

Chapter 7

Labor Market Transitions

This chapter examines the effects of removing significant U.S. import restraints on employment in the U.S. economy. It is estimated that, relative to the 2011 projected baseline, if all significant U.S. import restraints were to be removed, approximately about 60,000 workers would move from contracting sectors to expanding sectors as a result of liberalization. About 68 percent of these displaced workers would be from the textile and apparel industries.

This chapter provides a brief analysis based on data from the Displaced Worker Surveys (DWS) of the characteristics of workers in the industries most likely to be affected by the elimination of significant U.S. import restraints. The analysis does not describe workers who are likely to fill job openings created by trade liberalization. A survey of economic literature on the relationship between international trade, trade policy, and employment follows the analysis of displaced workers.

Transition Experiences of Displaced Workers

Loss of employment linked to trade liberalization represents a transition cost to the economy, which may be weighed (along with other costs) against the benefits of trade liberalization. Transition costs include costs of unemployment benefits, lost income to the workers, and the cost of retraining workers.¹ This section presents an analysis based on the DWS

1. In its model, the Commission did not quantify these transition costs, and therefore these costs are not reflected in the welfare calculations presented earlier.

and compares these estimates to previous work by the USITC in its 2002 Import Restraints Study when labor transitions were last analyzed.²

Estimated Effects of Simultaneous Liberalization of Import Restraints on Displaced Workers

The modeling results show that simultaneous liberalization of all significant U.S. import restraints would result in the movement of 60,000 workers from contracting sectors to expanding sectors in 2011 relative to the 2011 baseline projection. Approximately 68 percent of the displaced workers would be from the textile and apparel industries, and displaced workers would most likely move into services, wholesale and retail trade, and durable goods manufacturing industries. These figures are lower than those from the USITC's 2002 Import Restraints Study, which showed a total displacement of about 175,000 full-time workers with nearly 90 percent coming from the textile and apparel industries. Although there has been no major change in the U.S. tariff structure since the 2002 study, the Agreement on Textiles and Clothing expired in January 2005, and the United States has entered into a number of bilateral trade agreements. In response, the import-competing sectors have adjusted somewhat, and some of these sectors are expected to contract over the 2005–2011 period. These recent and expected future adjustments by import-competing industries are mainly responsible for the lower estimates of job transitions. To put these numbers into perspective, the U.S. civilian workforce currently has approximately 152 million workers, and approximately 7 million workers have been unemployed at any one time during recent months. Thus, the movement of workers represented by changes in import restraints is a very small share of the civilian workforce and a small share of total unemployed workers.

The DWS, which are supplements to the Current Population Survey (CPS) conducted biennially by the Bureau of the Census, provide information to assess the severity of the job-loss experience. The sample for these surveys is selected from individuals who are at least 20 years old, live in civilian households, and experience job loss during the preceding three years.³ The detailed follow-up questions are administered only to

2. USITC, *Import Restraints, Third Update 2002*. This report is referred to as the 2002 Import Restraints Study. Note that USITC, *Import Restraints, Fourth Update 2004*, did not have a chapter on labor market transitions.

3. The sample was restricted to those under the age of 65 for analytical reasons.

those reporting job losses from plant closures, slack work, or abolishment of position; voluntary unemployment and losses from self-employment are excluded. The two latest available surveys (2004 and 2006) are used, and they cover workers displaced from 2001 to 2005.⁴

This chapter uses these recent survey data to characterize the displaced workers population in 2011.⁵ Workers displaced from sectors with significant import restraints, as specified in chapter 6, were selected from the survey data for a separate subsample of “import restraints displaced workers.” This subsample was reweighted so that the number of job losses in each industry reflects the reduction in jobs in 2011 as a result of simultaneous removal of all significant U.S. import restraints, as estimated in the simulation analysis in this report. The subsample of import restraints displaced workers was then compared to the overall survey sample of displaced workers. Understanding the experience and characteristics of these import restraints displaced workers and how they differ from those of other displaced workers can serve to inform policies toward this vulnerable population.

Reason for and Location of Job Loss

Employment displacement due to removal of tariffs on imports tended to result from plant closures rather than layoffs of individuals, which is consistent with other studies such as the one by Riggs and Zarotiadis.⁶ For all displaced workers, plant closures and slack work accounted for similar proportions of displacements, and abolished positions accounted for somewhat less (table 7-1). In contrast, 58 percent of the job loss related to imports was due to plant closures, followed by slack work, with relatively few displacements due to abolished positions. Although Hurricane Katrina caused significant job loss in New Orleans and other Gulf locales, its national impact was too small to account for the differences in

4. The data correspond to the January 2004 and January 2006 CPS data files, which are available at USDOC, Bureau of the Census, “Current Population Survey: Basic Monthly CPS.”

5. The assumption that the experience characterized in the recent surveys will carry forward to 2011 is an approximation as the displacement experience may vary along the business cycle. Farber, “Job Loss in the United States, 1981–2001,” uses data from the DWS to analyze the rate of job loss over time.

6. Riggs and Zarotiadis, “Soft and Hard Within- and Between-Industry Changes of U.S. Skill Intensity: Shedding Light on Worker’s Inequality.”

Table 7-1
Reason for displacement and location of import restraints displaced workers and all workers, 2001–5, percent^a

	All displaced workers	IR displaced workers
<i>Fifth update 2007</i>		
<i>Reason for displacement</i>		
Plant closing	37.9	57.6 ***
Slack work	37.0	27.1 **
Abolished position	25.1	15.3 ***
Displacement due to Hurricane Katrina	0.6	0.0 ***
<i>Location of displacement</i>		
Northeast	17.6	13.7
Midwest	24.5	7.8 ***
South	31.8	61.6 ***
West	26.0	16.9 ***
<i>Third update 2002 (where comparable)</i>		
<i>Reason for displacement</i>		
Plant closing	24.8	58.2 ***
Slack work	21.4	29.7 ***
Abolished position	14.2	12.1 *

Source: DWS, BLS, USDOL, and USITC estimates.

Note: Subgroup mean significantly different at 10 (*), 5 (**), and 1 (***) percent level.

^aTotals may not sum to 100 percent due to rounding.

displacement patterns between import restraints displaced workers and all other workers. Moreover, this distribution of reasons for lost jobs of import restraints displaced workers is very similar to that of 1995–99.⁷

The South had the largest share of all displaced workers and a much higher proportion of import restraints displaced workers (table 7-1). This result is not unexpected, given that the textile industry is predominantly located in the South. Similarly for 1995–99, import restraints displaced workers were concentrated in the Carolinas and other southern states. All displaced workers were found in roughly equal shares throughout the country with the Northeast having the lowest share. The Midwest had the lowest percentage of import restraints displaced workers.

7. USITC, *Import Restraints, Third Update 2002*, 186.

Personal and Employment Characteristics

As in the third update of this report, import restraints displaced workers, when compared to all displaced workers, were more likely to be older (table 7-2).⁸ Although import restraints displaced workers are somewhat more likely to be female, when compared to all displaced workers, the difference is not statistically significant. A significantly smaller portion of import restraints displaced workers in comparison with all displaced workers were white, and the share of whites in both all displaced workers and import restraints displaced workers is lower than that reported in the 2002 study. Blacks and Hispanics were more concentrated among import restraints displaced workers than among all displaced workers, although the difference was not statistically significant for Hispanics, and these shares were similar to those reported in the 2002 study. Marital status was similar for both groups, as it was in the previous study. Most import restraints displaced workers are U.S. citizens, and there are no significant differences in citizenship status between all displaced workers and the import restraints displaced workers.

The education difference was significant; a lower percentage of import restraints displaced workers had university degrees and a greater percentage had only a high school education or less in comparison to all displaced workers. These results are similar to those reported in the 2002 Import Restraints Study. The displacement of workers with low levels of education is consistent with an economy that is becoming more specialized in higher-skill jobs. Import restraints displaced workers were more likely to receive unemployment benefits than all workers (table 7-3). When displaced workers from both groups received benefits, almost half exhausted those benefits before finding another job.⁹ These results are similar to those reported in the 2002 Import Restraints Study. Jobs lost by import restraints displaced workers were more likely to include health insurance. For both categories of workers, lost jobs were less likely to be covered by a union in this study than in the 2002 Import Restraints Study, but the difference between the two groups is not significant. Import restraints displaced workers had longer job tenures before displacement, and these

8. USITC, *Import Restraints, Third Update 2002*.

9. In addition to regular unemployment assistance, import restraints displaced workers may be eligible for Trade Adjustment Assistance. Benefits may include training, income support, and allowances for expenses related to job search and relocation. See USDOL, Employment and Training Administration, "Trade Adjustment Assistance Fact Sheet."

Table 7-2
Attributes of all displaced workers and import restraints displaced workers

Attribute	All displaced workers	IR displaced workers
<i>Fifth update 2007</i>		
Mean age (years).....	39.5	42.8 ***
Percent female.....	43.0	50.9
Percent White.....	67.5	56.6 **
Percent Black.....	13.1	24.6 **
Percent Hispanic.....	13.2	16.1
Percent married.....	54.4	49.6
Percent citizens.....	91.3	87.9
Percent naturalized citizens.....	5.1	4.0
Percent with high school or less.....	10.0	26.2 ***
Percent with university degree(s).....	26.4	6.3 ***
<i>Third update 2002 (where comparable)</i>		
Mean age (years).....	38.8	42.1 ***
Percent female.....	46.8	60.2
Percent White.....	82.3	74.0 ***
Percent Black.....	13.2	19.4 ***
Percent with high school or less.....	14.0	33.8 ***
Percent with university degree(s).....	22.0	8.1 ***

Source: DWS, BLS, USDOL, and USITC estimates.

Note: Subgroup mean significantly different at 5 (**) and 1 (***) percent level.

Table 7-3
Job characteristics and unemployment experience

	All displaced workers	IR displaced workers
<i>Fifth update 2007</i>		
Percent that moved after job loss	13.1	14.1
Percent that received unemployment benefits ..	48.3	61.9 ***
Percent that exhausted benefits	44.3	43.0
Percent that lost a job covered by union	9.6	7.1
Percent that lost a job with health insurance ...	55.0	69.0 ***
Length of tenure at job lost (years)	4.8	9.1 ***
Mean completed spell of unemployment (weeks)	15.1	16.2
Percent finding some job after displacement ...	74.1	75.5
<i>Third update 2002 (where comparable)</i>		
Percent that moved after job loss	14.4	10.5 ***
Percent that received unemployment benefits ..	38.3	63.8 ***
Percent that lost a job covered by union	9.4	11.8 *
Length of tenure at job lost (years)	4.9	7.1 ***
Mean completed spell of unemployment (weeks)	10.5	14.0 ***
Percent finding some job after displacement ...	80.4	64.0 **

Source: DWS, BLS, USDOL, and USITC estimates.

Note: Subgroup mean significantly different at 10 (*), 5 (**), and 1 (***) percent level.

results are similar to the previous study. Mean periods of unemployment tended to last 15 to 16 weeks for both groups of workers. In contrast to the 2002 study, the differences between all displaced workers and import restraints displaced workers are smaller regarding length of unemployment and finding jobs after unemployment. The 2001–05 data show that the import restraints displaced workers were equally successful at finding some job after displacement as all displaced workers.

Import restraints displaced workers earned less than all displaced workers before displacement and incurred greater percentage losses in salary between their lost full-time job and their current full time job (table 7-4). The results contrast sharply with the 2002 study using 1995–99 data, where all displaced workers and import restraints displaced workers found jobs that paid, respectively, 8.8 percent and 4.5 percent more than their previous jobs. Consistent with the trend of more educated workers

Table 7-4
Earnings

	All displaced workers	IR displaced workers ^a
<i>Fifth update 2007</i>		
Median percentage change in earnings	-4.9	-10.7
From full-time to full-time	-4.5	-10.7
Median real weekly earnings (lost full-time job, real 1982-4 dollars)	326.1	245.8
Median real weekly earnings (current full-time job, real 1982-4 dollars)	302.6	216.0
Median family annual income bracket at survey (thousand current 2001-5 dollars)	40-50	25-30

Source: DWS, BLS, USDOL, and USITC estimates.

^aStandard errors for median not computed.

^bEarnings were not reported in a comparable format in the third update of this report.

earning a wage premium, import restraints displaced workers, whose level of education was lower (table 7-2), were earning less and were less able to find comparable-paying jobs after displacement in comparison to all displaced workers. Households of both groups of displaced workers tended to have a wage earner in addition to the displaced worker. Taken together, these results suggest that all workers had more difficult transitions during 2001-05 than 1995-99 and that import restraints displaced workers, in particular, tried harder to find jobs, even if they paid less.

The current labor force status of import restraints displaced workers was generally similar to that of all displaced workers (table 7-5). About two-thirds of both groups had found other employment by the time of the survey, and 13 percent were not in the labor force at the time of the survey. A lower percentage of import restraints displaced workers than all displaced workers found employment in the same sector, which may be associated with their sharper decline in post-displacement earnings. Overall, displaced workers were reemployed in the other services and wholesale and retail trade sectors more than in any other sectors (table 7-6). The third largest absorbing sector was construction for all displaced workers and durable manufacturing for import restraints displaced workers. Compared to all displaced workers, import restraints displaced workers were less likely to be reemployed in agriculture; mining and extractive industries;

Table 7-5
Current labor force status at survey time, percent

	All displaced workers	IR displaced workers
<i>Fifth update 2007</i>		
Employed at survey time.....	66.9	68.7
From full time to full time	69.4	61.1
Same industry	26.8	11.4 ***
Same sector	51.7	29.0 ***
Unemployed at survey time.....	20.0	17.9
Not in labor force at survey time	13.1	13.4
<i>Third update 2002 (where comparable)</i>		
Employed at survey time.....	72.3	59.2 ***
Unemployed at survey time.....	10.4	9.9 ***
Not in labor force at survey time	14.8	26.7 ***

Source: DWS, BLS, USDOL, and USITC estimates.

Note: Subgroup mean significantly different at 1 (***) percent level.

nondurable manufacturing; and finance, insurance, and real estate.

Review of Literature

The United States is commonly believed to have relatively more abundant capital and highly skilled workers than most other countries. Basic international trade theory predicts that the United States will export goods that use its abundant factors intensively and import goods that use other factors intensively. A commonly cited implication is that trade liberalization may lower the wages of less-skilled workers who produce goods that compete with imports made by low-paid foreign workers. An important fact about the U.S. labor market is that wages for skilled and less-skilled workers have diverged during the past three decades.

The earliest and most basic international trade theories predicted that trade would equalize wages across countries.¹⁰ However, these theories assumed that all countries have identical technologies, that all countries

10. Davis and Mishra in “Stolper-Samuelson is Dead” summarize reasons why this early theory may not be valid.

Table 7-6
Sectors absorbing displaced workers, percent

	All displaced workers	IR displaced workers
<i>Fifth update 2007</i>		
Agriculture, forestry, fishery	0.2	0.0 ***
Mining, extractive industries	0.5	0.0 ***
Construction	12.2	7.3
Non-durable manufacturing	3.4	0.5 ***
Durable manufacturing	8.7	14.8
Transportation, communications, utilities	6.1	4.0
Wholesale and retail trade	15.8	17.9
Finance, insurance, real estate	8.8	3.2 ***
Other services	44.3	52.3
<i>Third update 2002 (where comparable)^a</i>		
Agriculture, forestry, fishery	—	2.8
Mining, extractive industries	—	0.0
Construction	—	2.7
Non-durable manufacturing	—	6.2
Durable manufacturing	—	8.9
Transportation, communications, utilities	—	5.1
Wholesale and retail trade	—	31.5
Finance, insurance, real estate	—	4.0
Other services	—	38.5

Source: DWS, BLS, USDOL, and USITC estimates.

Note: Subgroup mean significantly different at 1 (***) percent level.

^aValues for sectors absorbing all workers were not reported in the third update of this report, so it cannot be determined whether values for import restraints displaced workers were significantly different in that report.

produce all goods, and that capital and labor are fully employed and free to move from one sector to another within a country.¹¹ More recent theories, which have allowed international technology and consumption differences and the presence of some goods that are not traded, have accorded well with empirical evidence.¹² These more recent theories imply that wages would not be equalized across countries while these technology differences persist, although some convergence might occur.

Skill Premium

Since the early to mid-1970s, college-educated workers in the United States have earned increasingly more than those without a college education, and an increasing portion of the workforce has attended and completed college.¹³ For example, between 1970 and 1995, real wages of those with at least 16 years of education rose by 3.4 percent, while the real wages of full-time U.S. workers with 12 years of education fell by 13.4 percent, and the real wages of those with less than 12 years of education fell by 20.2 percent.¹⁴ These trends have continued. Males with a high school diploma earned 33 percent more than males without a high school diploma, and those with a bachelor's degree earned 104 percent more than those without a diploma in 1995; the same ratios rose, respectively, to 36 percent and 118 percent in 2004.¹⁵

These facts suggest that the demand for skilled labor may have increased relative to the demand for less-skilled labor in the United States. The literature reports that technical change, such as the increased use

11. USITC, *Import Restraints, Third Update 2002*, 170–2, discusses the literature regarding the validity of assumptions and testing the most basic models. For example, it cites literature showing slow convergence of prices after complete trade liberalization and that workers' compensation often reflects skills that are industry-specific, which prevents them from being reemployed in other industries at a similar wage.

12. Davis and Weinstein, "An Account of Global Factor Trade."

13. Ingram and Neuman, "The Returns to Skill," 2. These authors argue that education alone is not a good indicator of skill and find that a model that includes observable measures of skill in addition to education performs well.

14. Feenstra and Hanson, "Global Production Sharing and Rising Inequality: A Survey of Trade and Wages," 2. Also, real wages are wages that have been adjusted to take inflation into account.

15. These figures are based on the median annual income of full-time workers who are at least 25 years old (USDOC, Bureau of the Census, "Current Population Reports: Consumer Income Reports 1946–2005").

of computers, can increase the demand for skilled labor, and automation may reduce the demand for less-skilled labor. Increased trade may allow an economy with abundant skilled labor to specialize in goods produced with skilled labor while importing more goods produced with less-skilled labor. This would increase the demand for skilled labor relative to less-skilled labor.¹⁶ The literature has not reached a clear consensus on whether technical change or increased trade is primarily responsible for the increase in wage inequality.¹⁷

Katz and Autor review a number of articles and conclude that technical change appears to explain the relative demand shifts favoring skilled workers better than international trade.¹⁸ An argument in favor of the technical change explanation is that the magnitude of trade flows, especially from low-wage developing countries, is too small to account for the observed wage changes. Another argument is that the prices of low-skill-intensive goods, such as apparel, have either fallen only slightly or have been relatively stable, whereas larger price movements would be expected to account for the movement in wages.

Feenstra and Hanson review the literature on trade and wage inequality and conclude that the data have often been misinterpreted because trade in intermediate inputs is ignored.¹⁹ Many firms break up the production process and transfer less-skilled jobs to low-wage countries and high-skilled activities to high-wage countries. Trade in inputs can have a similar effect on labor demand as technical change favoring skilled workers; both

16. USITC, *The Impact of Trade Agreements*, 114–25, summarizes a large amount of literature related to labor and trade. That literature suggests that trade policy changes generally have no measurable effect on the U.S. labor market but that overall changes in the level and composition of U.S. trade may have contributed to wage inequality.

17. Many different supply and demand factors influence wage levels. One line of investigation looks at the effects of immigration on wages. Although many studies have found little or no effect, Borjas, “The Labor Demand Curve Is Downward Sloping,” finds that an increase in the supply of immigrant workers reduces wages. His model looks at supply shifts in different education-experience combinations. Because immigrants tended to have low education levels during the 1980s and 1990s, this is another possible explanation of the growing wage disparity between different skill levels.

18. Katz, Lawrence, and Autor, “Changes in the Wage Structure and Earnings Inequality,” 1539.

19. Feenstra and Hanson, “Global Production Sharing and Rising Inequality: A Survey of Trade and Wages.” Although the argument for analyzing intermediate inputs remains important, the fact that import’s share of total intermediate inputs for the United States increased from 4.1 percent to 8.2 percent between 1974 and 1993 suggests that this effect may not be very large.

shift demand away from less-skilled jobs and raise the demand for higher-skilled jobs. Trade in intermediate inputs can account for high prices of skill-intensive goods and employment shifts within industries toward skilled workers that some researchers have attributed to technical change.

Several empirical studies have separated or decomposed the employment changes of relatively less-skilled workers into within-industry and between-industry categories. The argument is that international trade will cause industries to expand or contract, which will result in workers changing industries. New technology, on the other hand, would increase the ratio of more-skilled to less-skilled workers employed within each sector. Although this reasoning may generally be correct, it is plausible that an industry may respond to import competition by upgrading its technology, which could result in a greater proportion of skilled workers, or that workers may be motivated to upgrade their own skills to qualify for higher-paying jobs in other industries. Early studies of this type found that within-industry changes dominated between-industry changes and concluded that trade was not the main reason for the wage and employment movements.²⁰ Riggs and Zarotiadis carried out the latest of these types of studies and used more detailed plant-level data than the previous studies.²¹ Their key findings are that the data show increasing specialization and skill intensity in all sectors and that the entry and exit of plants indicate that job turnover was greater than the earlier studies reported. Although the between-industry shifts remain larger than the within-industry shifts, the difference is small. In contrast to the early studies, the Riggs and Zarotiadis study does not clearly favor the trade or the technical change explanation.

Autor, Katz, and Kearney compute wage differentials that show that since 1988, the wage gap between the median and highest-paid workers has increased much more than the gap between the median and the lowest-paid workers.²² They interpret these changes as resulting from the increasing use of the computer, which complements high-skilled workers involved in abstract reasoning and problem solving, but which

20. Berman, Bound, and Griliches, "Changes in the Demand for Skilled Labor within U.S. Manufacturing."

21. Riggs and Zarotiadis, "Soft and Hard Within- and Between-Industry Changes of U.S. Skill Intensity: Shedding Light on Worker's Inequality." This decomposition methodology was first reported in Berman, Bound, and Griliches, "Changes in the Demand for Skilled Labor within U.S. Manufacturing."

22. Autor, Katz, and Kearney, "Measuring and Interpreting Trends in Economic Inequality."

substitutes for middle-skilled workers who perform routine repetitive tasks. There is a low-skilled manual labor category that is not directly affected by computerization. These authors show that the wage gap has more subtleties than previously acknowledged, but they only consider the technical change interpretation. Interpretations involving international trade are also plausible. For example, increased imports produced with less-skilled labor could contribute to the wage gap between skilled and less-skilled labor. But there could be a type of less-skilled labor that works in sectors whose output is not traded, and imports do not affect these workers.

Other Studies

Economists have extended the basic theory to account for other frequently observed phenomena. In a model with skilled and less-skilled labor and international capital flows, Eckel analyzes how labor markets adjust to changes in international trade when wages cannot fully adjust.²³ He finds that unemployment can result, and the severity of unemployment depends upon the degree of wage rigidity. In contrast to many models that assume full employment, this model is more consistent with observable phenomena, although unemployment could also result from reasons other than wage rigidities.

Bahmani-Oskooee and Chakrabarti use time-series techniques to examine whether employment and wages in the U.S. manufacturing sectors are related to imports.²⁴ They find a significant positive relationship between employment levels and unit values of imports in about half of the manufacturing sectors that they examined. They interpret higher unit values as indicating that imports exert less pressure on employment. While their interpretation may be correct, other explanations are conceivable. For example, the product mix in a sector could have shifted toward higher-value items, which would not appear in their aggregated (two-digit HTS) data.

Levinsohn and Petropoulos use plant-level data to investigate the state of the U.S. textile and apparel industry prior to the expiration of the

23. Eckel, "Labor Market Adjustments to Globalization," 173.

24. Bahmani-Oskooee and Chakrabarti, "Import Competition, Employment and Wages in U.S. Manufacturing."

Agreement on Textiles and Apparel.²⁵ During the 1980s and 1990s, while import competition increased, many plants closed; jobs disappeared and real wages declined. During this time, productivity increased substantially in the textile industry. Most of the increase was attributed to gains within existing plants, although the exit of older plants and entry of more modern plants accounted for some of the increase. Firms with low-productivity plants, large inventories, and more expensive wage bills were most likely to exit. Levinsohn and Petropoulos conclude that existing firms can adapt to new technology. Since 2001, more firms have exited the industry, and many of the remaining firms have primarily become importers.

25. Levinsohn and Petropoulos, "Creative Destruction or Just Plain Destruction: The U.S. Textile and Apparel Industries since 1972." Although this 2001 article is dated, more recent articles on the same topic could not be identified. The textile and apparel sector is noteworthy because it has experienced the largest impact from import competition.