alberta, British Columbia, Ontario, and Quebec.[5] The SLA stipulated that up to 14.7 billion board feet of lumber may be exported annually without additional fees (i.e. export taxes); however, for quantities between 14.7 billion and 15.35 billion board feet, a fee of US$50 per thousand board feet would be assessed; and a fee of US$100 per thousand board feet would be assessed for exports in excess of 15.35 billion board feet per year. The Government of Canada was responsible for allocating export

[1] The views and conclusions expressed in this article are those of the author. They are not necessarily the views of the U.S. International Trade Commission as a whole or of any individual Commissioner.

[2] Sources consulted for this article include previous issues of the ITC's annual series, *The Year In Trade*, 1991-96.

[3] CFTA stands for the Canada-U.S. Free Trade Agreement.

[4] Paragraph 1 of the agreement. Formally known as the Softwood Lumber Agreement Between the Government of the United States of America and the Government of Canada, hereafter referred to as the SLA.

[5] The Yukon and Northwest Territories were also subject to the SLA.

allowances to the four provinces. Each province has an allocation and exported amounts over the allocation are assessed fees.

Under the SLA, U.S. lumber companies, unions, and trade associations pledged that they would not seek recourse to U.S. trade laws against imports of softwood lumber from Canada for the duration of the 5-year agreement. Furthermore, Canada was assured that the U.S. Department of Commerce would not self-initiate any trade action during the life of the agreement and would dismiss any petition from this sector that was brought under the countervailing duty or antidumping laws as long as the agreement was in effect and not breached. With the SLA expiring on March 31, 2001, discussion of the agreement and its perceived shortcomings dominated the bilateral trade situation during 2000 and early 2001.

Background

Under consultative procedures agreed by the United States and Canada prior to the SLA in late 1994, both sides were required to enter into a dialogue on the issues that underlay this longstanding bilateral trade dispute. Officials from U.S. and Canadian governments and executives from lumber industries, met throughout 1995 to discuss the various forestry practices in their respective jurisdictions with the objective that all sides would come to understand the respective forestry practices and policies. Realizing that forestry policies varied greatly among the Provinces, and that applying one solution across provincial lines was impossible, U.S. and Canadian negotiators decided that individual provincial solutions were needed.

On February 16, 1996, the United States and Canada entered into an agreement-in-principle limiting the amount of Canadian exports of softwood lumber to the United States and thus ending a long-standing trade dispute between the two countries. The agreement-in-principle called for an export tax to be levied on U.S.-destined lumber originating in British Columbia, Canada's largest lumber exporting province, and an increase in stumpage fees[6] that producers pay the provincial government to fell trees in Quebec, Canada's second largest lumber producing province. Under the accord announced on February 16, 1996, British Columbia agreed to reduce its volume of exports to the United States by about 14 percent, while Quebec, resisting the export tax regime employed by British Columbia, agreed to raise its stumpage fees. In return for these concessions, Canada was assured that no further trade complaints would be launched against softwood lumber by the United States for the 5-year duration of the accord.

After concluding the February 16, 1996 accord, both sides entered into a series of negotiations needed to reach agreement on the implementation and enforcement of the agreement-in-principle. On April 2, 1996, United States Trade Representative (USTR) Ambassador Kantor announced that the agreement-in-principle of February 16, 1996, had been finalized, albeit in a different fashion. Realizing that a province-by-province solution was not possible as previously envisaged, Canada and the four major exporting provinces concluded that a straightforward, unified approach would be more workable and effective. Specifically, Alberta, British Columbia, Ontario, and Quebec agreed to tax shipments over 14.7 billion bd. ft. from the 1995 level of 16.2 billion board feet to 14.7 billion for the year starting April 1, 1996. However, a provision allowed for additional Canadian lumber from these provinces to enter the U.S. market in times of increased demand. This lumber was to be subject to a Canadian export tax at a rate of US$50 per thousand board feet for the first 650 million board feet in excess of the annual threshold and US$100 per thousand board feet in excess of the additional amount.

Recent Developments

The agreement continued throughout the ensuing period, but periodic expressions of dissatisfaction were not unusual. During the year 2000, as the expiration of the SLA approached, the negotiations seemed to begin informally in the press. Both sides argued that a return to "free trade" would improve the situation. In the United States, the debate on the agreement pitched the lumber industry on one side against consumer interests on the other. The former maintained that the moratorium on countervailing duty action against Canadian lumber was harmful to U.S. businesses, while the latter camp held that the agreement limited the supply of finished lumber in this country, causing an increase in the price of new housing. A split also occurred in Canada, where one camp focused on negotiating a successor agreement while another camp focused on allowing the existing agreement to expire, with the result being an end to any further government intervention. The lack of consensus in both countries further complicated resolution of the issue.

During 2000, a number of attempts were made to jump start the movement toward a successor agreement, or otherwise anticipate the expiration of the SLA. Some of these attempts involved U.S. legislators requesting information from the USTR, while others indicated their support for one course of action or another. Environmental groups in both countries spoke out on perceived shortcomings in the bilateral agreement as well as the lumber policy in each country.

[6] Stumpage is the term used to refer to the charges imposed by provincial governments on lumber producers harvesting timber on public lands in Canada. The level of stumpage fees has been one of the foremost controversies between the parties in the underlying countervailing duty investigations and trade negotiations.

Overall, environmental groups have been arguing for less management of trade, but also for greater management of forests as a natural resource. The softwood lumber dispute has been considered by some observers to be a case study of the intersection between environmental and trade issues.

A nonpartisan research institute in the United States published an assessment of the SLA in July 2000, arguing against any continuation of the agreement. It characterized the agreement as "a boondoggle that benefits a few lumber producers here in the United States at the expense of millions of workers in lumber-using industries–not to mention millions of American homebuyers." [7]

[7] Brink, Lindsey, Mark A. Groombridge, and Prakash Loungani, *Nailing the Homeowner: The Economic Impact of Trade Protection of the Softwood Lumber Industry*, Trade Policy Study No. 11, The Cato Institute, July 6, 2000, p. 10.

None of these considerations prevented the termination of the agreement, which expired on schedule on March 31, 2001. Subsequently, the Coalition for Fair Lumber filed a petition with the U.S. Department of Commerce and the U.S. International Trade Commission to institute an investigation into unfairly traded lumber from Canada.[8] The petition lists 254 U.S. companies in support of the allegations of unfair trade, and these companies are said to represent 65 percent of total U.S. softwood lumber production in the year 2000. Among the major producers not directly associated with the petition are: Weyerhauser, Boise-Cascade, and Georgia-Pacific. Interested parties on both sides of the border are now waiting to see how much this current lumber dispute is likely to resemble its predecessors or whether new solutions can be found.

[8] In filing the case, the Coalition was joined by two U.S. labor unions.

The Effects of Foreign Direct Investment on the U.S. Economy

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As both U.S. direct investment abroad and foreign direct investment in the United States ("outbound" and "inbound" FDI, respectively) continue to grow steadily, interest in the effects of such investment on U.S. wages, employment, imports, exports, and productivity is ongoing. Both types of investment are associated with increases in international trade and with R&D expenditures. Fears that outbound FDI depresses the U.S. wage structure are not supported by available evidence, while inbound FDI creates upward pressure on wages, particularly in services. The following article is based on a recently released USITC Staff Research Study.

Overview

The role of foreign direct investment (FDI) in the U.S. economy continued to increase during the 1990s, both of U.S. direct investment abroad ("outbound" FDI) and of foreign direct investment in the United States ("inbound" FDI). Based on Commerce department data, sales of U.S. affiliates abroad reached $2.44 trillion in 1998, while sales of foreign affiliates in the United States were $1.88 trillion in the same year. While total U.S. merchandise trade (U.S. exports plus U.S. imports) grew at an annual rate of 3.6 percent per year during 1990-98, total U.S. trade of U.S. affiliates abroad grew at an annual rate of 8.6 percent, and total U.S. trade of foreign-owned affiliates in the United States grew at 6.1 percent per year. Some 32 percent of U.S. trade is now associated with outbound FDI, and 31 percent is associated with inbound FDI.[2] Foreign-owned firms in the United States account for 4.8 percent of U.S. GDP and 4.2 percent of U.S. civilian employment.

Much of the research on the subject of FDI has focused on its possible effects on employment, wages, trade, and research and development (R&D) in the United States. This article briefly surveys the current economic literature to see what evidence is available on these topics. More detailed coverage of FDI and the U.S. economy can be found in USITC Staff Research-Study 26, which contains an extensive statistical treatment of outbound investment, inbound investment, and their relationship to U.S. exports and imports, and discusses theoretical models of FDI and the empirical evidence regarding its determinants.[3]

Wages and Employment

Effects of Inbound Direct Investment

One of the foremost questions regarding FDI is what impact does it have on wages and employment in the host country. Empirical evidence on the effects of inbound direct investment on U.S. wages and employment is at present relatively more clear than the effects of outbound direct investment. Economic theory would suggest that to the extent inbound investment increases capital per worker in the United States, or brings workers in contact with new technology, it would tend to increase wages of skilled workers. In fact, foreign-owned businesses in the United States are more capital-intensive and pay higher wages than their domestically owned counterparts.[4]

[1] The views and conclusions expressed in this article are those of the author. They are not necessarily the views of the U.S. International Trade Commission as a whole or of any individual Commissioner.

[2] These figures overlap to some extent. For example, U.S. exports may be shipped from a French-owned affiliate in Ohio to a U.S.-owned affiliate in Germany, thus being associated with both outbound and inbound investment.

[3] *Examination of U.S. Inbound and Outbound Direct Investment*, Staff Research Study 26, USITC Office of Industries, Publication 3383, Jan. 2001.

[4] Bruce A. Blonigen and Matthew J. Slaughter, "Foreign-Affiliate Activity and U.S. Skill Upgrading," NBER Working Paper No. 7040 (1999).

In the case of non-manufacturing establishments, which employed 3.1 million of the 5.6 million workers employed by foreign-owned affiliates in the United States, a wage premium is associated with foreign ownership even after controlling for other statistical factors. Using matched industry-by-state data from the U.S. Department of Labor's Bureau of Labor Statistics (BLS) and Bureau of the Census for 1987 and 1992, Feliciano and Lipsey demonstrated that foreign-owned firms pay wages nearly 30 percent higher, on average, than domestically owned firms. Most of this disparity is due to differences in the industries toward which foreign-owned firms gravitate, size of establishment, and educational and gender characteristics of employees. Taking these differences into account, there is no difference between manufacturing wages in foreign- and U.S.-owned establishments in the United States, but a differential remains for non-manufacturing wages of 7 to 8 percent in favor of foreign-owned establishments.[5]

Earlier, Lipsey found that foreign-owned establishments tend to gravitate towards lower-wage U.S. states, but pay more than domestically owned firms in the same industry and state.[6] Blonigen and Figlio conducted a similar study at the county level and found that employment growth in foreign-owned firms in the local industry had an effect on wages that was seven times greater than employment growth in domestically owned firms in the same industry.[7] Further supporting these results, Aitken *et al.* note that in raw data for 1988, 1990, and 1991, value-added per employee on an industry-weighted basis was about 10 percent higher for foreign-owned establishments in the United States than for U.S. domestically owned establishments. A good portion of this difference is explained by the fact that the foreign-owned establishments are on average in more capital-intensive industries. However, even after controlling for capital intensity, compensation per worker is higher in industries in which foreign-owned establishments account for the greatest share of total industry employment. This result holds true for both foreign-owned and domestically owned establishments in these industries, suggesting that productivity and wage-enhancing effects of foreign ownership may "spill over" into U.S.-owned firms.[8] The literature also suggests that inbound investment has helped to ease some of the transitional and cyclical stresses on the U.S. economy during periods of recession.[9]

[5] Zadia Feliciano and Robert E. Lipsey, "Foreign Ownership and Wages in the United States, 1987-1992," NBER Working Paper No. 6923 (1999).

[6] Robert E. Lipsey, "Foreign-Owned Firms and U.S. Wages," NBER Working Paper No. 4927 (1994).

[7] Bruce A. Blonigen and David N. Figlio, "The Effects of Direct Foreign Investment on Local Communities," NBER Working Paper No. 7274 (1999).

[8] Brian Aitken, *et al.*, "Wages and Foreign Ownership: A Comparative Study of Mexico, Venezuela, and the United States," NBER Working Paper No. 5102 (1995).

[9] Jane S. Little, "The Effects of Foreign Direct Investment on U.S. Employment during Recession and Structural

Effects of Outbound Direct Investment

The empirical evidence on the topic of outbound FDI is mixed, in part due to the complexity of the phenomenon. The effect of outbound FDI on wages, particularly on the relative wages of domestic skilled and unskilled workers, is probably outweighed by other factors such as technological change. There are plausible economic mechanisms linking U.S. direct investment abroad (that is, outbound FDI) to either wage increases (e.g., if outbound FDI supports U.S. exports) or wage decreases (e.g., if production overseas mostly displaces U.S. production). As will become apparent, researchers using a variety of methods have been unable to concur on whether the likely effect of outbound FDI on U.S. wages is positive or negative, though the most careful estimates show relatively small effects.

It is often claimed that U.S. multinational corporations (MNCs) shift activities involving less-skilled labor to foreign locations, and that this practice causes declines in employment for less-skilled labor at U.S. parent companies. However, Baldwin, reviewing a number of studies using mainly 1980s data, states that:

> "the view of most economists seems to be that no firm conclusion is warranted about the net employment effects of direct foreign investment. Broad generalizations are difficult because of the very different employment effects one obtains from various plausible alternative assumptions about what will happen in the absence of foreign investment and what the magnitude of increased imports by the host country from the investing country will be."[10]

An early, but still useful, statement of the assumptions and projections which must be made in assessing the effect of outbound FDI on wages and employment was made by Hawkins:

1. "What would local (U.S.) production have been had foreign-affiliate production not existed?
2. Without foreign affiliates, what would U.S. exports have been?
3. [W]hat relationship ... should be used to translate production in terms of dollars into man-years of employment (or jobs)?
4. How many service, management, and staff employees would not be needed in MNCs' home offices or in their supporting service organizations if no production were carried out abroad?

[9]—*Continued*
Change," *New England Economic Review* (Nov/Dec 1986), pp. 40-48.

[10] Robert E. Baldwin, "The Effect of Trade and Foreign Direct Investment on Employment and Relative Wages," National Bureau of Economic Research (NBER) Working Paper No. 5037 (Cambridge, MA: NBER, 1995).

> "... Those who have criticized MNCs as vehicles for "runaway plants" and "exporters of jobs" have almost universally ignored items 2 and 4, and have assumed that, in item 1, most, if not all foreign production of MNCs could have been produced at home–and they often ignore the vital qualification–*without* loss of markets to foreign competitors. On the other hand, the advocates of the MNCs tend to emphasize items 3 and 4, especially the employment associated with export stimulation, and assume or conclude that little if any foreign production displaces U.S. production ... [and] that markets would have been lost to foreign competition in the relatively near future, had the foreign investment been foregone."[11]

Yet, Lipsey reports that 1989 employment by U.S. parent firms was negatively correlated with foreign affiliates' production, with a loss of about 0.8 parent employees for every million dollars in affiliate sales.[12] Kravis and Lipsey reported similar results using 1982 data.[13] However, the negative relationship between affiliate sales and parent employment occurs only in the manufacturing sector, in which the loss was estimated to be about 1.4 employees per million dollars of affiliate sales. An additional million dollars of affiliate sales in the services and petroleum sectors was associated with a gain of 1.2 employees in the parent firm.

A number of studies have noted that since the 1970s, wages of U.S. "white-collar" or "non-production" workers have grown more rapidly than wages of U.S. "blue-collar" or "production" workers, while at the same time demand for non-production workers relative to production workers has increased. Analysis has focused on the extent to which these shifts can be attributed either to technological factors that have increased the relative demand for skilled labor, or international factors such as increased imports from or outbound direct investment in low-wage countries.[14]

Feenstra and Hanson provide evidence that both increasing imports and U.S. direct investment abroad may have played a role in the increasing wage gap. They argue that shifts of capital from developed countries to developing countries will lead to rising relative wages of skilled workers in both the so-called North and the South,[15] as will neutral[16] technological change in the South.[17] The authors note that increases in the wage differential between skilled and unskilled workers occurred in both the United States and Mexico in the 1980s, at the same time as direct investment capital flowed from the United States to Mexico under the maquiladora program, providing circumstantial support for their argument.[18]

However, other evidence points to technological change, rather than trade or direct investment, as the primary factor underlying the rising premium paid to skilled workers.[19] First, if imports of unskilled labor-intensive goods were driving down the wages of unskilled workers, the prices of these goods should be falling relative to other goods.[20] In the United States, Germany, and Japan, neither wholesale prices nor import prices of unskilled labor-intensive goods have fallen. Second, the fact that both wages *and* employment of skilled workers have been growing simultaneously suggests an increase in the overall demand for skilled workers, which is easier to reconcile with technological change than with trade.

With respect to direct investment, Lawrence notes that workers in foreign affiliates of U.S. parent firms, in both developed and developing countries, fared similarly to each other as well as to U.S. workers. From 1977 to 1989, the employment share of non-production workers in the United States increased and the relative wage of non-production workers fell. While there was some increase in the share of U.S. MNCs' global employment in developing-country affiliates, the behavior of relative wages and employment shares globally is more consistent with technological change than with a

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[11] Robert G. Hawkins, "U.S. Multinational Investment in Manufacturing and Domestic Economic Performance," Occasional Paper No. 1, Feb. 1972, (Washington DC: Center for Multinational Studies), p. 20.

[12] This result was obtained from a regression in which parent firm employment was a function both of parent net sales (defined as parent sales less imports from affiliates) and affiliate net sales (defined as affiliate sales less imports of affiliates from the United States). Robert E. Lipsey, "Outward Direct Investment and the U.S. Economy," NBER Working Paper No. 4691 (1995).

[13] Irving B Kravis and Robert E. Lipsey, "The Effect of Multinational Firms' Foreign Operations on Their Domestic Employment," NBER Working Paper No. 2760 (1988).

[14] A useful series of reviews appears in the *Journal of Economic Perspectives (JEP)* symposium entitled "Income Inequality and Trade," vol 9, No. 3 (Summer 1995). This includes Richard B. Freeman, "Are Your Wages Set in Beijing?" pp. 15-32, and David J. Richardson, "Income Inequality and Trade: How to Think, What to Conclude," pp. 33-56, who present the conventional wisdom that technology has played a larger role than trade in the increasing wage gap between skilled and unskilled workers; and Adrian Wood, "How Trade Hurt Unskilled Workers," pp. 57-80, who maintains that trade has played a larger role.

[15] The North refers to developed countries, the South refers to developing countries.

[16] I.e., technological change that does not alter the employment shares of skilled and unskilled labor for given relative wages.

[17] While not emphasized by Feenstra and Hanson, *biased* technological change in favor of skilled labor taking place worldwide could also account for increasing skilled-unskilled wage gaps in both the North and the South.

[18] Robert C. Feenstra and Gordon H. Hanson, "Foreign Investment, Outsourcing and Relative Wages," NBER Working Paper No. 5121 (1995).

[19] Robert Z. Lawrence, "Trade, Multinationals, and Labor," NBER Working Paper No. 4836 (1994).

[20] This result is known in trade theory as the Stolper-Samuelson theorem.

transfer of low-skilled wages and employment from North to South.

Slaughter argues that the data on U.S. outbound direct investment in the 1980s do not support the view that increased developing-country employment by U.S. MNCs changed the structure of wages in the United States. Estimating MNCs' demand for domestic and foreign labor formally, he finds that home and foreign production labor "at best seem to be weak price substitutes and may in fact be price complements."[21] If U.S. and foreign production labor are price complements, then the availability of cheap labor in one country enhances employment in all the countries in which the firm operates.

In a paper focusing on U.S. parent firm employment, Brainard and Riker find that while there is a small amount of substitution between workers in the parent firm and foreign affiliates in developing countries, substitution among workers in different developing country affiliates is more intense. That is, in choosing to employ workers in one developing country rather than another, U.S. MNCs prefer developing countries with lower wages;[22] but the allocation of employment between U.S. and developing country locations is not much affected by wages.[23] In a companion paper, Brainard and Riker analyze firm-level data on foreign manufacturing affiliates owned by U.S. firms between 1983 and 1992. Their results indicate that within U.S. multinationals, lower wages in developing-country affiliates tends to be associated with increased employment in developed-country affiliates.[24] This means that developed and developing country labor within the same firm are complements rather than substitutes. Labor in developed country affiliates tends to substitute for labor in other developed country affiliates.[25] These results are consistent with a situation in which workers in developed and developing countries work together in performing tasks at different skill levels in a vertically integrated production process, while workers in various developed countries are working in horizontally integrated affiliates, any one of which can service a number of markets.[26]

U.S. Exports and Imports

A second major focus when examining the question of FDI is its affect on a host country's trade, its exports and imports of goods and services. In principle, U.S. trade could either increase or decrease with changes in FDI. One motive for the linkage of trade to FDI is the transfer of intermediate or semifinished inputs from one branch of a multinational firm to another branch in another country, or the shipping of finished goods from a manufacturing-oriented affiliate to a sales-oriented affiliate. Thus, if affiliate activity increases, and the ratio of affiliate sales to intra-firm trade of affiliates remains constant, then merchandise trade will increase as well. This type of relationship between affiliate sales and trade is called "complementarity." In principle, increased FDI could lead to decreased merchandise trade if affiliate sales in foreign markets displace exports from the parent which would have otherwise served those markets ("substitution"). In the aggregate, whether increases in FDI lead to increases or decreases in merchandise trade depends on whether the complementarity effect outweighs the substitution effect.

Effects of Inbound Direct Investment

Most of the available evidence suggests that inbound investment and U.S. imports are complementary; that is, foreign parent firms tend to ship intermediate goods to their U.S. affiliates, so that inbound direct investment and U.S. imports are positively correlated. Inbound investment and U.S. exports appear to be complementary as well; Leichenko and Erickson found that inbound investment in manufacturing is positively related to improvements in state-level manufacturing export performance.[27] However, recent work suggests that there is an important distinction between final and intermediate goods in characterizing inbound

[21] Matthew J. Slaughter, "Multinational Corporations, Outsourcing, and American Wage Divergence," NBER Working Paper No. 5253 (1995).

[22] Specifically, a 10-percent decline in wages in a given developing country is associated with a decline of 0.17 percent in U.S. parent firm employment, and with a much larger decline of 1.6 percent in employment in other developing-country affiliates.

[23] Lael S. Brainard and David A. Riker, "Are U.S. Multinationals Exporting U.S. Jobs?" NBER Working Paper No. 5958 (1997).

[24] Lael Brainard and David Riker, "Are U.S. Multinationals Exporting U.S. Jobs?"

[25] Specifically, a 10-percent decline in wages in developing-country affiliates is associated with a 1.9-percent increase in developed-country employment, while a 10-percent decline in wages in developed country affiliates is associated with a 1.5-percent decrease in developed country employment.

[26] Multinational corporations that maintain facilities in more than one country can be broken down into two categories: vertical and horizontal. Vertical MNCs are firms that geographically fragment production into stages, typically on the basis of factor intensities. For example, an MNC would locate unskilled labor-intensive activities in unskilled labor-abundant countries, and skilled labor-intensive activities in skilled labor-abundant countries. Horizontal MNCs are firms that produce the same goods and services in multiple countries.

[27] Robin M. Leichenko, and Rodney A. Erickson, "Foreign Direct Investment and State Export Performance," *Journal of Regional Science,* vol. 37, No. 2 (1997), pp. 307-29.

investment and exports as substitutes or complements. For example, using highly disaggregated product-level data, Blonigen finds evidence of substitution for a set of Japanese-produced final consumer goods.[28] Import demand for these goods in the United States is lower when Japanese production in the United States is higher, after taking the effects of import prices and U.S. income into account. He finds evidence for both substitution and complementarity effects between affiliate production and exports of intermediate products, specifically Japanese automobile parts.[29] Increased production of autos by Japanese affiliates in the United States is positively associated with exports of Japanese auto parts to the United States (the complementarity effect), while increased production of auto parts themselves by Japanese affiliates in the United States is negatively associated with exports of Japanese auto parts in the United States (the substitution effect).

Effects of Outbound Direct Investment

The balance of evidence indicates that U.S. exports tend to be positively associated with U.S. direct investment abroad. A major reason for this positive association is seen in the raw data alone–in 1997, nearly 24 percent of U.S. exports were exports of U.S. parent firms to their foreign affiliates. A significant amount of empirical research has been devoted to assessing the relative strength of these two effects. Blonigen reviews a large number of studies that generally find complementarity between trade and direct investment (i.e., increasing direct investment is associated with increasing trade).[30] While there is little evidence for substitution between U.S. exports and outbound FDI in the aggregate, there may well be substitution at the level of specific products, particularly consumer goods. As described above, Blonigen found the effects for Japanese foreign direct investment in the United States.

[28] E.g. microwave ovens, pianos, golf equipment, soy sauce, sake, etc. Bruce A. Blonigen, "In Search of Substitution Between Foreign Production and Exports," Working Paper, University of Oregon, 1999.

[29] E.g., automotive mirrors, engine coils, car radios, and door locks. Bruce A. Blonigen, "In Search of Substitution Between Foreign Production and Exports."

[30] Bruce A. Blonigen, "In Search of Substitution Between Foreign Production and Exports," Working Paper, University of Oregon, 1999. Several of the studies cited use country- or industry-level data: Robert E. Lipsey and Merle Y. Weiss, "Foreign Production and Exports in Manufacturing Industries," *Review of Economics and Statistics (RES)*, vol. 63, No. 4 (1981), pp. 488-494; Edward M. Graham, "The Relationship Between Trade and Foreign Direct Investment in the Manufacturing Sector," in Dennis Encarnation, ed., *Does Ownership Matter? Japanese Multinationals in East Asia* (Oxford: Oxford University Press, and Clarendon Press, 1994); and Kimberly Clausing, "Does Multinational Activity Displace Trade?" *Economic Inquiry*, vol. 38 no. 2 (2000). Others use firm-level data: Birgitta Swedenborg, *The Multinational Operations of Swedish Firms* (Stockholm: The Industrial Institute for Economic and Social Research, 1979); Robert E. Lipsey and Merle Y. Weiss, "Foreign Production and Exports of Individual Firms," *RES*, vol. 66, No. 2 (1984), pp. 304-307; Magnus Blömstrom, *et al.*, "U.S. and Swedish Direct Investment and Exports," in R.E. Baldwin, ed., *Trade Policy Issues and Empirical Analysis* (Chicago: University of Chicago Press, 1988); and Rene Belderbos and Leo Sleuwagen, "Tariff Jumping DFI and Export Substitution: Japanese Electronics Firms in Europe," *International Journal of Industrial Organization*, vol. 16, No. 5 (1998), pp. 601-638.

Research and Development

A third topic frequently raised in connection with FDI is its potential impact on research and development activities among MNCs residing in the host country, both domestic and foreign owned. There is substantial evidence that firms and industries which are heavily oriented toward R&D are more likely to engage in foreign direct investment. The ratio of R&D to sales, the average wage per employee (used as a measure of skilled-labor-intensity), and the share of managers in total employment have all been shown repeatedly to be correlated with the propensity of firms or industries to engage in FDI.[31] These results are usually interpreted as meaning that R&D causes FDI, even when the statistical tests used do not explicitly test for causation. There is relatively little direct evidence for or against the converse proposition, that U.S. firms or industries that do more investing abroad are more likely as a result to engage in R&D in the United States.

Most theories of the multinational firm suggest both that R&D may stimulate FDI, and that FDI may increase the incentives to do R&D. Fundamental to the internal logic of the multinational firm is the ability to profit from firm-specific knowledge generated at one location by employing that knowledge in a variety of locations. That is, centrally performed R&D can be used to enhance productivity or product diversity in a number of countries simultaneously; thus, R&D in a multicountry, multiplant firm can enjoy sharply increasing returns to scale. Since the returns to R&D are higher if they are exploited by means of FDI, this means both that R&D-intensive firms have greater incentives to do FDI, and that FDI-intensive firms have greater incentives to do R&D.

The theories just described are driven by the assumption that R&D is concentrated in the home country. Evidence on the geographic location of R&D within U.S. multinationals supports this assumption. Indeed, R&D is disproportionately concentrated in the U.S.-located parent operations of U.S. multinationals. In 1994, U.S. parent firms of non-bank MNCs

[31] John H. Dunning, *Multinational Enterprises and the Global Economy* (1993), chapter 6, reviews this result extensively.

performed $91.6 billion of R&D, of which $81.3 billion was self-funded, with the difference primarily accounted for by government funding. Majority-owned, non-bank foreign affiliates performed R&D costing $11.9 billion, of which $10.4 billion was funded by the affiliates. The ratio of R&D in parent firms to R&D in majority-owned affiliates was thus 7.7 to 1. This compares with ratios of 3.3 to 1 for assets and employees, 2.8 to 1 for sales and 2.4 to 1 for net income. Lipsey reported computations on earlier data consistent with this, noting that the ratio of R&D expenditures to sales in U.S. parent companies is significantly higher than that of foreign affiliates.[32]

One direct way in which the presence of affiliates stimulates U.S.-based R&D is through flows of funds internal to the firms themselves. Majority-owned foreign affiliates remitted $16.7 billion in royalties and license fees to U.S. parent firms while receiving less than $400 million of such payments from their parent firms. Thus, foreign operations provide a net subsidy to U.S.-based R&D.

[32] Robert E. Lipsey, "Outward Direct Investment and the U.S. Economy."

Conclusion

Concerns that outbound FDI leads to decreases in U.S. wages through a "giant sucking sound" mechanism appear to be misplaced based on present evidence. While inbound FDI is associated with wage increases in services, both outbound and inbound FDI stimulate U.S. trade and are associated on balance with increases in U.S. trade. The presence of outbound FDI stimulates R&D in the United States, and foreign-owned affiliates do significant amounts of R&D. On balance, free movement of investment into and out of the United States generates significant benefits for Americans.

Inbound FDI is associated with a significant amount of R&D as well. Foreign-owned affiliates in the United States performed $25.1 billion of R&D in 1998. This includes $6.0 billion in pharmaceuticals, $5.2 billion in computers and electronic products, $4.8 billion in various service industries, $2.7 billion in transportation equipment, and the rest in various branches of manufacturing, mining, and agriculture.

Mexican Sugar and U.S. Sweeteners

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Mexico turns to NAFTA to resolve its dissatisfaction with the U.S. tariff rate quota for sugar. U.S. exporters of high-fructose corn syrup sweeteners and the U.S. Government turn to NAFTA and the WTO to challenge the legality of the steep antidumping duties Mexico imposed on imports of this product.

Overview

Mexican access to the U.S. sugar market and U.S. access to the Mexican high-fructose corn syrup (HFCS) market continue to be ongoing disputes of major proportion between the two countries. These are among the few stubborn issues that refuse to go away, against the background of the North American Free Trade Agreement (NAFTA), which proceeds smoothly in eliminating existing barriers to bilateral trade. HFCS is used primarily as a sweetener in soft drinks, but it is also an input in the bakery, fruit processing, fruit juice canning, and yogurt industries. Because sugar and HFCS have a high degree of substitutability, issues of their access to the partner's market are intimately linked.

Concerned about its surplus of sugar, Mexico sought for years to boost its domestic sugar consumption by limiting competition from cheaper, alternative sweeteners, both domestic and imported. In particular, Mexican sugar producers have been concerned that HFCS imported from the United States could replace domestically produced sugar for many uses. Mexico's concern with HFCS from the United States is also regarded as part of a negotiating strategy to gain increased access for Mexican sugar to the U.S. market.

Mexico is a net exporter of sugar, consumes much of the sugar it produces, and exports its surplus primarily to the United States. Mexico also produces HFCS, exports virtually none, and imports it primarily from the United States. Data on Mexico's HFCS output are not known, because Mexico does not release these data. Much of the corn used in Mexico HFCS production is imported from the United States under tariff-rate quotas (TRQs). The United States is a net exporter of HFCS and is the largest producer in the world; Mexico is the number one U.S. market for consumption.

In recent years, U.S. and Mexican officials have held several meetings addressing sugar and HFCS, but the parties also initiated formal dispute settlement procedures involving regional or global trade authorities. With respect to its sugar exports, Mexico recently turned to the NAFTA to settle the dispute concerning the TRQ it was allocated by the United States. With respect to HFCS, U.S. exporters and the U.S. Government turned to NAFTA and the World Trade Organization (WTO), respectively, challenging a resolution by Mexican authorities that HFCS imports from the United States constituted unfair trade, and that the imposition of antidumping duties was necessary.

Sugar

The current NAFTA dispute arises from different interpretations by the United States and by Mexico of the sugar trade agreement under NAFTA. Between the United States and Mexico, access to one another's sugar markets is established in Section A of Annex 703.2 of NAFTA based on an 1993 "understanding" between Michael A. Kantor, the then-United States Trade Representative (USTR) and Jaime Serra Puche, the then-Mexican Secretary of Commerce and Industrial Development (SECOFI).[2] This understanding was generally referred to as "the side letter" and permitted Mexico to export more than the small historic amounts of its sugar exports to the United States, provided that Mexico qualified as a surplus provider as determined by its sugar production, less its consumption of sugar and HFCS.

However, the negotiations produced a number of versions of the side letter, and there is no agreement

[1] The views and conclusions expressed in this article are those of the author. They are not necessarily the views of the U.S. International Trade Commission as a whole or of any individual Commissioner.

[2] Letter of USTR Michael A. Kantor on Nov. 3, 1993, to Jaime Serra Puche, Mexico's Secretary of Commerce and Industrial Development, reprinted in 103d Congress, 1st Session, House Document 103-160, p. 98; see also *USITC, The Year in Trade: OTAP, 1997*, USITC publication 3103, May 1998. p 111. SECOFI was renamed the Ministry of Economics under the new Administration of Vicente Fox.

today as to which was the final version.[3] The version that the United States considers valid limited U.S. imports from Mexico to a maximum of 250,000 metric tons per fiscal year (FY), beginning on November 1, 2000. On October 31, 2008, all barriers to sugar trade between NAFTA countries are to fall.

To date, Mexico regards this side letter as invalid.[4] Luis Fernandez de la Calle, Undersecretary of International Trade negotiations for Mexico under the former (Zedillo) Administration, has argued repeatedly that the side letter in question was not legally binding, and has questioned its validity again in a request for a formal NAFTA dispute panel.

On August 17, 2000, under NAFTA chapter 20 dispute settlement provisions, Mexico filed a formal challenge to the validity of the accord's sugar trade provisions, as interpreted by the United States. Legal recourse through the NAFTA has been the culmination of a dispute taking place between the two countries for years regarding Mexico's access to the U.S. sugar market. For each FY of 1994–99, the United States allocated TRQs for raw and refined sugar combined to Mexico in amounts up to 25,000 metric tons, in accordance with historical patterns of U.S. sugar imports and the pertinent NAFTA provisions currently under dispute.[5] If in any FY during this period, Mexico had not met the condition of being a "surplus producer," its quota would have been smaller still.

For FY 2000/01, the TRQ for Mexico surged to 116,000 metric tons, almost five times larger than before, but still smaller than the allocations of some other supplying countries.[6] In comparison, a quota of 185,346 metric tons of raw sugar was specified for the Dominican Republic, and 152,700 tons for Brazil, in accordance with historical patterns of U.S. sugar imports. The Mexican Government was disappointed by its sugar quota, contending that, Mexico was entitled to ship all of its sugar surplus (some 500,000–600,000 metric tons) to the United States, beginning October 1, 2000.

Sugar is one of the original Mexican industries that developed by Spanish colonizers, yet, prior to NAFTA Mexico was a net importer. As a result of privatization and technological modernization, sugar mills in Mexico sharply increased their output in the 1990s. By 1995, the country was not only capable of meeting domestic demand, but became a net exporter. Presently, Mexico's sugar industry faces excess capacity, almost no sources of credit, and cash flow problems. Not unlike the United States, Mexico has a protected sugar market, with prices well above the world market price. High U.S. sugar prices are one major reason why Mexico would prefer to sell all its surplus to the United States.

On the U.S. side, the sugar industry is distressed by its own problems, including record low world sugar prices and other factors complicating the world sugar picture. Subsidized production in several countries drives down world market prices of sugar, frequently below the cost of production. U.S. sugar policy maintains U.S. prices above the world–market price through administration of TRQs for raw and refined sugar. U.S. producers are concerned that the domestic sugar market could be flooded with Mexican sugar if Mexico were allowed to export its entire surplus.

High Fructose Corn Syrup

In January 1998, SECOFI found that HFCS from the United States was being been sold at less than fair value in the Mexican market, and that such imports were threatening the Mexican sugar industry with material injury. As a result of this finding, SECOFI imposed final antidumping duties ranging from $63.75 to $100.60 per metric ton on commercial product HFCS 42 and $55.37 to $175.50 per metric ton on commercial product HFCS 55, payable in addition to the regular 4–percent ad valorem duty.[7] Temporary antidumping duties had already been in effect at the time since June 1997.

Interested parties in the United States, as well as the U.S. Government, protested against the Mexican Government's action by initiating dispute settlement procedures under both the NAFTA and WTO, respectively. In February 1998, shortly after the imposition of final antidumping duties, the Corn Refining Association (CRA) requested dispute settlement proceedings on behalf of U.S. exporters of HFCS under Chapter 19 of NAFTA. U.S. exporters claimed that the duties were inconsistent with Mexican antidumping legislation. (A final NAFTA ruling is reportedly expected in May 2001). In May 1998, the U.S. Government initiated WTO dispute settlement procedures, claiming that "Mexico's antidumping action does not pass muster under WTO rules."

[3] United States-Mexico Chamber of Commerce, "U.S.-Mexico Agriculture: A Trade Success Story," March 1999, found at Internet address *http://www.usmoc.org/agriculture.html*, retrieved on Jan. 5, 2002.

[4] See also Magdolna Kornis, "Dispute Continues Over Access of Mexican Sugar to the United States and U.S. Access of High Fructose Corn Syrup to Mexico," *International Economic Review*, Nov.–Dec. 1998.

[5] USTR, "USTR Announces Allocation of the Refined Sugar and Sugar Containing Products Tariff–Rate Quotas for 999–2000, Press Release 99–82, Oct. 1, 1999 and USTR, "USTR Announces Allocation of Raw Cane Sugar Tariff–Rate Quota for 1999–2000, Press Release (unnumbered), Nov. 2, 1999.

[6] TRQ for raw cane sugar and raw value of refined sugar combined. Source: USTR, "USTR Announces Allocation of the Raw Cane Sugar, Refined Sugar, and Sugar Containing Products Tariff–Rate Quotas for 2000/2001, Press Release 00–64, Sept. 21, 2000.

[7] These duties apply to the following HTS numbers: 1702.40.99, 1702.50.01, 1702.60.01, 1702.60.02, and 1702.60.99.

The tables below show U.S. exports of HFCS to all countries and U.S. exports to Mexico before and during the period of being subjected to Mexican antidumping duties. Table 1 shows that in both value and volume, Mexico's share in U.S. exports of HFCS 42 (classified under HTS subheading 1702.40) has been declining sharply and steadily during 1996–2000, except for a weak rebound in the year 2000. In 1996, the year before imposing temporary antidumping duties on this item, Mexico accounted for 66.2 percent of all U.S. exports by value; this share was 16.4 percent in 2000. For HFCS 55, table 2 shows that since 1996 Mexico's share in total U.S. exports has also been declining both in value and volume, even though there was a rebound in 1999. The decline continued in 2000.

Figure 1 illustrates Mexico's share in total U.S. exports of HFCS 55 in terms of volume since 1993. The chart shows the steep rise of this share in 1993–96; its decline immediately before and after Mexico imposed temporary antidumping duties on these exports in June 1997, and some rebound in 1999, despite the permanent duties that have been imposed in January 1998. In 1993, Mexico accounted for 30.9 percent of all U.S. exports of this item; in 1996 Mexico's share peaked to almost 90 percent of the total; by 2000 it was lower but still over two thirds of the total.

On February 24, 2000, the WTO Dispute Settlement Body (DSB) ruled in the WTO case brought by the United States that the Mexican Government's 1998 imposition of antidumping duties on imports of HFCS from the United States was not in accordance with the WTO Antidumping Agreement.[8] The panel found that

[8] The U.S.–Mexican dispute over HFCS began in January 1997, when the Mexican National Chamber of Sugar and Alcohol Industries, an association of sugar producers in Mexico, filed a petition with SECOFI, alleging sales at less than fair value of HFCS imported from the United States.

Table 1
HFCS 42: Total U.S. Exports to all countries and to Mexico, 1996–2000[1]

	1996	1997	1998	1999	2000
	(Thousands of dollars)				
All countries	18274	7013	12087	12343	10370
Mexico	12098	3245	2368	1266	1698
Mexico, percent of total	66.20%	46.27%	19.59%	10.26%	16.37%
	1996	**1997**	**1998**	**1999**	**2000**
	(Metric tons)				
All countries	42593	24203	49786	53608	43346
Mexico	25318	13694	8924	4247	6126
Mexico, percent of total	59.44%	56.58%	17.92%	7.92%	14.13%

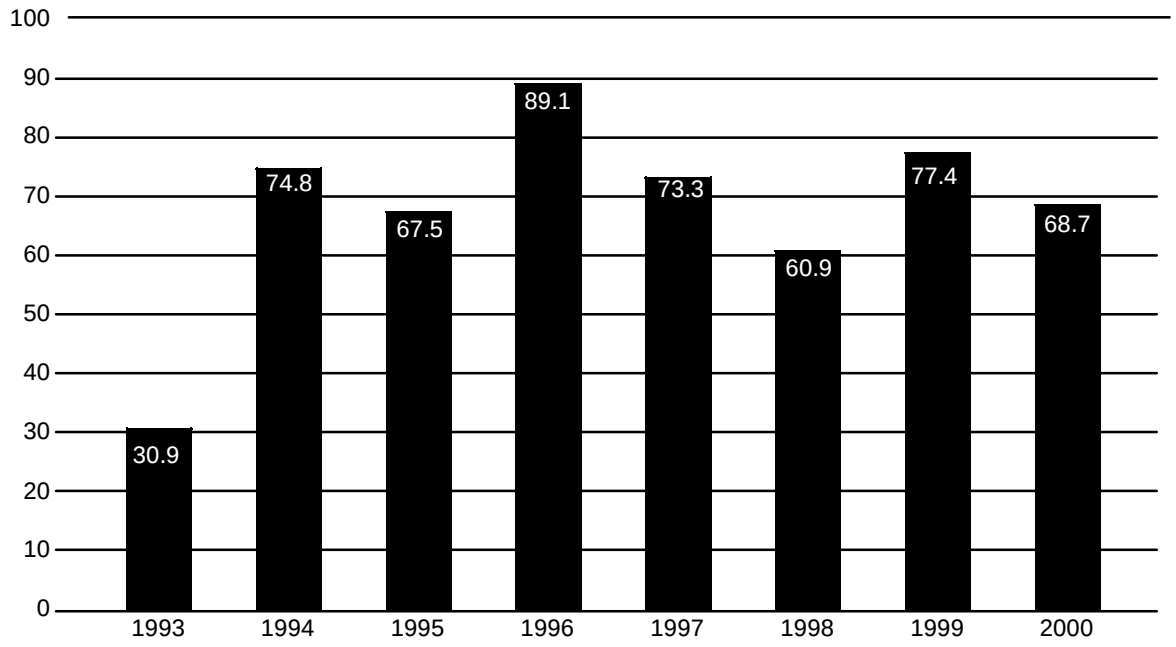
[1] HTS subheading 1702.40.

Table 2
HFCS 55:[1] Total U.S. Exports and Exports to Mexico, 1996–2000

	1996	1997	1998	1999	2000
	(Thousands of dollars)				
All countries	60268	94807	111006	91099	91128
Mexico	47553	59585	55764	53921	43333
Mexico, percent of total	78.90%	62.85%	50.24%	59.19%	47.55%
	1996	**1997**	**1998**	**1999**	**2000**
	(Metric tons)				
All countries	177120	245243	340337	276381	275069
Mexico	157829	179825	207089	214024	188979
Mexico, percent of total	89.11%	73.33%	60.85%	77.44%	68.70%

[1] HTS subheading 1702.60.

Figure 1
Mexico's share in all exports of HFCS 55, 1993-2000



Source: Compiled from official statistics of the U.S. Department of Commerce.

the decision to impose antidumping duties on the U.S. product was improper in several respects. One of these was that SECOFI did not adequately consider all economic factors affecting the Mexican sugar industry that were pertinent in determining whether a threat of material injury to that industry, indeed, existed. Another was that SECOFI did not consider a restraint agreement between Mexican sugar refiners and soft drink bottlers. In August 1997, Mexican producers had reportedly agreed to sell their sugar at discounted prices to local soft-drink companies for the next 3 years, provided these companies voluntarily restricted the imports of U.S.-made HFCS to specified levels. Mexico was given until September 22, 2000 to comply with the DSB recommendations.

This WTO recommendation was supposed to resolve a dispute that the United States initiated in protest against SECOFI's antidumping determination of January 28, 1998.[9] However, despite the WTO's finding being unfavorable to its case, Mexico decided on September 20, 2000 to uphold the duties it imposed in 1998 on HFCS from the United States. Authorities justified this action with a new analysis that takes into account the additional factors the WTO found missing in the earlier investigation. These new facts and their analysis led Mexican authorities to reinstate their original determination of early 1998 that HFCS imports from the United States posed a threat of material injury to the Mexican sugar industry.

On October 12, 2000, the United States requested that the DSB refer back the matter to the original WTO panel, arguing that the redetermination of injury by Mexican authorities rested on insufficient evidence, and the continuation of duties remains inconsistent with the WTO Antidumping Agreement.

[9] "Mexico - Antidumping Investigation of High Fructose Corn Syrup (HFCS) from the United States," WT/DS132/R, Report of the Panel, adopted on Feb. 24, 2000; USTR, "WTO Adopts Panel Finding Against Mexican Measure on High-Fructose Corn Syrup", *Press Release 00-14*, Feb. 28, 2000; Daniel Pruzin, "U.S., Mexico Near Agreement on Deadline for Corn Syrup Compliance," *BNA International Trade Daily*, Apr. 13, 2000.

U.S. TRADE DEVELOPMENTS

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The U.S. Department of Commerce (*Commerce News*, FT-900 (00-12)) reported that seasonally adjusted exports of goods and services of $89.8 billion and imports of $122.8 billion in December 2000 resulted in a goods and services trade deficit of $33.0 billion, $0.1 billion less than the $33.1 billion deficit of the month of November 2000. December 2000 exports of goods and services were $0.7 billion less than November 2000 exports of $90.6 billion. December 2000 imports of goods and services were $0.9 billion less than November 2000 imports of $123.7 billion.

December 2000 merchandise exports decreased to $64.9 billion from $65.8 billion in November 2000. Merchandise imports decreased to $104.1 billion from $105.0 billion, causing the merchandise trade deficit to increase in December to $39.2 billion from $39.1 billion. For services, exports increased to $24.9 billion from $24.7 billion, and imports of services were virtually unchanged from November at $18.7 billion, resulting in a surplus of $6.2 billion on trade in services, about $0.2 billion higher than the November surplus of $6.0 billion.

Exports of merchandise goods in November-December 2000 reflected decreases in capital goods; industrial supplies and materials; and "other goods" (a statistical category). Increases occurred in exports of consumer goods; and foods, feeds, and beverages. Exports of automotive vehicles, parts and engines were virtually unchanged. Imports of merchandise goods reflected decreases in consumer goods; automotive vehicle parts and engines; and foods, feeds, and beverages. Increases occurred in industrial supplies and materials, and capital goods. Additional information on U.S. trade developments in agriculture and specified manufacturing sectors, in January-December 2000, are highlighted in tables 1 and 2 and figures 1 and 2. Services trade developments are highlighted in table 3.

[1] The views and conclusions expressed in this article are those of the author. They are not necessarily the views of the U.S. International Trade Commission as a whole or of any individual Commissioner.

Table 1
U.S. trade in goods and services, seasonally adjusted, Nov.-Dec. 2000
(Billion dollars)

Item	Exports		Imports		Trade balance	
	Dec. 2000	Nov. 2000	Dec. 2000	Nov. 2000	Dec. 2000	Nov. 2000
Trade in goods (see note)						
Current dollars–						
Including oil	64.9	65.9	104.1	105.0	-39.2	-39.1
Excluding oil	64.6	65.6	92.9	94.0	-28.3	-28.4
Trade in services						
Current dollars	24.9	24.7	18.7	18.7	6.2	6.0
Trade in goods and services:						
Current dollars	89.8	90.6	122.8	123.7	-33.0	-33.1
Trade in goods (Census basis)						
1996 dollars	71.7	72.8	110.4	112.3	-38.7	-39.5
Advanced-technology products (not seasonally adjusted)	21.0	19.6	19.5	20.3	1.5	-0.8

Note.—Data on goods trade are presented on a balance-of-payments (BOP) basis that reflects adjustments for timing, coverage, and valuation of data compiled by the Census Bureau. The major adjustments on BOP basis exclude military trade, but include non-monetary gold transactions and estimates of inland freight in Canada and Mexico not included in the Census Bureau data. Data may not add to totals shown because of rounding details.

Source: U.S. Department of Commerce News (*FT-900 (00-12)*), Feb. 21, 2001.

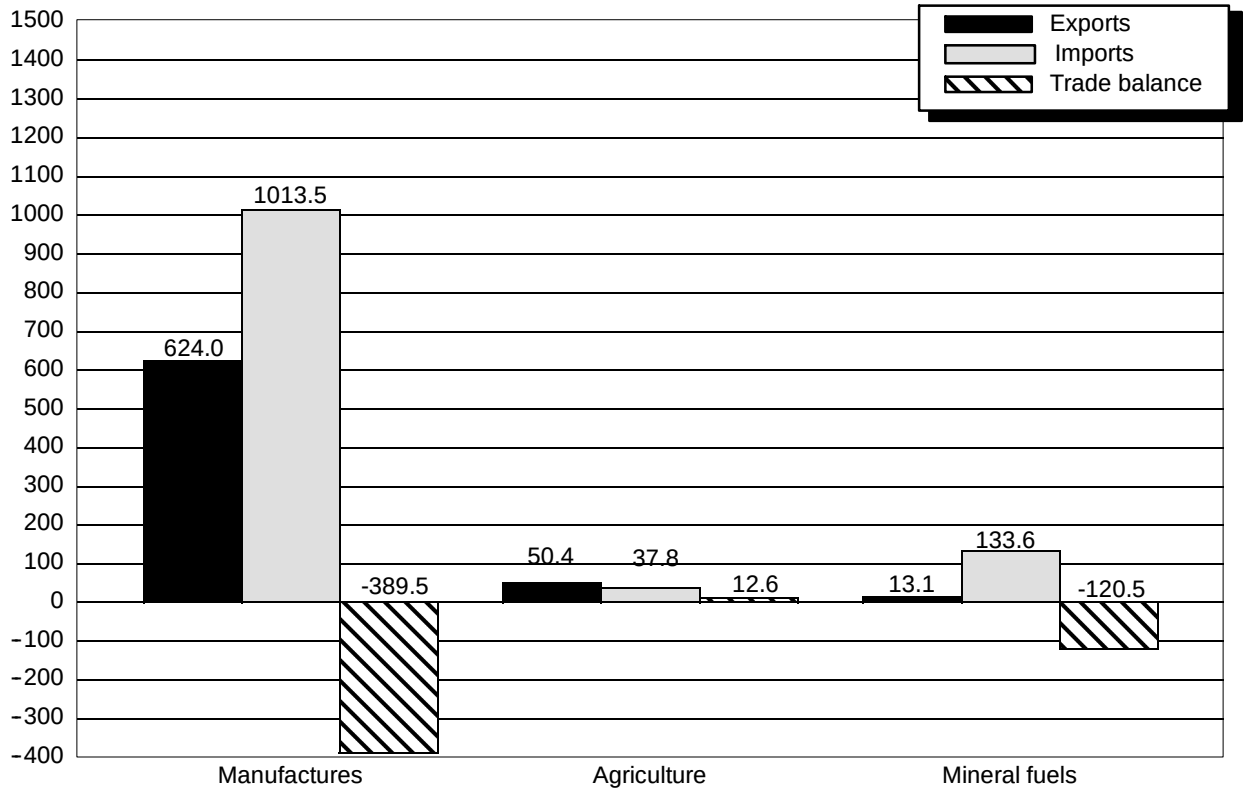
Table 2
Nominal U.S. exports and trade balances, of agriculture and specified manufacturing sectors, Jan.1999 Sep. 2000

	Exports		Change Jan.-Sep. 2000 over Jan.-Sep. 1999	Share of total Jan.-Sep. 2000	Trade balance	
	Sep. 2000	Jan.-Sep. 2000			Jan.-Sep. 2000	Jan.-Sep. 1999
	Billion dollars		*Percentage*		*Billion dollars*	
ADP equipment & office machinery	4.3	33.9	13.8	5.9	-34.0	-31.7
Airplanes	1.7	18.3	-23.8	3.2	9.8	17.3
Airplane parts	1.3	11.1	-3.5	1.9	7.0	7.1
Electrical machinery	8.3	65.9	20.0	11.4	-14.2	-9.1
General industrial machinery	2.7	24.4	9.9	4.2	-2.0	-1.3
Iron & steel mill products	0.5	4.3	16.2	0.7	-8.2	-6.2
Inorganic chemicals	0.5	4.0	17.6	0.7	-0.5	-0.3
Organic chemicals	1.5	13.3	20.9	2.3	-7.6	-5.0
Power-generating machinery	2.8	24.4	7.0	4.2	-1.0	-0.3
Scientific instruments	2.6	22.2	18.1	3.8	6.2	6.0
Specialized industrial machinery	2.6	22.8	24.6	3.9	5.6	1.9
Televisions, VCRs, etc	2.6	20.6	17.0	3.6	-29.3	-17.9
Textile yarns, fabrics and articles	0.9	7.9	14.5	1.4	-3.7	-3.3
Vehicles	4.5	42.6	6.5	7.4	-76.8	-66.1
Manufactured exports not included above	16.3	145.9	12.5	25.3	-139.9	-120.7
Total manufactures	53.1	461.6	11.3	79.9	-288.6	-229.6
Agriculture	4.0	36.5	8.3	6.3	8.2	6.4
Other exports not included above	10.0	79.3	32.6	13.7	-40.6	-14.0
Total exports of goods	67.1	577.4	13.6	100.0	-321.0	-237.2

Note.—Because of rounding, figures may not add to the totals shown. Data are presented on a Census basis.

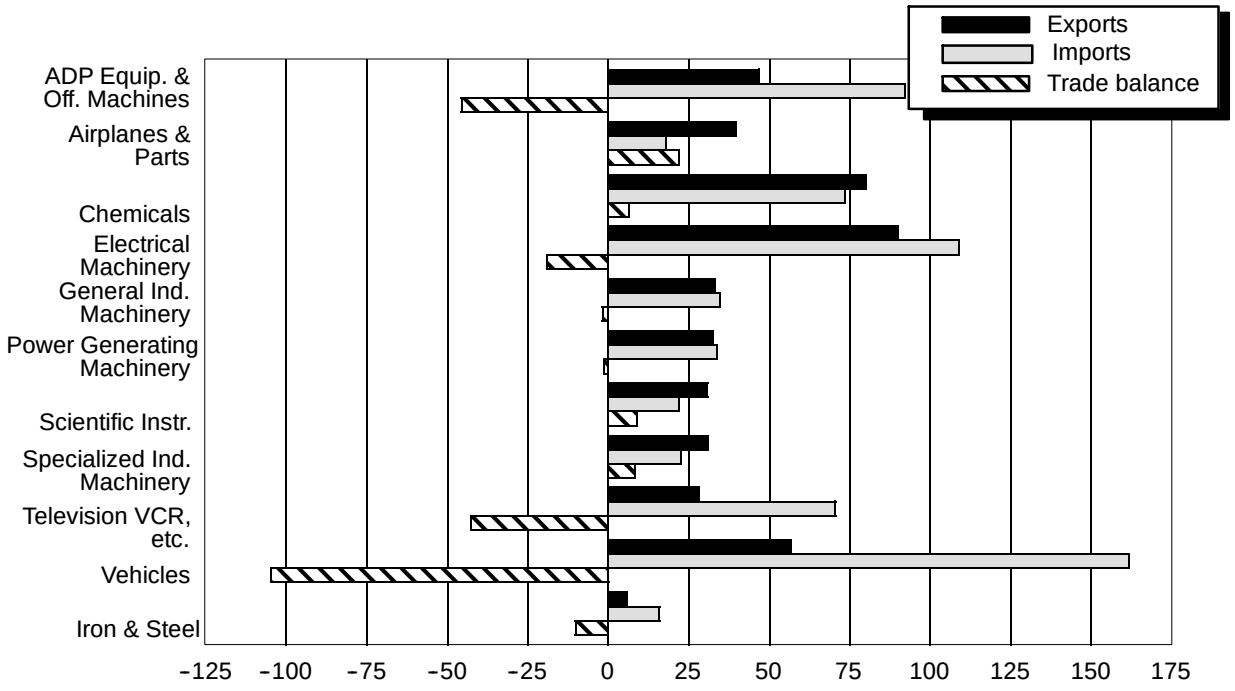
Source: U.S. Department of Commerce News (FT 900), Nov.21, 2000

Figure 1
U.S. trade by major commodity, billion dollars, Jan.-Dec. 2000



Source: U.S. Department of Commerce, FT 900 (00-12).

Figure 2
U.S. trade in principal goods, billion dollars, Jan.-Dec. 2000



Source: U.S. Department of Commerce, FT 900 (00-12).

Table 3
Nominal U.S. exports and trade balances of services, by sectors, Jan.1999-Dec. 2000, seasonally adjusted

	Exports		Change Jan.-Dec. 2000 over Jan.-Dec. 1999	Trade balances	
	Jan.-Dec. 2000	Jan.-Dec. 1999		Jan. Dec. 2000	Jan.-Dec. 1999
	Billion dollars		*Percent*	*Billion dollars*	
Travel	85.2	74.9	13.8	19.4	15.5
Passenger fares	21.4	19.8	8.1	-2.9	-1.6
Other transportation	29.8	27.0	10.4	-10.8	-7.1
Royalties and license fees	37.7	36.5	3.3	22.0	23.2
Other private sales	105.5	96.5	9.3	53.1	49.8
Transfers under U.S. military sales contracts	14.6	16.3	-10.4	1.0	2.6
U.S. Govt. miscellaneous service	0.9	0.9	0.0	-2.0	-1.9
Total	295.1	271.9	8.5	79.8	80.5

Note.—Services trade data are on a balance-of-payments (BOP) basis. Data may not add to totals shown because of rounding details and seasonal adjustments.

Source: U.S. Department of Commerce News (*FT-900 (00-12)*), Feb. 21, 2001.

In December 2000, exports of advanced technology products were $21.0 billion and imports of the same were $19.5 billion, resulting in a December surplus of $1.5 billion, following a deficit of $0.8 billion in November.

The December 2000 trade data showed U.S. surpluses with Australia, Argentina, Brazil, Egypt, and Hong Kong. Deficits were recorded with Canada, Mexico, Western Europe, China, Japan, Korea, Taiwan, Singapore, and OPEC member countries.

The export of goods and services during January-December 2000 increased to $1068.4 billion, up from $956.2 billion during January-December 1999, an increase of 11.7 percent. However, imports of goods and services increased to $1438.1 billion, up from $1221.2 billion during the same period, an increase of 17.8 percent. As a consequence, the deficit on trade in goods and services increased to $369.7 billion for the January-December 2000 period, up from $265.0 billion during January-December 1999, an increase of 39.5 percent.

The export of goods during January-December 2000 increased to $773.3 billion from $684.4 billion during the same 1999 period, an increase of 13.0 percent, but imports of goods rose to $1222.8 billion, up from $1029.9 billion in January-December 1999, an increase of 18.7 percent. Consequently, the merchandise trade deficit rose to $449.5 billion from $345.6 billion, a 30.1 percent increase. Regarding trade in services, exports in January-December 2000 increased to $295.1 billion up from $271.9 billion in the same period of 1999, an increase of 8.5 percent. Imports of services rose to $215.3 billion up from $191.3 billion, an increase of 12.5 percent. The surplus on trade in services decreased to $79.8 billion from $80.6 billion.

The January-December 2000 exports of advanced technology products rose to $227.2 billion up from $200.3 billion in January-December 1999, an increase of 13.4 percent. Imports rose to $222.2 billion from $181.2 billion, in the same period, an increase of 22.6 percent. The trade surplus decreased to $5.0 billion from $19.1 billion in January-December 1999, a decline of 73.8 percent.

The January-December 2000 trade data in goods and services showed trade deficits with Canada, Mexico, Western Europe, the Euro area (EU-11), the European Union (EU-15), EFTA, Eastern Europe, China, Japan, Korea, Singapore, Taiwan, and OPEC. Trade surpluses were recorded with Belgium, the Netherlands, Spain, Australia, Argentina, Brazil, Hong Kong, and Egypt. U.S. trade developments with major trading partners are highlighted in table 4.

Trade data for February 2001 shows exports of goods and services of $90.5 billion and imports of $117.4 billion resulted in a trade deficit for goods and services of $27.0 billion, $6.3 billion less than the $33.3 billion deficit in January 2001. In February, the merchandise trade deficit decreased $6.1 billion from January to $33.4 billion. and the surplus on services increased $0.1 billion to $6.4 billion. Merchandise

Table 4
U.S. exports and imports of goods with major trading partners, Jan. 1999-Dec. 2000

(Billion dollars)

Country/areas	Exports			Imports			Trade balances	
	Dec. 2000	Jan.-Dec. 2000	Jan. Dec. 1999	Dec. 2000	Jan.-Dec. 2000	Jan.-Dec. 1999	Jan.-Dec. 2000	Jan.-Dec. 1999
Total	66.2	782.4	695.8	99.1	1,216.7	1,024.6	-434.3	-328.8
North America	22.2	290.5	253.5	29.1	365.1	308.4	-74.6	- 54.9
Canada	13.3	178.8	166.6	19.1	229.2	198.7	-50.4	-32.1
Mexico	9.0	111.7	86.9	10.1	135.9	109.7	-24.2	-22.8
Western Europe	16.7	181.3	166.0	20.3	241.0	213.0	- 59.8	-47.0
Euro Area	10.7	116.0	106.4	13.9	163.7	144.5	-47.8	-38.1
European Union (EU-15)	15.3	164.8	151.8	18.7	220.4	195.2	-55.5	-43.4
France	2.1	20.3	18.9	2.8	29.8	25.7	-9.5	-6.8
Germany	2.6	29.2	26.8	4.9	58.7	55.2	-29.5	-28.4
Italy	1.0	11.0	10.1	2.0	25.1	22.4	-14.1	-12.3
Netherlands	2.0	22.0	19.4	0.8	9.7	8.5	12.3	11.0
United Kingdom	4.0	41.6	38.4	3.6	43.5	39.2	-1.9	-0.8
Other EU	1.2	11.8	11.2	1.8	21.9	16.1	-10.1	-4.9
EFTA[1]	1.0	11.8	10.1	1.4	16.4	14.2	-4.7	-4.0
FSR/Eastern Europe	0.6	6.1	5.9	1.2	16.2	11.8	-10.1	-5.9
Russia	0.2	2.3	2.1	0.5	7.8	5.9	-5.5	-3.9
Pacific Rim Countries	17.7	203.3	173.8	33.7	418.2	359.7	-214.9	-186.0
Australia	1.0	12.5	11.8	0.6	6.4	5.3	6.0	6.5
China	1.6	16.3	13.1	7.7	100.1	81.8	- 83.8	- 68.7
Japan	6.0	65.3	57.5	12.0	146.6	130.9	- 81.3	- 73.4
NICs[2]	7.1	84.7	71.0	9.0	111.5	95.1	-26.7	-24.1
Latin America	5.2	59.3	55.2	6.1	73.3	58.5	-14.0	-3.3
Argentina	0.4	4.7	5.0	0.3	3.1	2.6	1.6	2.4
Brazil	1.4	15.4	13.2	1.1	13.9	11.3	1.5	1.9
OPEC	1.6	19.2	20.2	5.9	67.0	42.0	-47.8	- 21.8
Other Countries	2.9	30.9	28.4	5.2	65.0	52.1	-34.1	- 23.7
Egypt	0.3	3.3	3.0	0.1	0.9	0.6	2.4	2.4
South Africa	0.3	3.1	2.6	0.3	4.2	3.2	-1.1	-0.6
Other	2.4	24.5	22.8	4.8	59.9	48.3	- 35.4	- 25.5

[1] EFTA includes Iceland, Liechtenstein, Norway, and Switzerland.
[2] The newly industrializing countries (NICs) include Hong Kong, the Republic of Korea, Singapore, and Taiwan. FSR = Former Soviet Republics.

Note.—Country/area figures may not add to the totals shown because of rounding. Exports of certain grains, oilseeds, and satellites are excluded from country/area exports but included in total export table. Also some countries are included in more than one area. Data are presented on a Census Bureau basis.

Source: U.S. Department of Commerce News *(FT 900 (00-12)),* Feb.21, 2001.

exports increased to $65.2 billion from $64.6 billion, and merchandise imports decreased to $98.6 billion from $104.1 billion. Exports of services increased to $25.2 billion from $25.0 billion, and imports of services increased $0.1 billion to $18.8 billion.

The change from January to February 2001 in merchandise exports reflected increases in industrial supplies and materials ($0.3 billion); capital goods ($0.1 billion); consumer goods ($0.1 billion); and foods, feeds, and beverages ($0.1 billion). Decreases occurred in automotive vehicles, parts, and engines ($0.1 billion) and other goods ($0.1 billion). The January-February change in imports of goods reflected decreases in consumer goods ($1.9 billion); industrial supplies and materials ($1.8 billion); capital goods ($1.3 billion); foods, feeds and beverages ($0.2 billion); other goods ($0.2 billion); and automotive vehicles, parts, and engines ($0.1 billion). Services exports increased $0.2 billion from January to February 2001, mostly reflecting an increase in "other private services," which includes items such as business, professional, technical and financial services. Services imports increased $0.1 billion from January to February 2001 as increases in travel, passenger fares, and other private services were partly offset by a decrease in imports of other transportation services.

The February 2001 figures showed merchandise surpluses in billions of U.S. dollars with Hong Kong $0.5 (for January, $0.1); Australia $0.5 (0.3); Singapore $0.2 (-$0.1), Egypt $0.2 ($0.1), Argentina $0.1 ($0.1), and Brazil $0.1 ($0.0). Deficits were recorded in billions of U.S. dollars, with Japan -$6.1 (-$5.9), China -$5.1 (-$7.2), Canada -$4.5 (-$5.9), OPEC -$3.3 ($-4.2), Western Europe -$3.3 (-$5.6), Mexico -$1.5 (-$2.1), Taiwan -$0.8 (-$ 1.2), and Korea -$0.8 (-$1.4).

Advanced technology products exports were $18.1 billion in February and imports were $16.2 billion, resulting in a surplus of approximately $2.0 billion. February 2001 exports of these technology items were $0.3 billion less than the $18.4 billion in January, while imports were $1.5 billion less than the $17.7 billion in January.

LABOR PRODUCTIVITY AND COSTS IN 2000

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Labor productivity continued to rise rapidly in 2000. Output per hour in the non-farm business sector was up by about 3.5 percent over the year as a whole. Sizable gains in efficiency continued to be evident even as the economy was slowing in the second half of the year. Except for 1999, when output per hour rose about 3.75 percent, the past year's increase was the largest since 1992.

Labor Productivity and Costs

Fourth Quarter and Annual Averages, 2000

The Bureau of Labor Statistics (BLS) of the U.S. Department of Labor reported revised fourth-quarter seasonally adjusted annual rates of labor productivity change—as measured by output per hour of all persons—and revised annual changes for the full year 2000. In the several categories used by BLS to measure labor productivity–business, non-farm business, manufacturing (and the latter's two sub-sets, durable and non-durable manufacturing)and nonfinancial corporations–fourth-quarter productivity increases reflected small gains in output combined with drops in hours worked by all persons. Fourth-quarter productivity and related measures are summarized in table A and appear in detail in tables 1 through 6.

In the manufacturing sector, productivity rose 5.3 percent at a seasonally adjusted annual rate in the fourth quarter of 2000. This increase was higher than originally reported, reflecting an upward revision in output per hour in durable goods, whereas labor productivity was revised down in nondurable goods manufacturing. Annual productivity gains in manufacturing during 2000 was higher, at 7.1 percent. Productivity in durable goods manufacturing rose 10.5 percent, and nondurable rose only 3.2 percent, on an annual basis. Output and hours in manufacturing, which includes about 17 percent of U.S. business-sector employment, tend to vary more from quarter to quarter than data for the more aggregate business and non-farm business sectors. (See Table A.)

[1] The views and conclusions expressed in this article are those of the author. They are not necessarily the views of the U.S. International Trade Commission as a whole or of any individual Commissioner.

The data sources and methods used in the preparation of the manufacturing series differ from those used in preparing the business and non-farm business series. BLS thus cites several–at times seemingly overlapping–categories for labor productivity because these measures are not directly comparable. Output data for business and non-farm business are based on measures of gross domestic product (GDP) prepared by the U.S. Department of Commerce's Bureau of Economic Analysis; quarterly output measures for manufacturing reflect indexes of industrial production are prepared independently by the Board of Governors of the Federal Reserve System.

Third-to-Fourth Quarter 2000 Changes

Business

Business sector productivity rose 3.1 percent at a seasonally adjusted annual rate in the fourth quarter of 2000, as output increased 0.8 percent and hours of all persons engaged in the sector decreased 2.2 percent. (See table 1.) The fourth-quarter decrease in hours was the largest since the first quarter of 1992, when hours fell 2.5 percent. During third-quarter 2000, productivity had increased 2.4 percent as output grew 2.3 percent and hours edged down by 0.1 percent.

Hourly compensation grew at a 7.5-percent annual rate in the fourth quarter, compared with a 5.7-percent rise in the third quarter. This measure includes wages and salaries, supplements, employer contributions to employee-benefit plans, and taxes. Real hourly compensation, which takes into account changes in consumer prices, rose 4.5 percent in the fourth quarter and 2.0 percent in the third quarter.

Unit labor costs, which reflect changes in both hourly compensation and productivity, increased 4.3

Table A
Productivity and costs: Revised fourth-quarter 2000 measures (seasonally adjusted annual rates)

Sector	Productivity	Output	Hours	Hourly compensation	Real hourly compensation	Unit labor costs
Percent change from preceding quarter						
Business	3.1	0.8	-2.2	7.5	4.5	4.3
Non-farm business	2.2	0.8	-1.4	6.6	3.6	4.3
Manufacturing	5.3	-1.8	-6.7	8.4	5.4	3.0
Durable	6.6	-0.5	-6.7	9.4	6.4	2.6
Nondurable	3.8	-3.2	-6.7	6.8	3.8	2.9
Percent change from same quarter a year ago						
Business	3.5	3.7	0.1	6.0	2.5	2.3
Non-farm business	3.4	3.7	0.3	5.7	2.3	2.3
Manufacturing	6.6	4.2	-2.3	6.2	2.7	-0.5
Durable	10.5	8.4	-1.9	5.9	2.4	-4.2
Nondurable	2.1	-0.8	-2.8	6.6	3.1	4.4

Source: U.S. Department of Labor

percent during the fourth quarter, rising faster than the 3.1 percent increase during the third quarter. The implicit price deflator for business output, which reflects changes in unit labor costs and unit non-labor payments, increased 1.6 percent in the fourth quarter. This measure rose 1.2 percent during the third quarter.

Non-farm business

In the non-farm business sector, productivity rose at an annual rate of 2.2 percent in the fourth quarter of 2000, as output grew 0.8 percent and hours of all persons—employees, proprietors, and unpaid family workers—fell 1.4 percent at seasonally adjusted annual rates. During the third quarter, productivity had increased 3.0 percent, output had increased 2.3 percent, and hours had declined 0.7 percent. (See table 2.)

Hourly compensation rose 6.6 percent in the fourth quarter. This was the largest increase in this measure since the first quarter of 1992, when hourly compensation increased 8.8 percent. Real hourly compensation rose 3.6 percent in the fourth quarter of 2000.

Unit labor costs rose 4.3 percent in the fourth quarter and 3.2 percent in the third quarter. The implicit price deflator for non-farm business rose 1.5 percent in the fourth quarter, as a 2.9 percent decline in unit non-labor payments offset much of the rise in unit labor costs. This sector's price deflator rose 1.4 percent, which was largely offset by a 1.5 percent decline in payments, during the third quarter of 2000.

Manufacturing

Manufacturing productivity rose 5.3 percent at seasonally adjusted annual rates in the fourth quarter of 2000, as output fell 1.8 percent and hours dropped by 6.7 percent. (See table 3.) Productivity rose in both of the manufacturing sub-sectors. In durable goods, productivity increased 6.6 percent in the fourth quarter, reflecting declines of 0.5 percent in output and 6.7 percent in hours. In nondurable goods, productivity grew 3.8 percent in the fourth quarter, reflecting a 3.2-percent drop in output and a 6.7-percent decline in hours. (See tables 4 and 5.)

Hourly compensation of all manufacturing workers rose 8.4 percent during the fourth quarter. This was the largest increase in hourly compensation in the sector since a 12.0-percent rise in the second quarter of 1982. Hourly compensation rose in both of the manufacturing sub-sectors in fourth-quarter 2000, rising by 9.4 percent for durable goods manufacturers and by 6.8 percent for nondurable goods manufacturers. Real hourly compensation for all manufacturing workers rose 5.4 percent in the fourth quarter.

Unit labor costs in manufacturing rose 3.0 percent in the fourth quarter of 2000—2.6 percent in durable goods and 2.9 percent in nondurable goods. For durable goods manufacturers, this was the first increase in unit labor costs since the second quarter of 1995, when they rose 0.9 percent, and the largest increase in these costs since the third quarter of 1993, when they rose 5.7 percent.

Table 1
Business sector: Productivity, hourly compensation, unit labor costs, and prices, seasonally adjusted

Year and quarter		Output per hour of all persons	Output	Hours of all persons	Compen-sation per hour	Real compen-sation per hour	Unit labor costs	Unit non-labor payments	Implicit price deflator
		Indexes 1992=100							
		Percent change from previous quarter at annual rate							
1998	I	4.8	7.9	2.9	6.4	5.7	1.5	-1.5	0.3
	II	1.1	2.9	1.8	5.1	3.5	3.9	-4.2	0.7
	III	1.9	3.7	1.8	4.9	3.4	2.9	-1.9	1.1
	IV	3.5	6.8	3.2	4.3	2.7	0.8	0.3	0.6
	Annual	2.8	5.0	2.2	5.3	3.9	2.5	-1.7	0.8
1999	I	2.7	3.8	1.1	4.5	2.9	1.8	2.0	1.9
	II	0.5	2.6	2.1	4.5	1.3	4.0	-3.4	1.2
	III	4.7	6.6	1.9	5.1	2.4	0.4	0.8	0.5
	IV	7.6	9.9	2.1	3.8	0.9	-3.6	9.0	1.0
	Annual	2.8	4.8	2.0	4.6	2.4	1.8	0.0	1.1
2000	I	1.7	5.3	3.5	3.7	-0.4	1.9	4.8	3.0
	II	7.0	6.3	-0.7	7.1	4.0	0.0	6.1	2.4
	III	2.4	2.3	-0.1	5.7	2.0	3.1	-1.7	1.2
	IV	3.1	0.8	-2.2	7.5	4.5	4.3	-2.7	1.6
	Annual	4.2	5.6	1.3	5.0	1.7	0.8	3.4	1.8
		Percent change from corresponding quarter of previous year							
1998	I	3.4	5.8	2.3	4.7	3.3	1.2	0.9	1.1
	II	2.7	4.7	2.0	5.7	4.1	2.9	-2.5	0.8
	III	2.2	4.4	2.2	5.8	4.3	3.5	-3.3	0.8
	IV	2.8	5.3	2.4	5.2	3.8	2.3	-1.8	0.7
	Annual	2.8	5.0	2.2	5.3	3.9	2.5	-1.7	0.8
1999	I	2.3	4.3	2.0	4.7	3.1	2.4	-1.0	1.1
	II	2.1	4.2	2.0	4.6	2.6	2.4	-0.8	1.2
	III	2.8	4.9	2.1	4.6	2.3	1.8	-0.1	1.0
	IV	3.8	5.7	1.8	4.5	1.9	0.6	2.0	1.1
	Annual	2.8	4.8	2.0	4.6	2.4	1.8	0.0	1.1
2000	I	3.6	6.1	2.4	4.3	1.0	0.6	2.7	1.4
	II	5.2	7.0	1.7	4.9	1.7	-0.3	5.1	1.7
	III	4.7	5.9	1.2	5.0	1.6	0.3	4.5	1.9
	IV	3.5	3.7	0.1	6.0	2.5	2.3	1.6	2.0
	Annual	4.2	5.6	1.3	5.0	1.7	0.8	3.4	1.8

Source: Bureau of Labor Statistics

Table 2
Non-farm business sector: Productivity, hourly compensation, unit labor costs, and prices, seasonally adjusted

Year and quarter		Output per hour of all persons	Output	Hours of all persons	Compen-sation per hour	Real compen-sation per hour	Unit labor costs	Unit non-labor payments	Implicit price deflator
		Indexes 1992=100							
		Percent change from previous quarter at annual rate							
1998	I	4.7	8.2	3.3	6.3	5.5	1.6	-1.4	0.4
	II	1.6	3.1	1.5	5.3	3.7	3.6	-3.8	0.7
	III	1.6	3.7	2.0	4.9	3.4	3.3	-1.8	1.3
	IV	3.2	6.8	3.5	4.0	2.4	0.7	0.2	0.6
	Annual	2.7	5.1	2.4	5.2	3.8	2.5	-1.4	0.9
1999	I	2.0	3.6	1.6	3.8	2.1	1.8	3.0	2.2
	II	0.2	2.4	2.2	4.5	1.3	4.3	-3.0	1.5
	III	5.0	7.0	1.9	5.2	2.6	0.2	1.3	0.6
	IV	8.0	10.0	1.8	4.2	1.3	-3.5	8.9	1.0
	Annual	2.6	4.8	2.2	4.4	2.3	1.8	0.5	1.3
2000	I	2.1	5.2	3.0	4.1	0.0	1.9	5.1	3.2
	II	6.3	6.5	0.2	6.0	2.9	-0.2	5.7	2.0
	III	3.0	2.3	-0.7	6.2	2.6	3.2	-1.2	1.4
	IV	2.2	0.8	-1.4	6.6	3.6	4.3	-2.9	1.5
	Annual	4.3	5.7	1.3	5.1	1.7	0.7	3.6	1.8
		Percent change from corresponding quarter of previous year							
1998	I	3.2	5.8	2.5	4.5	3.1	1.2	1.3	1.2
	II	2.6	4.8	2.1	5.5	4.0	2.8	-2.1	0.9
	III	2.2	4.6	2.3	5.7	4.2	3.5	-3.1	0.9
	IV	2.8	5.4	2.6	5.1	3.8	2.3	-1.7	0.8
	Annual	2.7	5.1	2.4	5.2	3.8	2.5	-1.4	0.9
1999	I	2.1	4.3	2.1	4.5	2.9	2.4	-0.6	1.2
	II	1.7	4.1	2.3	4.3	2.3	2.5	-0.4	1.4
	III	2.6	4.9	2.3	4.4	2.1	1.7	0.3	1.2
	IV	3.8	5.7	1.9	4.4	1.8	0.6	2.5	1.3
	Annual	2.6	4.8	2.2	4.4	2.3	1.8	0.5	1.3
2000	I	3.8	6.1	2.2	4.5	1.3	0.7	3.0	1.6
	II	5.3	7.2	1.7	4.9	1.7	-0.4	5.2	1.7
	III	4.8	6.0	1.1	5.1	1.7	0.3	4.6	1.9
	IV	3.4	3.7	0.3	5.7	2.3	2.3	1.6	2.0
	Annual	4.3	5.7	1.3	5.1	1.7	0.7	3.6	1.8

Source: Bureau of Labor Statistics

Table 3
Manufacturing sector: Productivity, hourly compensation, and unit labor costs, seasonally adjusted

Year and quarter		Output per hour of all persons	Output	Hours of all persons	Compen-sation per hour	Unit labor costs	Real compen-sation per hour
		Indexes 1992=100					
		Percent change from previous quarter at annual rate					
1998	I	6.3	6.0	-0.3	7.2	6.4	0.8
	II	5.2	3.6	-1.5	4.9	3.3	-0.3
	III	8.3	4.5	-3.5	4.4	2.9	-3.6
	IV	3.8	5.0	1.2	3.4	1.8	-0.3
	Annual	6.2	5.9	-0.3	5.3	3.9	-0.8
1999	I	6.8	4.1	-2.5	2.8	1.2	-3.7
	II	4.2	5.4	1.1	4.6	1.3	0.4
	III	5.2	6.0	0.7	5.3	2.6	0.1
	IV	9.7	6.8	-2.7	4.5	1.6	-4.8
	Annual	5.8	4.9	-0.8	4.0	1.9	-1.7
2000	I	8.3	7.1	-1.1	5.0	0.9	-3.0
	II	6.3	8.0	1.6	4.3	1.3	-1.9
	III	6.7	3.8	-2.8	6.9	3.3	0.2
	IV	5.3	-1.8	-6.7	8.4	5.4	3.0
	Annual	7.1	6.0	-1.1	5.2	1.9	-1.8
		Percent change from corresponding quarter previous year					
1998	I	6.0	6.8	0.7	4.6	3.2	-1.3
	II	6.6	6.4	-0.2	5.8	4.2	-0.8
	III	6.3	5.5	-0.7	5.9	4.4	-0.4
	IV	5.9	4.8	-1.0	5.0	3.6	-0.8
	Annual	6.2	5.9	-0.3	5.3	3.9	-0.8
1999	I	6.0	4.3	-1.6	3.9	2.3	-2.0
	II	5.7	4.7	-0.9	3.8	1.8	-1.8
	III	5.0	5.1	0.1	4.0	1.7	-0.9
	IV	6.5	5.6	-0.8	4.3	1.7	-2.0
	Annual	5.8	4.9	-0.8	4.0	1.9	-1.7
2000	I	6.8	6.3	-0.5	4.8	1.6	-1.9
	II	7.4	7.0	-0.4	4.8	1.6	-2.4
	III	7.7	6.4	-1.2	5.2	1.8	-2.4
	IV	6.6	4.2	-2.3	6.2	2.7	-0.5
	Annual	7.1	6.0	-1.1	5.2	1.9	-1.8

Source: Bureau of Labor Statistics

Table 4
Durable manufacturing sector: Productivity, hourly compensation, and unit labor costs, seasonally adjusted

Year and quarter		Output per hour of all persons	Output	Hours of all persons	Compen-sation per hour	Real compen-sation per hour	Unit labor costs
		Indexes 1992=100					
		Percent change from previous quarter at annual rate					
1998	I	8.7	10.2	1.3	6.5	5.7	-2.0
	II	7.0	5.8	-1.1	4.1	2.5	-2.7
	III	13.3	9.7	-3.1	4.1	2.6	-8.1
	IV	7.9	10.2	2.1	4.4	2.8	-3.3
	Annual	9.0	9.6	0.5	5.2	3.8	-3.5
1999	I	10.8	6.1	-4.3	4.1	2.5	-6.1
	II	7.9	8.6	0.7	6.0	2.7	-1.8
	III	6.8	10.4	3.4	5.7	3.1	-1.0
	IV	10.7	7.9	-2.6	5.6	2.7	-4.6
	Annual	9.3	8.4	-0.8	4.8	2.7	-4.1
2000	I	13.9	12.7	-1.1	4.2	0.1	-8.6
	II	10.2	13.7	3.2	3.7	0.7	-5.9
	III	11.5	8.1	-3.0	6.3	2.7	-4.6
	IV	6.6	-0.5	-6.7	9.4	6.4	2.6
	Annual	10.5	10.0	-0.5	5.2	1.9	-4.8
		Percent change from corresponding quarter of previous year					
1998	I	8.5	10.4	1.7	4.6	3.2	-3.6
	II	9.0	9.7	0.6	5.7	4.1	-3.1
	III	9.4	9.3	-0.1	5.7	4.2	-3.4
	IV	9.2	9.0	-0.2	4.8	3.4	-4.0
	Annual	9.0	9.6	0.5	5.2	3.8	-3.5
1999	I	9.7	7.9	-1.6	4.2	2.6	-5.1
	II	10.0	8.7	-1.2	4.7	2.7	-4.8
	III	8.3	8.8	0.4	5.1	2.8	-3.0
	IV	9.0	8.2	-0.7	5.4	2.7	-3.4
	Annual	9.3	8.4	-0.8	4.8	2.7	-4.1
2000	I	9.8	9.9	0.1	5.4	2.1	-4.0
	II	10.4	11.2	0.7	4.8	1.6	-5.0
	III	11.6	10.6	-0.9	5.0	1.5	-5.9
	IV	10.5	8.4	-1.9	5.9	2.4	-4.2
	Annual	10.5	10.0	-0.5	5.2	1.9	-4.8

Source: Bureau of Labor Statistics

Table 5
Nondurable manufacturing sector: Productivity, hourly compensation, and unit labor costs, seasonally adjusted

Year and quarter		Output per hour of all persons	Output	Hours of all persons	Compen-sation per hour	Real compen-sation per hour	Unit labor costs
		Indexes 1992=100					
		Percent change from previous quarter at annual rate					
1998	I	3.5	0.8	-2.6	8.1	7.4	4.5
	II	2.8	0.9	-1.9	6.1	4.5	3.2
	III	2.5	-1.6	-4.1	4.8	3.3	2.2
	IV	-0.9	-1.0	-0.2	1.6	0.0	2.4
	Annual	3.0	1.5	-1.5	5.3	3.9	2.3
1999	I	1.7	2.0	0.3	0.9	-0.7	-0.8
	II	-0.1	1.7	1.8	2.3	-0.9	2.4
	III	4.1	0.8	-3.2	4.0	1.4	-0.1
	IV	8.6	5.6	-2.8	2.5	-0.3	-5.6
	Annual	1.8	0.9	-0.8	2.6	0.5	0.8
2000	I	1.6	0.5	-1.1	6.5	2.3	4.8
	II	2.0	1.2	-0.8	5.0	1.9	3.0
	III	0.9	-1.5	-2.4	8.0	4.3	7.0
	IV	3.8	-3.2	-6.7	6.8	3.8	2.9
	Annual	3.2	1.2	-2.0	5.1	1.7	1.8
		Percent change from corresponding quarter of previous year					
1998	I	3.5	2.7	-0.7	4.3	2.9	0.8
	II	3.9	2.5	-1.4	5.8	4.2	1.8
	III	2.5	0.9	-1.6	6.0	4.6	3.4
	IV	2.0	-0.3	-2.2	5.1	3.8	3.1
	Annual	3.0	1.5	-1.5	5.3	3.9	2.3
1999	I	1.6	0.1	-1.5	3.3	1.8	1.8
	II	0.8	0.3	-0.6	2.4	0.4	1.6
	III	1.2	0.9	-0.3	2.2	0.0	1.0
	IV	3.6	2.5	-1.0	2.4	-0.1	-1.1
	Annual	1.8	0.9	-0.8	2.6	0.5	0.8
2000	I	3.5	2.1	-1.3	3.8	0.6	0.3
	II	4.1	2.0	-2.0	4.5	1.3	0.4
	III	3.2	1.4	-1.8	5.5	2.0	2.2
	IV	2.1	-0.8	-2.8	6.6	3.1	4.4
	Annual	3.2	1.2	-2.0	5.1	1.7	1.8

Source: Bureau of Labor Statistics

Table 6
Nonfinancial corporations: Productivity, hourly compensation, unit labor costs, unit profits, and prices, seasonally adjusted

Year and quarter		Output per all-employee hour	Output	Em-ployee hours	Hourly com-pensa-tion	Real hourly com-pensa-tion	Unit labor costs	Unit non-labor costs	Total unit costs	Unit profits	Implicit price deflator
		Indexes 1992=100									
		Percent change from previous quarter at annual rate									
1998	I	3.5	5.9	2.3	6.5	5.8	2.9	0.5	2.3	-14.5	0.1
	II	4.2	5.3	1.0	5.5	4.0	1.3	1.9	1.4	-8.0	0.3
	III	4.8	6.9	2.0	5.1	3.5	0.2	-2.1	-0.4	12.4	1.1
	IV	2.4	5.4	2.9	3.9	2.3	1.5	5.9	2.7	-16.6	0.2
	Annual	3.5	6.3	2.6	5.0	3.6	1.4	0.3	1.1	-5.1	0.3
1999	I	3.0	5.4	2.3	4.3	2.6	1.2	-3.2	0.0	15.6	1.7
	II	2.7	5.1	2.4	4.4	1.1	1.6	3.4	2.1	-5.3	1.2
	III	4.4	6.9	2.4	5.0	2.4	0.6	2.9	1.2	-10.8	-0.3
	IV	5.8	8.8	2.8	4.1	1.2	-1.7	2.1	-0.7	7.3	0.2
	Annual	3.5	5.9	2.3	4.5	2.3	1.0	1.3	1.0	-0.9	0.8
2000	I	3.1	6.2	3.0	2.9	-1.1	-0.2	3.0	0.7	14.9	2.3
	II	5.6	6.4	0.7	6.3	3.2	0.7	2.6	1.2	11.4	2.4
	III	4.4	4.4	0.0	6.0	2.4	1.5	2.6	1.8	-8.3	0.5
	IV										
	Annual										
		Percent change from corresponding quarter of previous year									
1998	I	2.8	6.6	3.7	3.7	2.3	0.9	0.1	0.7	-2.6	0.3
	II	3.9	6.5	2.5	5.3	3.8	1.4	-0.3	0.9	-5.0	0.2
	III	3.8	6.1	2.2	5.8	4.3	1.9	-0.3	1.3	-5.3	0.5
	IV	3.7	5.9	2.1	5.3	3.9	1.5	1.5	1.5	-7.3	0.4
	Annual	3.5	6.3	2.6	5.0	3.6	1.4	0.3	1.1	-5.1	0.3
1999	I	3.6	5.7	2.0	4.7	3.1	1.0	0.6	0.9	-0.1	0.8
	II	3.2	5.7	2.4	4.4	2.4	1.1	0.9	1.1	0.6	1.0
	III	3.1	5.7	2.5	4.4	2.1	1.2	2.2	1.5	-5.0	0.7
	IV	4.0	6.5	2.5	4.4	1.8	0.4	1.3	0.7	1.2	0.7
	Annual	3.5	5.9	2.3	4.5	2.3	1.0	1.3	1.0	-0.9	0.8
2000	I	4.0	6.8	2.6	4.1	0.9	0.1	2.8	0.8	1.0	0.8
	II	4.7	7.1	2.2	4.6	1.4	-0.2	2.6	0.6	5.2	1.1
	III	4.7	6.4	1.6	4.8	1.4	0.1	2.6	0.7	5.9	1.3
	IV										
	Annual										

Source: Bureau of Labor Statistics

Annual Average Changes, 1999-2000

Business

In calendar year 2000, business sector productivity increased 4.2 percent, after having increased 2.8 percent in both 1998 and 1999. (See table B and table 1.) Output grew 5.6 percent in 2000, 4.8 percent in 1999, and 5.0 percent in 1998. Hours of all persons in the business sector rose by 1.3 percent in 2000, less than the 2.0 percent increase in 1999, and 2.2 percent increase in 1998.

Hourly compensation increased 5.0 percent in 2000, after having increased 4.6 percent in 1999, but less than the 5.3 percent annual increase in 1998. Real hourly compensation increased 1.7 percent in 2000, decelerating from a 2.4 percent rate of increase in 1999, which itself decelerated from a rate of increase of 3.9 percent in 1998. Calendar year 2000 was the fifth consecutive year of positive growth in this series, following three years of actual declines in real hourly compensation during 1993-95.

Unit labor costs increased 0.8 percent in 2000, less than the 1.8-percent increase in 1999, which in turn was less than the 2.5 percent increase in 1998. The implicit price deflator rose 1.8 percent in 2000, compared with a 1.1-percent increase in 1999, and a 0.8 percent increase the previous year.

Non-farm business

Productivity increased 4.3 percent in the non-farm business sector during 2000, more than in any year since 1983, when output per hour increased 4.5 percent. Productivity rose rapidly in 2000 because output grew 5.7 percent while hours of all persons rose by just 1.3 percent. In 1999, productivity rose 2.6 percent as output grew 4.8 percent and hours of all persons rose 2.2 percent. In 1998, productivity grew 2.7 percent, owing to a 5.1 percent increase in output and a 2.4 percent increase in hours worked.

Hourly compensation grew 5.1 percent in 2000, compared with a 4.4-percent increase in 1999, and 5.2 percent in 1998. The increase in real hourly compensation in 2000 by 1.7 percent, was smaller than during the previous year, when it had increased by 2.3 percent, which was yet again smaller than the 3.8 percent increase in 1998.

Unit labor costs in the non-farm business sector rose by 0.7 percent in 2000, less than the 1.8-percent increase posted in 1999, and the 2.5 percent increase in 1998. The implicit price deflator, which reflects nonlabor payments as well as labor costs, rose by 1.8 percent in 2000, following a 1.3-percent rise in 1999, and a 0.9 percent increase in 1998.

Manufacturing

Manufacturing productivity grew 7.1 percent in 2000, continuing a trend of annual increases that began in 1980. This 7.1 percent increase in output per hour was the largest recorded over the 51-year history of the measure. Output in the manufacturing sector increased by 6.0 percent in 2000, and hours of all persons fell by 1.1 percent. In 2000, labor productivity increased by 10.5 percent in durable goods manufacturing (also the largest in the history of this measure), reflecting a 10.0-percent output increase and a decline of 0.5 percent in hours worked by all persons. In nondurable goods manufacturing, productivity rose by 3.2 percent in 2000, as output grew 1.2 percent and hours worked by all persons declined 2.0 percent (See tables 3, 4, and 5).

Table B
Productivity and costs: Revised annual 2000 averages (seasonally adjusted annual rates)

Sector	Productivity	Output	Hours	Hourly compensation	Real hourly compensation	Unit labor costs
Percent change from preceding year						
Business	4.2	5.6	1.3	5.0	1.7	0.8
Non-farm business	4.3	5.7	1.3	5.1	1.7	0.7
Manufacturing	7.1	6.0	-1.1	5.2	1.9	-1.8
Durable	10.5	10.0	-0.5	5.2	1.9	-4.8
Nondurable	3.2	1.2	-2.0	5.1	1.7	1.8

Source: U.S. Department of Labor

Hourly compensation of manufacturing workers increased by 5.2 percent in 2000, faster than the 4.0 percent increase a year earlier, but essentially equal to the 5.3 percent increase in 1998. Real hourly compensation rose by 1.9 percent in both 1999 and 2000, both substantially lower than the 3.9 percent rise in 1998 real compensation. In 2000, nominal hourly compensation increases in the two sub-sectors were similar to the manufacturing total, 5.2 percent in durable goods and 5.1 percent in nondurable goods.

Unit labor costs fell by 1.8 percent during 2000 in the manufacturing sector, the seventh consecutive annual decline. This trend of declining unit labor costs was due almost entirely to decreases in durable goods manufacturing, where these costs have fallen for nine consecutive years. In 2000, unit labor costs in durable goods industries fell by 4.8 percent whereas, in contrast, unit labor costs rose by 1.8 percent in nondurable goods industries.

Sources and Definitions

Productivity: These productivity measures describe the relationship between real output and the labor time involved in its production. They show the changes from period to period in the amount of goods and services produced per hour. Although these measures relate output to hours at work of all persons engaged in a sector, they do not measure the specific contribution of labor, capital, or any other factor of production. Rather, they reflect the joint effects of many influences, including changes in technology; capital investment; level of output; utilization of capacity, energy, and materials; the organization of production; managerial skill; and the characteristics and effort of the work force.

Output: Business sector output is an annual-weighted index constructed after excluding from GDP the following outputs: general government, nonprofit institutions, paid employees of private households, and the rental value of owner-occupied dwellings. Corresponding exclusions also are made in labor inputs. Business output accounted for about 77 percent of the value of GDP in 1996. Non-farm business, which also excludes farming, accounted for about 76 percent of GDP in 1996.

Annual indexes for manufacturing and its durable and nondurable goods components are constructed by deflating the current-dollar value-of-production for an industry, taken from the U.S. Bureau of the Census and using deflators from the BEA. These deflators are based on data from the BLS producer price program and other sources. The industry shipments are aggregated using annual weights, and intra-sector transactions are removed. Quarterly manufacturing output measures are based on the index of industrial production, prepared monthly by the Board of Governors of the Federal Reserve System, adjusted to be consistent with annual indexes of manufacturing sector output prepared by BLS. Durables include the following 2-digit SIC industries: primary metal industries; fabricated metal products; non-electrical machinery; industrial and commercial machinery and computer equipment; electronic and other electrical equipment; transportation equipment; instruments; lumber and lumber products; furniture and fixtures; stone, clay, and glass and concrete products; and miscellaneous manufactures. Non-durables include: Food and kindred products, tobacco products, textile mill products, apparel products, paper and allied products, printing and publishing, chemicals and chemical products, petroleum refining and related industries, rubber and plastic products, and leather and leather products.

Output by nonfinancial corporations is an annual-weighted index constructed by excluding from GDP the following outputs: general government; nonprofit institutions; employees of private households; the rental value of owner-occupied dwellings; unincorporated business; and those corporations which are depository institutions, nondepository institutions, security and commodity brokers, insurance carriers, regulated investment offices, small business investment offices, and real estate investment trusts. Nonfinancial corporations accounted for about 53 percent of the value of GDP in 1996.

Labor Hours: Data for hours worked for the labor productivity and cost measures include hours for all persons working in the sector: wage and salary workers, the self-employed, and unpaid family workers. The primary source of hours and employment data is the BLS *Current Employment Statistics* (CES) program, which provides monthly survey data on the number of jobs held by wage and salary workers in non-farm establishments. The CES also provides data on average weekly paid hours of production and the number of non-supervisory workers in these establishments. The BLS Office of Productivity and Technology estimates the average weekly paid hours of non-production as well as supervisory workers. The measure "weekly paid hours" is adjusted to "hours at work" using the BLS *Hours at Work* survey, conducted for this purpose.

Data from the BLS *Current Population Survey* help measure farm labor; the Department of Commerce's Bureau of Economic Analysis (BEA) provides data from the National Income and Product Accounts used to measure labor input for government enterprises, proprietors, and unpaid family workers to help measure non-farm labor.

INTERNATIONAL ECONOMIC COMPARISON

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U.S. Economic Performance Relative to Other Group of Seven (G-7) Members

Economic Growth

U.S. real GDP–the output of goods and services produced in the United States measured in 1996 prices—grew at a revised annual rate of 2.0 percent in the first quarter of 2001 following a 1.0-percent growth rate in the fourth quarter, of 2000, according to preliminary estimates by the U.S. Bureau of Economic Analysis (*BEA News Release*, BEA 01-04). For the year 2000 real GDP grew by 5.0 percent.

The annualized rate of real GDP growth in the fourth quarter of 2000 was 1.4 percent in the United Kingdom, 2.6 percent in Canada, 3.9 percent in France, 0.8 percent in Germany, 3.2 percent in Italy and 3.2 percent in Japan. The annualized rate of real GDP growth in the fourth quarter was 2.8 percent for EU members linked by the Euro currency, the Euro area (EU-11).

Industrial Production

The Federal Reserve Board (*Federal Reserve Statistical Release*, G.17 (419)) reported that U.S. industrial production increased by 0.4 percent in March 2001, its first increase since September 2000. Manufacturing output increased 0.3 percent; after a 0.3 percent drop in February. Excluding motor vehicles and parts, manufacturing output decreased 0.1 percent in March. Output at utilities increased 1.1 percent, and production in mining rose 0.8 percent. Total industrial production was 0.8 percent above its March 2000 level. Total capacity utilization was 4.4 percent higher than in March 2000.

[1] The views and conclusions expressed in this article are those of the author. They are not necessarily the views of the U.S. International Trade Commission as a whole or of any individual Commissioner.

Other G-7 member countries reported the following growth rates of industrial production. For the year that ended in February 2001, Japan reported a decrease of 2.1 percent and the United Kingdom reported an increase of 1.0 percent. For the 12 months through January 2001, Germany reported an increase of 7.1 percent, Italy reported an increase of 9.6 percent, France reported an increase of 2.9 percent, and Canada reported an increase of 1.2 percent. The Euro area reported an increase of 6.6 percent for the year that ended in January 2000.

Prices

The seasonally adjusted U.S. Consumer Price Index (CPI) increased 0.1 percent in March 2001, following a 0.6 percent rise in January, according to the U.S. Department of Labor (USDL-01-68). For the 12-month period that ended in February 2001, the CPI-U increased by 2.9 percent.

During the 1-year period that ended in March 2001, prices increased by 2.5 percent in Germany, and 2.8 percent in Italy. During the 1-year that ended in February 2000, prices increased 2.9 percent in Canada, 2.7 percent in the United Kingdom, 1.4 percent in France and in Japan prices fell 0.1 percent Prices increased by 2.6 percent in the Euro area in the year that ended in February 2001.

Employment

The Bureau of Labor Statistics (*Employment Situation Summary*, USDL 01-57) reported that the unemployment rate held at 4.2 percent in February 2001 and total non-farm employment rose by 135,000. Large job losses continued in manufacturing, where employment declined by 94,000. Employment gains in several other industries, including services, accounted for the net increase in payroll employment.

In other G-7 countries, their latest unemployment rates were 6.9 percent in Canada, 9.3 percent in Germany, 5.2 percent in the United Kingdom, 8.8 percent in France, 9.9 percent in Italy, and 4.7 percent in Japan. The unemployment rate in the Euro area was 8.7 percent.

Forecasts

Seven major U.S. forecasters expect real GDP growth in the United States during the second quarter of 2001 to reach an average of about 1.9 percent at an annualized rate, and to increase to 2.3 percent in the third quarter and 2.9 percent in the fourth quarter. The growth rate for the year 2001 is expected to average about 2.1 percent. Table 1 shows macroeconomic projections for the U.S. economy from January to December 2001, and the simple average of these forecasts. Forecasts of all the economic indicators, except unemployment, are presented as percentage changes from the preceding quarter, on an annualized basis. The forecasts of the unemployment rate are averages for the quarter.

The average of the forecasts points to an unemployment rate of 4.5 percent in the second quarter, and a slight increase in the third and fourth quarters. For the year 2001, the unemployment rate is projected to reach 4.5 percent. Inflation, as measured by the GDP deflator, is expected to remain subdued, reaching about 2.0 percent during 2001.

Table 1
Projected changes in U.S. economic indicators, by quarter, Jan.-Dec. 2001, and annually, 2000-2001

(Percentage)

Period	Conference Board	E.I. Dupont	UCLA Business Forecasting Project	Merrill Lynch Capital Markets	Macro Economic Advisers	Eaton Corp.	Regional Financial Associates	Mean of forecasts
				GDP constant dollars				
2001:								
Jan.-Mar.	1.6	0.7	0.2	1.1	0.7	1.9	1.1	1.2
Apr.-June	4.5	0.7	-0.2	1.3	2.3	3.8	1.0	1.9
July-Sept	5.1	0.7	-0.7	2.4	2.8	3.4	2.5	2.3
Oct.-Dec.	5.1	0.1	1.4	3.8	3.3	2.5	3.7	2.9
Annual 2000	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Annual 2001	4.3	0.7	0.7	1.9	2.0	2.6	1.8	2.1
				GDP Price Deflator				
2001:								
Jan.-Mar.	1.3	2.2	1.7	2.6	2.6	1.8	2.3	2.2
Apr.-June	2.6	1.9	2.1	2.2	2.2	0.3	1.7	1.8
July-Sept	3.7	1.9	2.0	1.8	1.8	0.6	2.2	2.0
Oct.-Dec.	3.7	1.8	2.0	1.8	1.8	0.6	2.2	1.9
Annual 2000	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Annual 2001	2.3	1.3	2.2	2.1	2.1	1.3	2.0	2.0
				Unemployment average rate				
2001:								
Jan.-Mar.	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
Apr.-June	4.3	4.5	4.6	4.4	4.4	4.5	4.4	4.5
July-Sept	4.3	4.6	5.0	4.5	4.5	4.6	4.5	4.6
Oct.-Dec.	4.2	4.5	5.3	4.6	4.6	4.8	4.6	4.7
Annual 2000	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Annual 2001	4.2	4.5	4.8	4.4	4.4	4.5	4.5	4.5

Note.–Except for the unemployment rate, percentage changes in the forecast represent annualized rates of change from the preceding period. Quarterly data are seasonally adjusted. Forecast date, Mar. 2001.

Source: Compiled from data of the Conference Board. Used with permission.

STATISTICAL TABLES

Unemployment rates (civilian labor force basis)[1] in G-7 countries, by specified periods, 1998-Feb. 2001

(Percentage rates)

		1999				2000				2001	
Country	**1998**	**Q:I**	**Q:II**	**Q:III**	**Q:VI**	**Q:I**	**Q:II**	**Q:III**	**Q:IV**	**Jan.**	**Feb.**
United States	4.5	4.3	4.3	4.2	4.1	4.1	4.0	4.0	4.0	4.2	4.2
Japan	4.1	4.7	4.8	4.8	4.7	4.8	4.7	4.7	4.8	4.9	
Canada	7.5	7.1	7.1	6.8	6.2	6.0	5.8	5.8	5.7	5.9	5.8
Germany	9.3	8.8	8.8	8.8	8.7	8.4	8.3	8.2	8.1	8.1	8.1
United Kingdom	6.3	6.2	6.1	5.9	5.9	5.8	5.5	5.4	5.3		
France	11.8	11.4	11.3	11.2	10.8	10.2	9.7	9.6	9.2	9.0	
Italy	12.0	11.8	11.7	11.5	11.3	11.2	10.8	10.5	10.1	10.0	

[1] Seasonally adjusted; rates of foreign countries adjusted to be comparable with the U.S. rate.

Source: *Unemployment Rates in Nine Countries*, U.S. Department of Labor, Apr. 6, 2001.

Consumer prices of G-7 countries, by specified periods, 1998-Feb. 2001

(Percentage change from same period of previous year)

		1999				2000				2001	
Country	**1998**	**Q:I**	**Q:II**	**Q:III**	**Q:IV**	**Q:I**	**Q:II**	**Q:III**	**Q:IV**	**Jan.**	**Feb.**
United States	1.6	1.7	2.1	2.3	2.6	3.2	3.3	3.5	3.4	3.7	3.5
Japan	0.6	-0.1	-0.3	0.0	-1.0	-0.7	-0.7	-0.7	-0.5	0.1	-0.1
Canada	0.9	0.8	1.6	2.2	2.4	2.7	2.4	2.7	3.1	3.0	2.9
Germany	1.0	0.3	0.5	0.6	1.0	1.8	1.6	2.1	2.3	2.4	2.6
United Kingdom	3.4	2.2	1.4	1.2	1.5	2.3	3.1	3.2	3.1	2.7	2.7
France	0.7	0.3	0.4	0.5	1.0	1.5	1.5	1.9	1.9	1.2	1.4
Italy	1.9	1.4	1.6	1.8	2.1	2.4	2.5	2.7	2.7	3.1	3.0

Source: U.S. Department of Labor, Apr. 6, 2001.

U.S. trade balances by major commodity categories and by specified periods, 1999-Dec. 2000

(Billions of dollars)

Commodity categories	1999	2000 Jan.	Feb.	Mar.	Apr.	May.	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Agriculture	14.9	1.0	1.2	1.0	0.5	0.5	0.8	0.9	1.1	1.1	1.7	1.4	1.4
Petroleum and selected products (unadjusted) . .	-43.4	-7.1	-9.0	-9.8	-8.6	-8.5	-10.0	-10.7	-10.6	- 9.6	- 9.5	-10.1	-12.3
Manufactured goods	-241.1	-27.9	-27.8	-31.6	-28.7	-32.9	-31.4	-36.4	-35.8	-36.2	-38.9	-34.8	-27.2
Unit value of U.S. imports of petroleum and selected products (unadjusted)	$10.81	$20.9	$20.90	$23.18	$23.18	$25.01	$24.42	$24.16	$26.65	$27.76	$28.62	$28.40	$26.53

[1] Exports, f.a.s. value, unadjusted. Imports, customs value, unadjusted.

Source: *Advance Report on U.S. Merchandise Trade*, U.S. Department of Commerce, *FT900 (01-12)*, Feb.21, 2001.

WORKING PAPERS

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Reference Code	Title	Author	Status
2001			
01-04-B	Aggregation Bias, Compositional Change, and the Border Effect	Russell Hillberry	Working Paper
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01-02-A	On the Effects of the Expansion of Regional Arrangements: An Intra-Industry Trade Mode	Soamiely Andriamananjara	Working Paper
2000			
00-09-B	NAFTA Environmental Impacts on North American Fisheries	Grace V. Chomo Michael J. Ferrantino	Working Paper
00-09-A	Industry-Level Estimates of U.S. Armington Elasticities	Michael Gallaway Christine McDaniel Sandra A. Rivera	Working Paper
00-02-C	Regionalism Versus Multilateralism: the Response of the Third Country	Soamiely Andriamananjara*	Working Paper
00-02-B	Event Study of Russian Foreign Exchange Market	Michael Barry*	Working Paper
00-02-A	The Russian Financial Crises: a Look Back	Michael Barry*	Working Paper
00-01-A	Exchange Rates: Definitions and Applications	Gerry Benedick* Peter Pogany*	Working Paper
1999			
99-11-B	Preferential Trading Arrangement: Endogenous Response of the Excluded Country	Soamiely Andriamananjara*	Working Paper
99-11-A	Inventing Around and Impacts on Modes of Entry in Japan: A Cross-Country Analysis of U.S. Affiliate Sales and Licensing	Christine McDaniel*	Working Paper

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Reference Code	Title	Author	Status
1999-Cont'd			
99-10-A	Modeling the Effects of Trade Liberalization on Forest Cover: Some Methodological Issues	Michael Ferrantino*	*Assessing the Environmental Effects of Trade Liberalisation Agreements, OECD*
99-09-A	Regionalism and Incentives for Multilateralism	Soamiely Andriamananjara*	*Journal of Economic Integration,* Vol. 15, No. 1 Mar. 2000
99-04-A	An Overview of Quasiconcavity and its Application in Economics	Peter Pogany*	Working Paper
99-03-A	International and Domestic Product Classification	William Donnelly*	Working Paper
1998			
98-10-A	Latin American Export Sector Dynamics and Economic Growth in International Comparison	Sheila Amin Gutiérrez-de Piñeres & Michael Ferrantino*	*Export Dynamics and Economic Growth in Latin America:* A Comparative Perspective, Ashgate Press
98-09-A	The Income Elasticity of Trade: Theory, Evidence, and Implications	Peter Pogany* William Donnelly*	Working Paper
98-03-A	Trade, Trade Policy, and Productivity Growth in OECD Manufacturing	Nancy Benjamin* Michael Ferrantino*	Working Paper
1997			
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97-06-A	Integration and Competitiveness in the Americas: A General Equilibrium Model for Analysis	Nancy Benjamin* & Peter Pogany*	Working Paper
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97-02-B	APEC: Organization, Goals and Approach	Diane L. Manifold*	Working Paper
97-02-A	The Effect of U.S. MFN Status on China	Hugh M. Arce* & Christopher T. Taylor*	*Weltwirtschaftliches Archiv*, Vol. 133, No. 4, 1997.

*Staff Economist, U.S. International Trade Commission.