Introduction and Summary

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During the 1970s and 1980s, immigration, trade, and foreign investment in the United States became increasingly important in the U.S. labor market. The number of legal and illegal immigrants to the country increased, altering the size and composition of the work force and substantially raising the immigrant share of labor in "gateway" cities such as Miami, Los Angeles, and New York. The national origins of immigrants changed from primarily European to Mexican, Latin American, and Asian. Foreign trade rose relative to gross national product, and a massive trade deficit developed in the 1980s, turning the United States into a substantial debtor nation.

Because the composition of employment shifted from manufacturing to nontraded services, the immediate burden of adjusting to trade-induced changes fell on a decreasing segment of the work force. As the flip side of the trade deficit, foreign investment in the United States grew rapidly, with foreign direct investment increasing until 3% of American workers were employed in foreign-owned firms. While at one time labor market analysts could look on the United States as a largely closed economy, the changes of the 1970s and 1980s brought about the internationalization of the U.S. labor market.

What are the interrelations among the flows of foreign outputs and inputs that have caused such a change in the way we look at the U.S. labor market? How have the flows changed over time? Which industries or areas are most

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heavily affected by the movements in goods, the influx of immigrants, or foreign direct investment? What have we learned from studying the effects of these increased flows in the U.S. labor market? This paper presents background information about the growing internationalization of the U.S. labor market and summarizes the results of the NBER studies contained in this volume.

The paper highlights several aspects of the internationalization of the U.S. work force.

1. Although the number of immigrants relative to the population increased from the 1950s to the 1980s, the immigrant share of the growth of the work force was relatively moderate. The rapid growth of the labor force due to increased female participation and entry of the baby boom generation to the labor market kept pace with the influx of immigrant workers.

2. The trade content of the U.S. economy, measured by exports plus imports relative to sales or GNP, has increased markedly, but the share of labor in traded sectors, notably manufacturing, has fallen, so that a smaller fraction of workers are directly affected by trade than in the past. Those workers are, however, more closely tied to world markets than in the past.

3. Direct foreign investment was substantial in the 1980s, reaching 34% of gross U.S. investment in 1988. Three percent of the private U.S. work force was employed in foreign-owned enterprises by the mid-1980s.

4. The immigrant share of the labor force differs largely across geographic areas, whereas the trade share of product markets differs largely across industries. This motivates the research strategy for the studies of the effects of immigration and trade on the U.S. labor force: studies concerned with how immigration affects labor market outcomes contrast wages and employment in local areas with different immigrant shares of the work force; studies concerned with how trade affects labor market outcomes contrast wages and employment in industries with different trade shares of output.

5. Industries are related to the open economy in a variety of ways. Industries in which there are considerable imports employ a disproportionate share of immigrants, whereas high export industries employ relatively few immigrants. Direct foreign investment is concentrated in manufacturing. Overall, the first-order effects of the internationalization of the labor market fall on manufacturing.

6. There are significant differences in the characteristics of workers between export-intensive, import-intensive, and immigrant-intensive sectors. Women workers and lower-paid, less-skilled workers are highly concentrated in sectors where imports are significant and where relatively many immigrants work. Perhaps surprisingly, foreign-owned enterprises have a comparable unionization rate to domestically owned enterprises: they are concentrated in traded goods sectors and have higher wages than domestic producers.

The paper is divided into four parts. Section 1 deals with the aggregate

flows of people, goods, and capital from overseas to the United States. Section 2 describes the industrial pattern and regional dimensions of the labor, goods, and capital flows as shown in the NBER data files developed for this project.[1] Section 3 turns to the characteristics of workers in sectors most affected by trade, immigration, and foreign direct investment. In sections 1–3, we have compiled statistics from a wide variety of sources in order to present comparable figures for 1960, 1970, 1980, and the most recent year available. Section 4 summarizes the findings of the papers included in this volume.

1. The Aggregate Flows of People, Goods, and Capital

In this section, we review the basic data on each of the three flows under study: labor, goods, and capital. In contrast to demographic studies that focus on the immigrant share of the population and the increase in population, we focus on the immigrant share of the labor force and the increase in the labor force. In contrast to trade studies that focus on balance of payments issues, we focus on the proportion of workers in traded sectors and the ratio of exports plus imports to output in those sectors. In contrast to financial studies that consider international capital mobility broadly defined (and equal to imports minus exports by definition), we focus on direct foreign investment in plant and equipment.

Flows of Labor

Table 1 presents the basic data on the flows of immigrants entering the country (pt. A) and the stock of immigrants in the United States (pt. B) from the 1940s through the 1980s. The table provides figures for legal immigrant flows and legal plus estimated illegal immigrant flows in absolute numbers and relative to the population, labor force, and change in the labor force. The data in the first two columns of the table show that the number of immigrants coming into the United States and the number per one thousand inhabitants rose in the 1970s and 1980s, consistent with the increased public concern about immigration. When we consider the immigrant share of changes in the population and labor force, however, a different story emerges. Because the baby boom increase in the U.S. population occurs in the early postwar years (through 1960), the legal immigrant share of population growth is relatively small during this period. Because of the increased participation of women, the influx of baby boomers into the labor markets, and the fact that many legal immigrants enter for family unification reasons rather than for labor market reasons, the estimated immigrant flow share of the growth of the labor force

1. For a description of these data, see Abowd (in this volume).

Table 1   **Flows and Stocks of Immigrants Relative to the Population and Labor Force**

A. Flows of Immigrants

Period	Decadal Flow of Immigrants (thousands)	Inflow per 1,000 U.S. inhabitants	Immigrant Flow Share of Change:	
			In Population (%)	In Labor Force
Legal flows only:[a]				
1941–50	1,035	.7	5.2	7.3
1951–60	2,515	1.5	8.9	14.5
1961–70	3,322	1.7	13.6	11.1
1971–80	4,493	2.1	19.8	9.3
1981–90	5,900	2.5	26.8	16.2
Legal and illegal flows:[b]				
1971–80	5,800	2.7	25.6	12.0
1981–90	8,400	3.6	38.2	23.1

B. Stocks of Immigrants

Census of Population	Number of Foreign Born Counted (thousands)	% of Population	Number of Foreign Born in Civilian Labor Force (thousands)	Immigrant % of Labor Force
As reported:				
1940	11,657	8.8		
1950	10,431	6.9	4,838	8.2
1960	9,738	5.4	4,134	6.1
1970	9,619	4.7	4,223	5.2
1980	14,080	6.2	7,001	6.7
Adjusted for undercount:[c]				
1980	15,380	6.8	7,647	7.3

Sources: Part A: Flow of immigrants from U.S. Bureau of the Census, *Statistical Abstract of the United States, 1989*, table 7 (from the *Statistical Yearbook of the Immigration and Naturalization Service*), with the 1981–90 flow estimated by extrapolating the 1981–87 flows. Immigrant flow shares of changes were obtained by dividing flows by changes in decadal population from the relevant decades (tables in Council of Economic Advisers, *Economic Report of the President*, 1990). To obtain immigrants in the labor force, we assumed that the labor force participation rate of the decadal flow of immigrants was the same as the ratio of foreign-born workers in the civilian labor force to the foreign-born population (see pt. B). Part B: Foreign-born count and percentage of population from *Statistical Abstract of the United States, 1988*, table 44 (from the U.S. Census of Population). Foreign-born in the civilian labor force from various Censuses of Population.
[a]Official counts from the Immigration and Naturalization Service summed over the indicated years.
[b]Adjusted for illegal flows using estimates from Borjas, Freeman, and Lang (in this volume) and Warren and Passel (1987), as described in the text.
[c]Adjusted by adding the 1.3 million estimated uncounted illegal immigrants to the 1980 Census counts.

actually falls from the 1950s to the 1970s, raising serious doubts about the labor market basis for concern over immigration until the 1980s. Then the number of immigrants rises substantially, and the contribution to both population and labor force growth reaches a postwar high.

The figures in part B for actual counts of the stock of immigrants (which depend not only on inflows of immigrants but also on emigration and the death or retirement of persons who immigrated decades earlier and which include some illegal immigrants) tell a generally similar story. While declines in the immigrant share of the population and labor force are reversed for the decade 1971–80, the immigrant proportion of the population or labor force in 1980 remains below the 1950 proportion.

What happens to this picture when adjustments are made for the widely publicized illegal immigration into the United States? We have made adjustments in the table based on the methods of Borjas, Freeman, and Lang (in this volume) and earlier research on illegal immigration (Warren and Passel 1987). The bases for our adjustments are Warren and Passel's estimate that the 1980 Census included about two million illegal immigrants and Borjas, Freeman, and Lang's estimate that approximately 61% of illegal (Mexican) immigrants were counted in the Census. Taken together, these estimates suggest that there were on the order of 3.3 million illegal aliens in the United States in 1980. Warren and Passel estimate that 75% of the illegals counted in the Census came in the 1970s. Assuming, conservatively, that 75% of the uncounted illegal immigrants also came in the 1970s, we get 2.5 million as the estimated flow of illegal immigrants in the 1970s. Adding this number to the number of legal immigrants reported by the Immigration and Naturalization Service (INS) in the rows giving "legal and illegal flows" changes greatly the picture of immigrant flows given in part A. Immigrant flows now rise sharply in the 1970s compared to the 1960s. Similarly, adding 1.3 million uncounted immigrants to the 1980 Census count raises the immigrant's share of population and labor force in part B of the table to levels close to those of 1950.

If illegal flows proceeded in the 1980s at the same rate as in the 1970s, then, given the INS estimates of legal immigrant flows, we estimate that some 8,400,000 immigrants came to the United States in the 1980s. This raises the immigrant inflow per one thousand United States inhabitants and the immigrant share of the change in population and labor force above the levels of the 1970s. The 1970s and 1980s were periods of marked acceleration in immigration, in large part because of illegal flows.

Another aspect of the flow of immigrants to the United States deserves attention. The change in the geographic origins of immigrants following the 1965 Immigration Act has produced a dramatic shift in immigrant origins from Europe and Canada to Asia. Figure 1 illustrates this change. If we adjusted the proportions in the figure for illegal immigrants (largely Mexican), the share from Latin America would also rise.
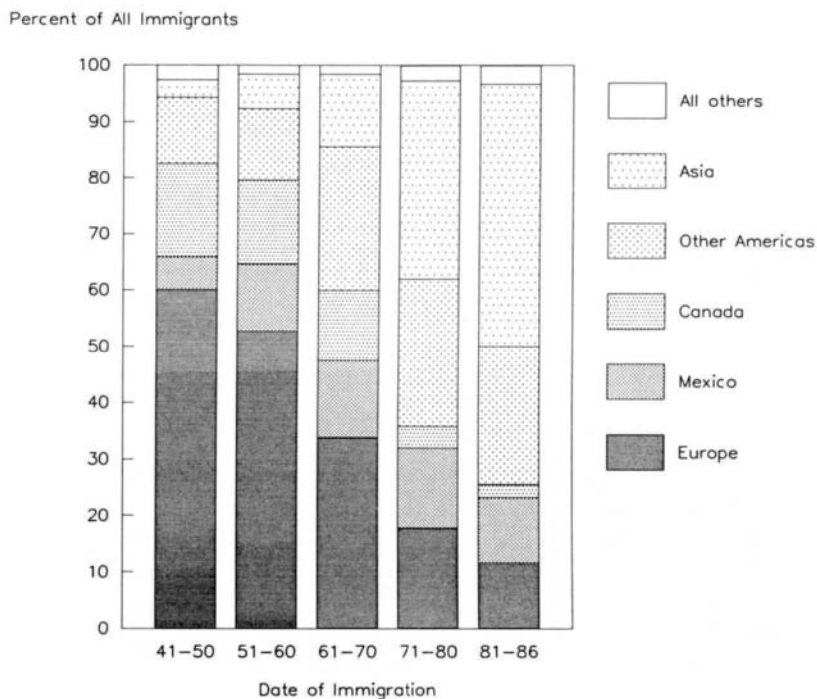
Percent of All Immigrants

Fig. 1   Distribution of immigrant origins
Source: Immigration and Naturalization Service Statistical Yearbook, 1987, table 2, "Immigration by Region and Selected Country of Last Residence."

Flows of Goods

Figure 2 shows the widely heralded increase in the role of trade in the U.S. economy in terms of two related measures—exports (X) plus imports (M) relative to GNP, which we will call the trade content of the economy and the ratio of the trade balance (exports minus imports) to GNP. In the 1950s and 1960s, the overall trade content of GNP was roughly 10%–11%, with U.S. exports exceeding imports. In the 1970s, the trade content jumped, particularly after 1978, reaching a peak in 1981, then hovered around this level for the rest of the decade. The balance of trade diverged modestly from year to year until 1983, when it became negative. Large negative trade balances characterize the rest of the decade and are unlike any other postwar period.

While the trade content of the U.S. economy has risen sharply, the proportion of workers employed in the traded goods sectors—manufacturing, mining (including crude oil), and agriculture—has fallen, so that relatively fewer workers are directly imported by foreign competition. Table 2 shows the ratio of exports plus imports to *sectoral* GNP for traded goods (agriculture, mining, and manufacturing), all other sectors, and the entire U.S. economy for the
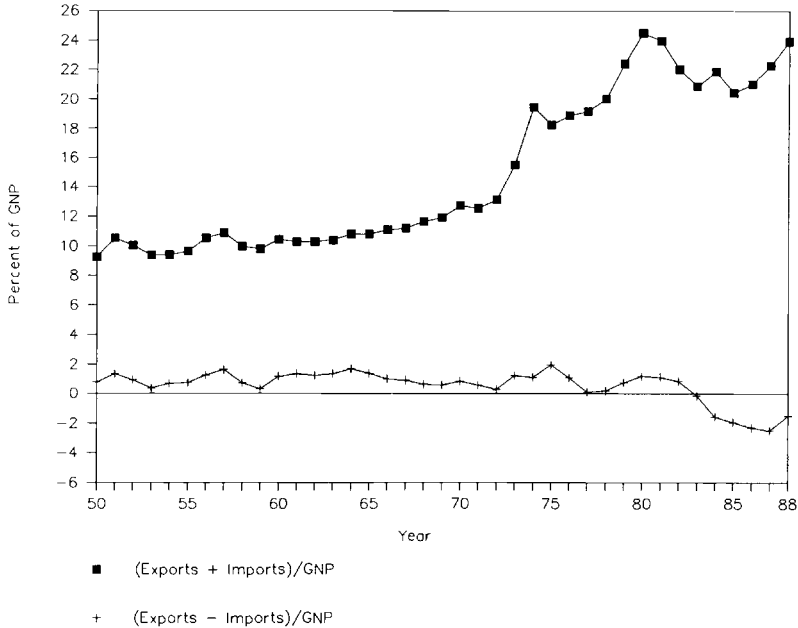
Fig. 2 Openness of the U.S. economy
Source: U.S. National Income and Product Accounts, July 1989.

years 1960, 1970, 1980, and 1987. The table also shows the percentage of GNP originating in the sector and the percentage of full-time equivalent employment in the sector. Exports plus imports as a percentage of sectoral GNP rise sharply in the traded goods sectors, but the share of GNP and the share of employment in the traded goods sectors fall. Whereas in 1960 33% of the work force and 35% of GNP were in the traded goods sectors, by 1987 only 21% of employment and 23% of GNP were in those sectors. A smaller fraction of the labor force is *directly* affected by foreign competition by 1987 than in the earlier decades. The table also shows the employment-weighted exports plus imports as a percentage of sectoral GNP (last row) and the comparable ratio for the overall economy ("total all sectors"). The traded portion of the entire U.S. economy (goods and services) rose from 10% in 1960 to 22% in 1987 by either overall measure (also shown in fig. 2). The economy-wide trade ratios rise by much less than the ratios in the traded goods sectors. In terms of direct competition from foreign-produced goods, a decreasing proportion of the labor force faces the consequences of increased traded goods flows.[2]

2. This assumes that exports plus imports is a good measure of trade dependence. Under some circumstances it will be. Under others it may understate trade dependence: e.g., when prices are determined by the world market but there are no trade flows.

Table 2   The Changing Trade Content of the U.S. Labor Market (%)

	1960	1970	1980	1987
(Exports + Imports)/GNP in sector:[a]				
Agriculture[b]	28.6	27.8	53.5	33.8
Mining[c]	22.6	25.0	76.6	45.3
Manufacturing[d]	17.5	26.6	56.8	64.4
Total traded goods[e]	19.2	26.6	59.3	60.0
All other sectors[f]	5.8	6.9	11.0	11.2
Total all sectors[g]	10.5	12.7	24.5	22.3
Percentage of GNP in sector:				
Agriculture	4.2	2.9	2.8	2.1
Mining	2.5	1.8	3.9	1.9
Manufacturing	28.0	24.8	21.3	18.9
Total traded goods	34.7	29.6	28.0	22.8
All other sectors	65.3	70.4	72.0	77.2
Percentage of employment in sector:[h]				
Agriculture	3.1	1.8	1.8	1.6
Mining	1.2	0.9	1.2	0.7
Manufacturing	28.6	26.6	22.8	19.0
Total Traded Goods	33.0	29.2	25.7	21.3
All other sectors	67.0	70.8	74.3	78.7
(Exports + Imports)/GNP in sector (employment weighted)[i]	10.1	12.7	22.9	21.8

Sources: Exports and imports 1960, 1970, and 1980 from Bureau of the Census, *U.S. Commodity Exports and Imports as Related to Output 1981/80* (1983), table A. Exports and imports 1987 from U.S. Department of Commerce online data base of official statistics. GNP in sector from National Income and Product Accounts, table 6.1 (extracted from CITIBASE). Full-time employment in sector from National Income and Product Accounts, table 6.7B (extracted from CITI-BASE).
[a]Exports plus imports as a percentage of GNP originating in the industry group.
[b]Agriculture is SIC industry groups 01–09.
[c]Mining is SIC industry groups 10–14.
[d]Manufacture is SIC industry groups 20–39.
[e]Traded goods are agriculture, mining, and manufactures.
[f]All other sectors include SIC industry groups 15–17 and 40–99. Exports (imports) in all other sectors are defined as the difference between total exports (imports) and traded goods exports (imports).
[g]Exports and imports from the National Income and Product Accounts. Traded goods sectors consist of manufacturing (SIC 20–39), mining (SIC 10–14), and agriculture (SIC 01–09).
[h]Full-time equivalent employees from the National Income and Product Accounts.
[i]Exports plus imports as a percentage of GNP originating in the industry group weighted by employment in the industry group.

Capital Flows

The flow of capital across international borders is the most difficult flow to measure and analyze. Net capital flows should equal the balance on current accounts (plus allocations of special drawing rights), but, in fact, the two differ significantly, requiring a statistical discrepancy line to produce the definitional equality. In terms of the effects on labor markets, we want to distin-

guish a foreign capital investment that is a long-term job creating flow from a short-run financial flow. If all net capital flows were of the former kind, public focus on the disemployment effects of an imbalance on the current account would be erroneous. If all the net capital flows were of the latter kind, by contrast, such concerns might be valid, although the imbalance would eventually alter the real exchange rate and, in principle, correct itself. It is not easy, however, to determine the degree to which capital flows fall along a spectrum from long-term job-creating to short-term financial flows. Presumably, direct foreign investment is job creating, while currency transactions are likely to be short run, though we still need to know the "motive" and likely holding period of these intermediate investments. A foreigner who buys stocks, corporate bonds, or U.S. Treasury obligations or even leaves money in a U.S. bank account for a long time can, through the flow of funds, produce as much long-term investment in the United States as a foreigner who builds a plant.

We distinguish in table 3 between direct foreign investments in plant and equipment, likely to be long run, and other forms of capital flows. As can be seen in the table, both direct and indirect capital flows increased dramatically in recent years. Net U.S. investment abroad (the change in U.S. assets abroad from the international transactions accounts) increased from $4,099 million in 1960 (shown as a negative number in the table to reflect a capital outflow) to $82,110 million in 1988. Net foreign investment in the United States (the change in foreign-owned assets from the international transactions accounts) increased from $2,294 million in 1960 to $219,299 million in 1988. Direct U.S. investment abroad and direct foreign investment in the United States also increased dramatically since 1960. By 1988, over a quarter of foreign investment in the United States consisted of direct foreign investment.

Are the international capital flows sizable or negligible in the context of the U.S. economy? Table 3 also compares net foreign investment in the United States and direct foreign investment in the United States to GNP and U.S. gross investment. Direct foreign investment in the United States rises from .1% of GNP and .4% of gross investment in 1960 to 1.2% of GNP and 9.2% of gross investment in 1988. While Japanese investment in the United States has received the most public attention, the percentage of direct foreign investment by country of ultimate beneficial ownership in table 3 shows that European direct investment is quantitatively much larger, although Japan increased its share dramatically in the late 1980s.

2.   Industrial and Geographic Patterns

Flows of goods, people, and capital occur differently by sector and area of the economy. Some industries produced traded goods, while others do not. Immigrants are overrepresented in some sectors and underrepresented in others, and immigrants go to some areas of the country and not to others. For some long-term general equilibrium purposes, the sectoral division of the

Table 3   **Capital Market Flows between the United States and the Rest of the World**

	Investments (millions of dollars)			
	1960	1970	1980	1988
Net U.S. investment abroad[a]	−4,099	−9,337	−86,118	−82,110
Direct investment abroad	−2,940	−7,590	−19,222	−17,533
Net foreign investment in the United States[b]	2,294	6,359	58,112	219,299
Direct foreign investment	315	1,464	16,918	58,436
Investment outlays[c]	NA	NA	12,172	65,019

	Relative Figures (% of base)			
	1960	1970	1980	1988
Net foreign investment in the United States/GNP	.4	.6	2.1	4.5
Net foreign investment in the United States/gross investment[d]	2.8	4.1	12.9	34.7
Direct foreign investment/GNP	.1	.1	.6	1.2
Direct foreign investment/gross investment	.4	1.0	3.8	9.2
Percentage of direct foreign investment by country[e]	100.0	100.0	100.0	100.0
Canada	NA	NA	16.1	16.0
Japan	NA	NA	4.9	21.8
Europe	NA	NA	62.9	52.5
West Germany	NA	NA	11.7	2.1
The Netherlands	NA	NA	13.6	3.0
United Kingdom	NA	NA	25.2	33.1
Rest of the World	NA	NA	16.1	9.7

Sources: U.S. International Transactions accounts from the *Survey of Current Business* (June 1989). Percentage distribution by country of ownership from *Survey of Current Business*, U.S. Business Enterprises Acquired or Established by Foreign Direct Investors, 1980 and 1988. National Income and Product Account data extracted from CITIBASE.

Note: NA = not available on a comparable basis.

[a]From U.S. assets abroad, net (increase/capital outflow [−]), in the U.S. International Transactions accounts. Negative numbers indicate a net outflow. Direct investments abroad is a subaccount of U.S. private assets, net.

[b]From foreign assets in the United States, net (increase/capital inflow [+]), in the U.S. International Transactions accounts. Positive numbers indicate a net inflow. Direct foreign investments is a subaccount of other foreign assets in the United States, net.

[c]Investment outlays from the U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of New Foreign Direct Investment in the United States* (1983).

[d]Gross investment series from the U.S. National Income and Product Accounts, annual data.

[e]Percentage of Bureau of Economic Analysis survey investment outlays by country of ultimate beneficial owner. Figures for 1988 are preliminary.

flows is unimportant. For many short- and intermediate-term questions, however, sectoral flows are critical. To deal with this issue, the NBER developed the Immigration, Trade, and Labor Markets Data Files (see Abowd, in this volume). These data allow us to examine the pattern of trade across industry lines over time, to contrast the industrial distribution of trade and the employment of immigrants, to determine the characteristics of workers in industries with more or less trade and with sizable or limited employment of immigrants, and to compare the geographic and industrial patterns of trade and immigration effects.

Table 4 uses the NBER immigration and trade data files to assess the variability of trade ratios across manufacturing industries. The table records the mean, standard deviation, and coefficient of variation of trade ratios among the 450 four-digit SIC manufacturing industries and of immigration ratios

Table 4   **Variation in Trade and Immigratino Ratios for Manufacturing Industries (employment weighted)**

	Export/ Shipments (%)	Import/ New Supply (%)ᵃ	(Exports + Imports)/ Shipments (%)	(Exports − Imports)/ Shipments (%)	Immigrants/ Labor Force (%)
1960:					
Mean	4.27	2.30	7.00	1.56	8.48
Standard deviation	5.91	4.61	10.17	9.87	3.66
Coefficient of					
variation	1.38	2.01	1.45		.43
1970:					
Mean	5.62	4.59	11.08	.20	7.13
Standard deviation	7.07	6.11	12.91	11.40	3.37
Coefficient of					
variation	1.26	1.33	1.17		.47
1980:					
Mean	10.31	7.47	19.94	.75	7.96
Standard deviation	11.38	8.51	23.59	18.56	4.34
Coefficient of					
variation	1.10	1.14	1.18		.55
1985:					
Mean	8.48	10.94	24.95	−7.95	
Standard deviation	11.09	11.38	52.77	50.78	
Coefficient of					
variation	1.31	1.04	2.11		
Change, 1960–80:					
Mean	5.50	5.38	12.62	−1.58	−.40
Standard deviation	8.37	6.42	17.34	14.03	2.82

Source: NBER Immigration, Trade, and Labor Markets Data Files (see Abowd, in this volume).
Note: All ratios are stated as percentages of the relevant base. The statistics are averages over four-digit SIC industries using the annual employment in the industry as the weight. There are 450 SICs with valid immigrant ratio data and 430 SICs with valid import and export data.
ᵃNew supply is the sum of shipments and imports.

among those industries. The table shows considerable variation in ratios of trade (functions of exports X and imports M) to shipments (S) across industries. The relatively stable coefficient of variation in the exports-to-shipments ratio contrasts with a declining coefficient of variation in the imports–to–new supply ratio, implying an unchanged concentration of the former compared to an increasing concentration of the latter. Among the sectors with the largest increase in trade content are footwear except rubber, electrical equipment, and electronic resistors. Imports grew especially rapidly in footwear, and exports grew especially rapidly in electrical equipment. Both exports and imports increased in electronic resistors. Comparing the trade and immigration ratios across industries, one striking fact emerges: trade ratios are much more variable among sectors than are immigration ratios. This has important consequences for the way in which NBER and other researchers study the effects of trade on the labor market: focusing on differences across industries.

A very different pattern emerges when we consider regional differences in trade ratios, immigrant flows, and foreign direct investment in the United States. Here we find exactly the opposite: immigration ratios vary much more across regions than across industries. This fact leads NBER and other researchers to study the effect of immigration on the labor market by focusing on differences across areas.

The geographic concentration of immigration is documented in table 5. The table shows INS figures on the number of immigrants declaring selected standard metropolitan statistical areas (SMSAs) as their intended residence from 1976 to 1979 and the contribution of that flow to the growth of the labor force. Table 5 displays the ten SMSAs with the largest percentage of foreign born in the area. These gateway cities absorbed a very substantial fraction of all immigrants who entered the United States in the four-year period illustrated (comparable data were not collected for 1980). Table 6 shows Census of Population figures on the percentage of the labor force that are immigrants by SMSAs in 1970 and 1980. What stands out in these tables is the substantial concentration of immigrant flows by SMSA.

How might the flow of illegal immigrants into the United States change the picture of geographic concentration shown in tables 5 and 6? Given the concentration of illegal aliens in California, where Warren and Passel estimate that 50% of illegals counted in the Census are located, the concentration of immigrants would become even more dramatic.

Table 7 presents data on all our flows by state. Columns 1–3 give data from the Census of Population for immigrants as a percentage of the population in 1970 and 1980 and in 1980 adjusted for the likely undercount of illegals in the Census on a state-by-state basis using the estimates in Passel and Woodrow (1984). While the geographic diffusion of the stock of immigrants is lower than the diffusion of the flow of new immigrants among SMSAs, there is still considerable variation across areas.

Columns 4–6 of the table turn from immigrant to trade figures. As data on

Table 5	Flows of Immigrants into Selected Standard Metropolitan Statistical Areas (SMSAs)		
SMSA	Immigrants Declaring SMSA as Intended Place of Residence[a]	Change in Labor Force from 1976 to 1979[b]	Estimated Immigrant Contribution to Labor Force Growth (%)
Miami	79,099	54,233	73.3
Los Angeles	74,515	254,000	14.7
New York City	247,052	38,000	326.8
El Paso	13,053	8,836	74.3
Newark	8,879	40,738	11.0
Washington, D.C.	8,359	166,193	2.5
Houston	23,868	255,367	4.7
Cleveland	3,800	38,108	5.0
Philadelphia	10,571	85,016	6.3
Dallas	10,735	220,331	2.4

Sources: Number of immigrants from the *Statistical Yearbook of the Immigration and Naturalization Service*, 1976–79: table number varies; table title "Immigrants Admitted by Specified Countries of Birth and Rural and Urban Area and City." Change in the labor force from the Bureau of the Labor Statistics, *Employment and Earnings*, various issues. The immigrant labor force–to–immigrant population ratio was estimated from the 1980 Census of Population *Detailed Population Characteristics U.S. Summary*, sec. A-U.S. PC80-1-D1-A. Total immigrants is from table 254, "Citizenship and Year of Immigration for Foreign Born Persons by Country of Birth." Immigrants in the labor force is from table 255, "Selected Economic and Social Characteristics by Nativity."
[a]Number of immigrants who declared the SMSA as the intended place of permanent residence during the period from 1 October 1975 to 30 September 1979. SMSAs are listed in descending order of percentage foreign born in the area.
[b]Change in the size of the labor force from 1976 to 1979, inclusive.
[c]Estimated as 50.3% of col. 1 divided by col. 2.

exports or imports by geographic location are unavailable, our estimates of the trade content of a state's industry mix are obtained by weighting industry trade ratios according to the industrial distribution of state labor forces as follows:

$$T_j = \sum_i W_{ij} T_i,$$

where T_j = relevant state trade ratio, W_{ij} = proportion of workers in state j who work in industry i, and T_i = national trade ratio in industry i.

In contrast to the wide variation in immigration ratios across states, the trade ratios differ relatively moderately, except for the net export ratio ($[X - M]/S$). For example, the five states whose industry structures have the highest import ratios ($M/[S + M]$) have an average value of 8.8, compared to an average figure of 3.8 for the five states with the lowest import ratios. While there are surely individual localities that are greatly sensitive to trade, the implication of the table is that trade flows are unlikely to have great effects on local labor markets, except, possibly, where there is a substantial net export ratio ($[X - M]/S$), as in Alaska.

Table 6		Immigrants as a Percentage of the Labor Force Selected SMSAs	
		1970	1980
	Atlanta	1.3	2.9
	Baltimore	3.9	3.5
	Boston	10.3	10.6
	Chicago	10.2	11.6
	Dallas–Fort Worth	2.4	4.8
	Detroit	8.4	6.3
	Houston	3.3	8.3
	Los Angeles	13.6	24.2
	Miami	27.9	41.2
	New York City	18.0	24.0
	Philadelphia	6.1	5.0
	Pittsburgh	4.3	2.7
	St. Louis	2.3	2.3
	San Francisco	13.7	16.2
	Washington, D.C.	6.0	9.0

Sources: Based on individual data from the 1970 Census of Population and Housing 1/100 Public Use County Group Sample and the 1980 Census of Population and Housing Public Use Microdata A Sample.
Note: The numerator is the number of immigrants in the labor force in the SMSA indicated. The denominator is the number of individuals in the labor force in the SMSA. SMSA definitions in the 1970 and 1980 Censuses of Population were made comparable by selecting the appropriate area and subarea codes (1970) and SMSA codes (1980).

The popular and business press are filled with stories about the decision of Japanese and other foreign investors to locate plants in certain regions of the country as opposed to others. Column 7 of table 7 presents data from the 1980 Benchmark Survey of Direct Foreign Investment in the United States (U.S. Department of Commerce 1983) on the proportion of the private work force employed in foreign-owned enterprises among the states. It shows considerable variation in employment in foreign-owned affiliates, with a range far exceeding that for trade shares, and a regional pattern differing greatly from that for immigrant employment.

3. Characteristics of Workers in Sectors Affected by Internationalization

To evaluate the type of workers most likely to be affected by trade or immigration, we have performed a two-part analysis. First, we tabulated the average characteristics of workers by employment. Second, we calculated correlation coefficients between worker characteristics by industry and the relevant trade or immigrant worker ratio.

Table 8 presents the results of the first analysis with sectors divided between traded goods and nontraded goods, between export- and import-intensive

Table 7   **Geographic Distribution of Immigration, Trade, and Direct Foreign Investment**

	Immigrant % of Labor Force			% Export Ratio X/S	% Import Ratio $M/S + M$	% Net Export Ratio $X - M/S$	% of U.S. Affiliate Employment in Total Private Employment[b]
	1970	1980	Adjusted 1980[a]				
Alabama	.7	1.1	1.2	8.6	7.1	.8	2.0
Alaska	5.9	4.7	4.9	14.9	2.9	11.7	6.9
Arizona	5.4	6.1	6.9	13.8	6.6	6.5	1.7
Arkansas	.5	1.1	1.2	8.4	7.5	-.2	2.2
California	11.4	16.3	19.3	11.8	6.4	4.8	2.5
Colorado	3.8	4.0	4.5	10.4	6.7	2.9	1.9
Connecticut	10.6	8.9	9.0	14.8	7.2	6.8	2.7
Delaware	2.7	3.1	3.2	12.3	6.6	4.9	3.9
District of Columbia	8.0	6.9	8.7	2.5	1.6	.8	.6
Florida	10.0	11.5	12.2	10.2	6.2	3.2	2.1
Georgia	1.2	1.9	2.1	9.2	7.2	1.2	3.6
Hawaii	11.4	15.3	15.2	5.5	7.1	-2.6	4.6
Idaho	1.8	3.0	3.5	9.4	5.4	3.3	1.3
Illinois	7.3	8.0	8.9	11.5	6.8	4.0	2.8
Indiana	2.2	1.9	2.0	10.3	8.2	1.1	2.6
Iowa	1.8	1.5	1.6	13.1	6.6	5.8	2.0
Kansas	1.3	2.1	2.3	14.6	6.0	7.9	1.7
Kentucky	.2	.9	1.1	9.9	7.2	1.9	2.3
Louisiana	1.4	2.3	2.4	9.1	6.1	2.4	2.9
Maine	5.8	3.5	3.4	8.8	9.4	-2.3	2.7
Maryland	4.4	5.0	5.7	8.2	6.6	.8	3.1
Massachusetts	10.6	8.5	8.8	12.1	7.6	3.5	4.0
Michigan	6.7	4.3	4.4	11.3	10.4	-.9	2.3
Minnesota	3.1	2.3	2.4	12.5	6.0	5.9	2.0
Mississippi	.2	1.0	1.1	8.1	7.6	-.4	1.4
Missouri	1.8	1.8	1.9	10.1	7.5	1.5	1.8
Montana	1.6	2.2	2.2	11.4	4.8	6.2	.8
Nebraska	1.4	1.9	2.1	9.8	6.6	2.5	1.0
Nevada	6.2	7.9	8.6	8.6	7.6	-.2	1.3
New Hampshire	5.1	4.3	4.3	13.4	7.8	4.6	3.6
New Jersey	10.6	11.2	11.6	9.6	6.4	2.4	4.6
New Mexico	3.3	4.1	4.9	7.5	7.6	-1.2	2.0
New York	13.9	14.8	15.8	10.7	7.3	2.5	2.9
North Carolina	.8	1.4	1.5	7.7	6.2	.9	3.2
North Dakota	2.7	2.0	2.1	8.2	5.5	2.1	1.2
Ohio	3.5	2.7	2.8	10.9	7.5	2.4	2.2
Oklahoma	1.1	2.0	2.3	11.6	6.7	4.2	2.0
Oregon	4.4	4.1	4.5	11.0	6.4	3.9	1.2
Pennsylvania	4.1	3.1	3.1	9.1	7.3	1.0	2.8
Rhode Island	8.8	8.8	9.0	11.1	8.1	2.0	2.0
South Carolina	.7	1.6	1.7	9.5	6.8	2.0	5.3
South Dakota	1.2	1.3	1.3	9.4	4.5	4.3	.6
Tennessee	1.1	1.2	1.3	9.0	7.7	.3	2.9

(continued)

Table 7   (continued)

	Immigrant % of Labor Force			% Export Ratio X/S	% Import Ratio M/S + M	% Net Export Ratio X − M/S	% of U.S. Affiliate Employment in Total Private Employment[b]
	1970	1980	Adjusted 1980[a]				
Texas	3.5	6.5	7.6	12.0	6.6	4.7	2.7
Utah	2.9	4.0	4.5	11.8	6.6	4.5	2.2
Vermont	7.4	4.5	4.5	14.2	6.5	7.1	3.6
Virginia	2.4	3.7	4.2	8.5	6.6	1.3	2.2
Washington	5.9	6.1	6.5	15.2	6.1	8.5	1.5
West Virginia	1.2	1.1	1.1	10.5	7.1	2.5	3.6
Wisconsin	3.3	2.5	2.6	11.5	7.1	3.5	3.4
Wyoming	1.6	1.9	2.1	9.6	6.0	3.0	1.7
Summary: Mean of top 5	13.5	13.8	14.8	14.7	8.8	8.4	5.1
Mean of bottom 5	.5	1.0	1.1	6.3	3.8	− 1.5	1.0
Difference	13.0	12.8	13.7	8.4	5.0	9.9	4.2

Sources: Immigrant, export, and import ratios are from the NBER Immigration, Trade, and Labor Markets Data Files (see Abowd, in this volume). Employment in U.S. affiliates is from U.S. Department of Commerce (1983), *Foreign Direct Investment in the United States, 1980*.
[a]The adjustment is based on Passel and Woodrow's (1984) table 1, "Estimates of Undocumented Aliens Counted in the 1980 Census and Legally Resident Aliens by State of Residence and Period of Entry."
[b]From the 1980 Benchmark Survey of Foreign Direct Investment in the United States, "U.S. Affiliate Employment by State."

manufacturing (reported separately for high-import and high-export industries), and by high and low immigrant-worker ratios.

The differences between traded and nontraded sectors reflect basic economic differences between characteristics of workers in goods and services industries: workers in nontraded goods are better educated, younger, more likely to be female, and less likely to be union than workers in traded goods. In addition, wages and GNP per worker in this sector are lower than in traded goods. While immigrant ratios are nonnegligible in nontraded sectors, they are lower than in the traded goods sector, indicating that the traded goods sector is more directly tied to the international economy by flows of people as well as by flows of goods.

Decomposing manufacturing into high (top quintile) export and import to shipments sectors, we find striking differences in the characteristics of the work forces. These differences indicate which workers are more or less likely to be directly positively or negatively affected by trade. The principal differences among workers revealed by the table are that export sectors have proportionately more educated workers, fewer blacks, and strikingly fewer female workers than import-intensive industries; that high-export manufactur-

Table 8   **Average Characteristics of the Labor Force in 1980 (industry averages weighted by employment)**

	With Two Years of College (%)	Black (%)	16–24 (%)	Female (%)	Immigrant (%)	Production Workers Who Are Union (%)	Earnings per Worker[a]	Value Added per Worker[a]
Traded goods	18.7	9.3	21.4	32.4	7.8	36.8	16.9	32.6
Manufacturing	19.3	10.2	20.2	35.9	8.2	43.7	17.4	28.6
High exports (top 20)	25.5	7.5	18.3	29.9	7.5	41.6		
High imports (top 20)	15.4	10.9	20.2	44.8	10.4	40.6		
Nontraded goods and services	31.2	10.2	24.9	50.6	6.1	21.8	13.0	21.8
All industries	28.6	10.0	24.1	46.8	6.5	25.0		
Low immigrant /labor force	36.2	9.4	17.4	41.2	3.4	33.0		
High immigrant /labor force	20.9	14.1	22.6	52.4	12.0	24.7		

Source: Calculated from the NBER Immigration, Trade, and Labor Markets Data Files (see Abowd, in this volume).
[a]Thousands of dollars per worker.

ing sectors have lower proportions of immigrants than high-import manufacturing (though their ratio still exceeds the economy-wide average). The fraction of blue-collar workers unionized in the sectors does not, by contrast, show any noticeable differences.

Turning to the characteristics of workers by immigrant ratios, we find that high-immigrant-ratio sectors tend to have less educated workers, relatively more blacks, relatively more women, relatively more young workers, and relatively fewer union workers. With the exception of the unionization pattern, these differences mirror those between export- and import-intensive industries in manufacturing.

Table 9 records the correlation coefficients between mean characteristics of workers and export and import ratios and the net export ratio in manufacturing and between the mean characteristics of workers and immigrant ratios in manufacturing, nonmanufacturing, and all industries. The correlations confirm the evidence given in table 8, revealing a strikingly high positive correlation between the percentage of workers who are women and the percentage of workers who are immigrants in manufacturing industries. The correlations also show that female, black, and immigrant workers tend to be concentrated in industries with negative net exports and that educated workers tended to be in industries with positive net exports. These calculations suggest that both trade and immigrant flows may have an especially large effect on the female work force, especially in manufacturing.

Table 9   **Correlation Coefficients for Immigration and Trade Ratios with Various Labor Force Characteristics, 1980 (employment weighted)**

	Manufacturing Only				Nonmanu-facturing	All Industries
	X/S	$M/(S + M)$	Immigrant/ Labor Force	$(X - M)/S$	Immigrant/ Labor Force	Immigrant/ Labor Force
2 Years of college	.31	− .13	− .27	.38	− .01	− .21
% Black	− .25	.08	.06	− .29	.12	.15
% 16–24	− .29	− .14	.16	− .18	.29	.18
% Female	− .22	.17	.77	− .32	.20	.25
% Immigrant	− .16	.22	1.00	− .30		
% Unionized	.05	.00	− .36	.05	− .35	− .18
Earnings/worker	.32	− .06	− .53	.35		
Shipments/worker	.13	− .09	− .29	.19		

Source: NBER Immigration, Trade, and Labor Markets Data Files (see Abowd, in this volume).
Note: The statistics are pairwise correlation coefficients computed using the percentage of total employment in the industry as the weight.

Finally, we consider the characteristics of workers in foreign- and U.S.-owned businesses operating in the United States. Table 10 displays a collection of comparisons from the 1974, 1980, and 1987 Benchmark Surveys of Foreign Direct Investment. The 1980 survey is the most detailed, and it reveals that employees of nonbank U.S. affiliates of foreign companies are about as likely as employees of U.S.-owned companies to be unionized. Further, 1980 hourly earnings levels are somewhat higher, though sales per employee levels are similar in affiliates. Because the benchmark surveys are not comparable in the universe (banking affiliates are included in 1974 but excluded in 1980 and 1984) and in the summary data tables (employment is not reported by industry in 1974), it is difficult to discern trends in the comparisons of foreign-owned to U.S.-owned businesses. It seems likely that the differences are not substantial, and this conclusion is supported by other research (Leonard and McCulloch, in this volume).

4. Findings of the NBER Project

Motivated by the internationalization of the American labor market described in sections 1–3, the NBER undertook the research project whose results are given in this volume. The first part of the project studied the factors that influence the number and characteristics of immigrants and their location in the country, including the undocumented, largely Mexican aliens who have aroused so much public concern. The second part of the project examined how immigration and trade affect the wages and employment of American workers. The third part of the project added an international comparative dimen-

Table 10   **Selected Business and Employment Characteristics of U.S. Affiliates of Foreign Companies, by Industry**

	1974	1980	1987
Number of employees (thousands)[a]	1,083	2,034	3,160
Percentage of civilian labor force	1.2	1.9	2.6
Percentage union in U.S. affiliates		29.3	
Percentage union in all U.S. businesses		25.2	
Average hourly earnings for production work:			
Workers in U.S. affiliates			
(manufacturing)		7.85	
Workers in all U.S. businesses			
(manufacturing)		7.27	
Sales per employee (thousands) of dollars):[b]			
U.S. manufacturing affiliates		88.86	137.65
U.S. manufacturing businesses		91.27	125.63
Percentage of total employment:			
Traded goods[c]	3.3	5.4	7.7
manufacturing	2.8	5.0	8.4
Selected nontraded goods[d]	9.9	3.0	3.6

Sources: Survey of Current Business, "Benchmark Survey of Foreign Direct Investment in the United States, 1974" (May 1976). U.S. Department of Commerce (1983), *Foreign Direct Investment in the United States, 1980. Survey of Current Business,* "U.S. Affiliates of Foreign Companies: 1987 Benchmark Survey Results" (July 1989). U.S. shipments and employment data from *Survey of Current Business,* various issues.
[a]All U.S. affiliates in 1974; nonbank U.S. affiliates in 1980, 1987.
[b]Manufacturing industries only, thousands of dollars per employee.
[c]Agriculture, mining, and manufacturing only.
[d]Wholesale trade, retail trade, finance (except banks), insurance, and real estate.

sion by studying immigration, trade, and the labor market in two other countries that are major immigrant recipients, Canada and Australia. Canada is of particular interest for several reasons: Canadian immigration policies historically have stressed job skills as a condition for entry to a greater extent than the United States does; Canada had a significant balance of trade surplus with the United States in the 1980s; and Canada has long depended on foreign (largely U.S.) capital to employ a large share of its work force. Australia is of interest because immigrants constitute an exceptionally large proportion of its work force, raising issues about how immigration affects the macroeconomy, and because its protectionist trade policies contrast with the free trade policies of the United States. The differing experiences among the United States, Canada, and Australia indicate the degree to which different labor market institutions and economic policies can condition the effect of immigration and trade on economic outcomes.

The project researchers used different strategies to study the flow of immigrants, the effects of immigration on labor market outcomes, and the effects of trade on those outcomes. The studies that focus on the flow of immigrants

compare the labor market and migration behavior of individual immigrants since it is the immigrant decisions and performance in the labor market that are at issue. The studies of the effects of immigration on wages and employment compare local labor markets that have different immigrant shares in the work force. The principal reason for focusing on local markets is that immigrants are concentrated by geographic area, constituting large and increasing proportions of the work force in gateway cities but negligible proportions elsewhere, as indicated in tables 5 and 6. By contrast, the studies focusing on trade examined the effect of trade on industry labor markets. This is because the export and import components of economic activity vary and change greatly among industries, suggesting that the first-order labor market effects of trade occur at the industry level.

Most of the findings are based on data from government surveys such as the Census of Population and the Census of Manufactures. To answer certain questions, however, researchers developed new data sets, ranging from one that links import prices to collective bargaining contracts in Canada (Abowd and Lemieux) to a survey of illegal Mexican immigrants in the San Diego area (Borjas, Freeman, and Lang). Because trade, immigration, and labor market data are collected using different standards by diverse government surveys, researchers developed the industry-based trade and labor markets data file for U.S. manufacturing industries from the 1950s through the 1980s and the area-based immigration and labor market data file for the 1960s, 1970s and 1980s (Abowd; Altonji and Card; and LaLonde and Topel).

Studying immigration and trade by comparing outcomes across individuals, areas, or industries differs from most studies in international trade, where researchers use general equilibrium models to make inferences about the economic effects of immigration, trade, and capital flows. While there is no inherent conflict between these two types of research approaches (some of the studies use input-output and trade models; (e.g., Kuhn and Wooton; Collins), our decision to concentrate on individuals and markets was a conscious one that conditions the issues we address and our major findings. Our approach pins down the first-order effects of trade and immigration on the economic well-being of the groups most affected by the internationalization of the U.S. labor market but does not yield estimates of the broader benefits of trade or immigration to the overall society. The approach has the advantage of basing inferences on the great variation in the experiences of individuals, areas, or industries and of requiring less formal structure than general equilibrium analyses, at the cost of being unable to answer questions about how things may work out for the society as a whole in the long run.

As a broad generalization, the American labor market adjusted well to immigrant flows, absorbing immigrants into local area work forces with little redistributive losses to natives, but it had greater difficulty adjusting to the surge of imports, which produced some noticeable losses to natives in affected industries. Still, industry wages were as flexible to changes caused by trade as

to changes caused by domestic factors, falling where imports reduced domestic production and thus buffering employment to some extent. By contrast, in Australia, industry wage responsiveness to imports was limited, and the government sought to protect labor through import restrictions. The research highlights the supply responsiveness of immigrants to economic and political conditions and to foreign as well as to American immigration policies in the context of a "world market for immigrants."

Immigrant Flows

1. The flow of illegal immigrants to the United States, while sizable, falls far short of the huge numbers often reported in the media. NBER estimates of Mexican-born illegal immigrants based on the number of deaths and births of Mexican-born persons in the United States, Mexican surveys of returned migrants, and analyses of apprehension statistics that take account of the fact that apprehensions are determined by Border Patrol activity as well as by immigrant flows support the claim of Census Bureau demographers that the 1980 Census enumerated over half the illegal immigrants. The number of illegal Mexican immigrants in 1980 was on the order of two million rather than ten to twelve million. Moreover, most of the likely illegal Mexican immigrants counted in the Census have a family composition and type of employment similar to those of legal immigrants (Borjas, Freeman, and Lang; Diez-Canedo). Consistent with a factor endowment explanation of immigration, most illegal aliens are unskilled.

2. The characteristics of immigrants are influenced significantly by the economic and political situation in the home countries and by the attractiveness of the United States in the "world market for immigrants," where the United States competes with other immigrant-recipient countries such as Canada and Australia. All else the same, workers with a high earnings potential are especially likely to migrate to the United States from a country with an egalitarian wage structure (where they cannot easily make high earnings), while workers with a low earnings potential are especially likely to migrate from a country with great wage inequality. The 1965 changes in U.S. immigration policy produced a wave of immigrants whose labor market skills were lower relative to those of native Americans than was true of earlier waves of immigrants, who did especially well in the labor market relative to natives (Borjas). Changes in Canadian immigration laws produced a similar pattern of declining skills in the late 1970s. Australia, by contrast, attracted immigrants who did well compared to natives through 1980 (Borjas; Beggs and Chapman; Bloom and Gunderson).

3. New immigrants to the United States are as mobile across geographic areas as natives, on average, but their mobility has not led them to spread out across the country. Instead, they move to cities where their fellow countrymen reside in large numbers. The tendency of immigrants to cluster dominates such economic incentives as differences in unemployment rates or welfare

benefits across areas in determining immigrant migration flows (Bartel and Koch). Cuban, Mexican, and Puerto Rican immigrants and natives who move from cities with a high proportion of persons of their ethnic background to cities with a low proportion of persons with their ethnic background have roughly similar earnings and employment experiences as their peers who move from cities with a low proportion of persons of their ethnic background to cities with a high proportion of persons of that ethnic background (Tienda and Wilson). The direct advantages and costs of immigration thus continue to be borne by gateway cities, while the persistent geographic concentration of immigrants may reduce their economic progress and rate of long-run assimilation into the broader society.

The Effects of Trade and Immigration on Labor Markets

4. Increased immigration has a modest adverse effect on the wages of the immigrants themselves and on the wages of earlier waves of immigrants, but it has only a modest effect on the wages of the young black and Hispanic Americans who are likely to be the next closest substitutes (LaLonde and Topel). Neither the employment nor the wages of less educated black and white natives worsened noticeably in cities where immigrant shares of the population rose in the 1970s. On the positive side, there is some evidence that, in cities with more immigrants, employment grew more rapidly or declined more slowly in low-wage industries where immigrants tended to find jobs and that less-skilled natives moved into better jobs (Altonji and Card). The broad implication is that immigrants have been absorbed into the American labor market with little adverse effect on natives.

5. "General equilibrium analysis" of the potential effects of immigration on the labor market through changes in sectoral outputs and prices further supports the claim that immigration has not harmed American labor. Indeed, the concentration of immigrants in import-intensive, traded goods manufacturing industries and the distribution of capital and native labor among export, import, and nontraded goods sectors suggests that increased immigration may actually benefit native labor, at least in the short run (Collins; Kuhn and Wooton).

6. Wages in industries where sales are adversely affected by trade tend to decline relative to wages in other industries, just as do wages in industries where sales are adversely affected by domestic market developments, buffering to some extent the loss of jobs in industries facing large increases in imports. Unionized sectors make greater wage adjustments than nonunion sectors, apparently because workers in those industries earn above-market wages that can be reduced to save jobs whereas nonunion wages are closer to competitive levels (Abowd and Lemieux; Freeman and Katz). Once workers are dislocated by trade, however, they appear to have greater difficulty finding work than workers displaced for other reasons (Kruse 1988).

7. Foreign-owned firms employ nearly 3% of American workers. Despite

the concern about foreign ownership, wages of production workers appear to be higher in foreign-owned enterprises, and rates of unionization are not different from domestic-owned companies. Moreover, notwithstanding all the attention given to Japanese firms, the bulk of direct foreign-owned enterprises in the United States are European. Foreign-owned firms use substantially more highly educated research-and-development employees (Leonard and McCulloch).

Comparative Experiences: Canada and Australia

8. Canadian and Australian immigration policies, traditionally based on labor market skill considerations, have moved toward admitting immigrants for reasons of family unification, as in the United States. Since 1974, Canada has given preferential treatment to persons with close relatives in the country as well as to those who fulfill certain labor-market criteria. As a consequence, immigrants coming to Canada after the mid-1970s apparently do worse in the labor market relative to natives than earlier immigrant cohorts (Bloom and Gunderson). Australia admitted immigrants on the basis of a labor market point system from the 1970s through the early 1980s, with the result that the labor market skills of Australian immigrants did not drop in the 1970s relative to those of native workers, as in the United States and Canada (Beggs and Chapman). The implication is that immigration policies significantly affect the type of immigrants and their labor market performance.

9. Low-skill immigrants are relatively more highly paid in Australia than in the United States. There are three reasons for this: (1) wage differentials by occupation are smaller in Australia than in the United States; (2) immigrants are more highly unionized in Australia than in the United States; and (3) Australia has enacted trade policies that protect industries employing low-skill immigrants. Australian protection of immigrant-intensive industries produces relatively higher prices for the outputs of those sectors and extracts a sizable social cost on the order of 50% to 100% of the wage bill in footwear, clothing, and textiles (Gregory, Anstie, and Klug).

10. In Canada, changes in import and export prices, which reflect the pressure of the international economy on producers, have significant effects on the employment of workers covered by collective bargaining agreements. Increases in import prices, which shift demand to domestic producers, and in export prices, which reflect greater returns from increasing sales overseas, are associated with increases in employment of sizable magnitudes. In both the United States and Canada, unionized employment is more sensitive to import competition than to a comparable reduction in domestic production (Abowd and Lemieux).

Concluding Remarks

Perhaps the most intriguing finding of the Immigration, Trade, and Labor Markets studies is the apparently different direct effect of immigration and

trade on workers in the affected labor markets. Whereas immigration does not discernibly reduce the wages and employment of less-skilled native workers in immigrant-intensive localities, imports reduce the pay as well as employment of workers in heavily affected industries. Why? What might account for this differential effect?

While we cannot give a conclusive and quantifiable answer, the general factors likely to underlie the differences do seem clear.

First, differences in the *concentration and magnitude* of imports and immigration in affected areas certainly have an influence. In the ten industries with the largest growth of import shares of sales from the 1960s to the mid-1980s, import shares rose by 14% of domestic sales to 73% of domestic sales on average. By contrast, in the ten standard metropolitan areas with the greatest 1970–1980 growth of immigrants relative to the work force, new immigrants averaged 20% of the 1970 work force. Employment fell by 56% in the trade-affected industries, while employment of natives increased in all the immigrant-affected localities save for New York City.

Second, immigration has potential offsetting effects on the demand for labor in affected areas, while trade has no such effects on demand for labor in affected industries. Immigrants purchase goods and services in the area in which they work, raising demand for labor. Immigrant skills are also likely to complement the skills of some native workers, raising demand for them. By contrast, even with balanced trade, workers in an industry facing a surge of imports are unlikely to benefit directly from offsetting export-created demand for labor or from complementary demands for native labor in retail and wholesale trade.

Third, it is possible that the concentration of immigrants in gateway cities did not increase the labor supply in those areas by as much as the immigration numbers would suggest. This would be the case if natives adjusted their choice of location of residence to take account of the immigrant flows. The flow of immigrants to, say, Los Angeles could have deterred midwesterners or southerners from migrating there or impelled natives to move elsewhere, so that the labor force in the city was not all that different from what it would be absent immigration. No such mitigating response exists for trade-affected industries.

All these considerations suggest that the 1980s import surge caused a greater "shock" in affected labor markets than did the influx of immigrants and, thus, created greater difficulties of labor market adjustment. Trade upset the demand-supply balance in industry labor markets more than immigration upset the demand-supply balance in local labor markets.

One additional factor may also contribute to the greater effect of imports than immigration on affected workers. In some industries, worker skills and earnings are industry specific, so that shocks cause greater economic losses to the affected employees. Consequently, labor mobility may be easier for work-

ers facing immigrant competition in a local labor market than for workers facing import competition in a trade-affected industry.

In summary, while trade and immigration may have the same long-run economic effects on an economy, there are good reasons (and, more compelling, empirical evidence) that they have different transitional costs for affected workers.

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