



Displaced workers: one year later

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In January 1984, a special supplement to the Current Population Survey (CPS) focused on the extent of worker displacement in the labor force.¹ Using the data collected in that supplement, the Bureau of Labor Statistics defined displaced workers as those adults who, after holding a job for 3 years or more, lost or left that job because of plant shutdown or relocation, slack work, or abolishment of shift or job during January 1979 to January 1984. In several reports, BLS determined that 5.1 million persons were categorized as displaced under that definition in January 1984.² At the time of the survey, about three-fifths of those persons identified as displaced were employed again, about a quarter were unemployed, and the remainder were not in the labor force. About one-fourth of those displaced from a private nonagricultural job were reemployed in the same broad industrial classification as the job they had lost, while one-third returned to the same broad occupational group. Among workers who had been displaced from full-time wage and salary jobs and were reemployed in such positions, about half had weekly earnings at least as high as they had on the prior job, while more than one-fourth experienced earnings losses of 20 percent or more. What happened to these workers subsequently? Did the unemployed find jobs? Did the employed upgrade their status?

Using the longitudinal potential of the CPS, this report provides information on changes in the labor market status of displaced workers between January 1984 and January 1985. It must be noted at the outset that the use and analysis of longitudinal CPS data have technical limitations which have received much attention in the statistical community. The results of this research suggest that these types of data be treated with some circumspection and that analyses from such data be made with caution.³ (See box.) The following sections report on the January 1985 status of workers identified in January 1984 as displaced whose CPS micro-record

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could be matched with a January 1985 CPS record, and on the changes in that group's labor force status.

In January 1985, workers displaced between January 1979 and January 1984 were more likely to be working and less likely to be unemployed than they had been a year earlier. Seventy-one percent of the displaced men were employed in January 1985, compared with 64 percent a year earlier and 61 percent of the women, compared with 53 percent in 1984. (See table 1.) Overall, about 30 percent of displaced workers had changed status over the year, compared with about half that change for the rest of the working-age population. Displaced workers in all labor force categories were more likely to have moved into employment and less likely to have left the labor force than comparable workers who were not displaced. (See table 2.)

A little more than half the displaced workers who were unemployed in January 1984 had jobs in 1985; among men, the remainder were more likely to still be unemployed, while women were more likely to be out of the labor force. (See table 2.) There were divergent developments in the labor market status of displaced workers of the various racial and ethnic groups. Among both blacks and whites, about 88 percent of those employed in January 1984 also were employed in 1985, while among Hispanics, that proportion was about 81 percent.⁴ Hispanic workers who had been employed in 1984 were somewhat more likely to be unemployed in January 1985 than were whites or blacks. (See table 2.)

Among the unemployed of January 1984, 50 percent or more of both white and Hispanic workers were employed in

Table 1. Employment status of displaced workers by sex, race, and Hispanic origin, January 1985

[Percent distribution]

Characteristic	Total	Employed	Unemployed	Not in the labor force
Total	100.0	67.3	12.4	20.4
Men	100.0	71.0	15.2	13.8
Women	100.0	61.0	7.5	31.6
White	100.0	69.2	11.1	19.7
Black	100.0	51.2	22.0	26.7
Hispanic origin ¹	100.0	66.5	11.2	22.3

¹ Hispanics are included in both the white and black population groups.

NOTE: Data refer to persons age 20 and over with tenure of 3 years or more who lost or left a job between January 1979 and January 1984 because of plant closings or moves, slack work, or the abolishment of their positions or shifts.

Table 2. Labor force transition rates for displaced workers by sex, race, and Hispanic origin, January 1984 to January 1985

[Percent]

Labor force category	Displaced workers, 20 years and over ¹						Others, 20 years and over
	Total	Men	Women	White	Black	Hispanic origin ²	
From employed to—							
Employed	87.9	88.8	85.9	87.8	89.1	80.8	89.4
Unemployed	7.8	9.2	4.6	7.7	8.4	11.5	3.0
Not in labor force	4.3	1.8	9.5	4.5	3.5	8.5	7.6
From not in labor force to—							
Employed	53.0	53.5	52.1	55.3	42.4	50.0	47.8
Unemployed	27.5	31.8	18.7	24.3	42.4	15.0	26.3
Not in labor force	19.5	14.6	28.8	20.3	15.2	35.0	25.9
From unemployed to—							
Employed	19.8	17.1	21.8	19.5	15.3	32.0	10.8
Unemployed	5.5	8.9	2.7	4.2	12.6	4.0	2.5
Not in labor force	74.6	73.7	75.5	76.3	72.1	64.0	86.7

¹ Data refer to persons age 20 and over with tenure of 3 years or more who lost or left a job between January 1979 and January 1984 because of plant closings or moves, slack work, or the abolishment of their positions or shifts.

² Hispanics are included in both the white and black population groups.

NOTE: The transition rate represents the proportion of workers in the first labor force category in January 1984 who were in the second labor force category in January 1985.

Table 3. Reemployed wage and salary workers by industry of lost job and industry of job held in January 1985

[Percent distribution]

Industry of job lost	Total displaced workers	Industry of job held in January 1985											Percent not employed ²	
		Mining	Construction	Manufacturing		Transportation and public utilities	Wholesale trade	Retail trade	Finance, insurance, and real estate	Services		Public administration		Farming, forestry, and fisheries
				Durable	Nondurable					Professional services	Other services			
Mineral	100.0	19.8	10.4	0.9	—	10.4	4.7	6.6	2.8	6.6	10.4	—	—	27.4
Construction	100.0	.3	36.4	3.7	0.3	2.4	1.4	7.1	2.4	14.6	7.5	8.2	—	15.7
Manufacturing	100.0	.1	3.4	21.3	10.8	5.0	4.1	7.1	2.0	6.1	5.1	1.4	.2	33.4
Durable goods	100.0	.1	4.0	27.4	4.5	5.7	4.2	7.3	1.3	3.6	5.3	1.5	.3	34.8
Nondurable goods	100.0	—	2.2	8.2	24.6	3.5	3.7	6.7	3.5	11.4	4.8	1.1	—	30.3
Transportation and public utilities	100.0	—	11.1	5.1	3.7	25.5	3.7	6.9	.9	3.7	1.9	1.4	1.9	34.2
Wholesale	100.0	—	1.7	9.9	3.9	11.0	20.4	5.5	9.4	.6	3.9	—	3.3	30.1
Retail trade	100.0	—	0.3	5.5	1.2	0.9	7.6	35.9	2.0	7.0	6.4	—	—	33.2
Finance, insurance, and real estate	100.0	—	5.8	—	—	13.5	—	—	17.3	15.4	36.5	5.8	—	5.7
Services	100.0	—	4.7	5.9	2.8	1.2	4.3	13.7	1.6	20.5	20.5	2.8	—	22.0
Professional services	100.0	—	3.9	6.8	8.7	—	—	16.5	1.0	39.8	6.8	1.0	—	15.5
Other services	100.0	—	5.5	5.5	—	1.8	6.4	12.3	1.8	11.0	26.9	3.7	—	25.1

¹ Data for 1984 include nonagricultural workers in private industry.

NOTE: Data refer to persons age 20 and over with tenure of 3 years or more who lost or left a job between January 1979 and January 1984 because of plant closings or moves, slack work, or the abolishment of their positions or shifts.

² Includes displaced persons who are considered out of the labor force as well as those unemployed.

Table 4. Reemployed workers by occupation of lost job and occupation of job held in January 1985

[Percent distribution]

Occupation of lost job	Total displaced workers	Occupation of job held in January 1985						Percent not employed ¹
		Managerial and professional specialty	Technical, sales, and administrative support	Service occupations	Precision production, craft, and repair	Operators, fabricators, and laborers	Farming, forestry, and fishing	
Managerial and professional specialty	100.0	29.5	29.1	6.4	7.9	4.9	—	22.2
Technical, sales, and administrative support	100.0	10.6	42.5	5.1	8.0	4.0	—	29.8
Service occupations	100.0	4.8	9.6	33.5	5.9	6.4	—	39.8
Precision production, craft, and repair	100.0	5.6	6.8	6.6	30.9	18.7	.3	31.1
Operators, fabricators, and laborers	100.0	1.3	6.9	7.6	9.1	35.0	1.0	39.1
Farming, forestry, and fishing	100.0	21.2	5.8	—	9.6	26.9	7.7	28.8

¹ Includes displaced persons who are considered out of the labor force as well as those unemployed.

NOTE: Data refer to persons age 20 and over with tenure of 3 years or more who lost or left a job between January 1979 and January 1984 because of plant closings or moves, slack work, or the abolishment of their positions or shifts.

1985, compared with 4 percent of black workers. Hispanic workers were far more likely than white or black to have moved from unemployed to not in the labor force.

Displaced workers not in the labor force in January 1984 tended to remain in that category, in large part because they were concentrated in the older age groups. Overall, about three-quarters of those not in the labor force in January 1984 were also out of the labor force a year later. This tendency was most pronounced among whites and least among persons of Hispanic origin. Hispanics were the most likely of the three major racial and ethnic groups to have moved from not in the labor force to employed, and black workers were the most likely to have moved from out of the labor force to unemployed.

A useful indicator of the degree to which displaced workers are reintegrated in the labor force is the proportion who return to the same industry or occupation.⁵ In January 1985, the proportion of displaced workers who were reemployed in a private nonagricultural industrial group broadly similar to that of the job they lost was 28 percent. In January 1984, the corresponding proportion was 23 percent. The industries with the highest rate of rehiring were professional services (40 percent) and retail trade (36 percent); the lowest rate was in finance, insurance, and real estate, in which many workers, displaced from the industry, had found jobs in the services field. (See table 3.)

Among occupational groups, workers in technical, sales, and administrative support occupations were most likely to be reemployed in a broadly similar occupation; farming, forestry, and fishing workers were least likely. In all, by January 1985, 34.5 percent of displaced workers were reem-

Limitations of the data base

The 59,500 households that are interviewed in the monthly Current Population Survey (CPS) comprise eight national subsamples or rotation groups. One new group is introduced each month, is interviewed for 4 consecutive months, is out of the sample for 8 months, and is returned for 4 more months of interviews. Thus, in any 2 consecutive months, 75 percent of the addresses are common to each month, and, in months a year apart, January to January, for instance, 50 percent of the addresses are common. This sample rotation scheme gives the CPS its longitudinal flavor.

In all phases of administration of the CPS—sampling, interviewing, data preparation and processing—there are factors that affect the survey's usefulness as a longitudinal data base. For example, because the interviewer goes to a sample address, not to a household or specific persons living at an address, those who move into, or out of, a sample address between interviews cannot be matched. Other sources of difficulty include respondent bias (answering identical questions differently when there is no change in status), interviewer error, transcription mistakes, processing problems, and noninterviews.

The CPS is designed to provide accurate estimates of labor market activity in a particular month. Longitudinal aspects of the survey are a byproduct and, as such, are subject to defects and limitations that must be fully considered in any application of the data.

—Adapted from Ronald Dopkowski, "Practical Limitations on Using the CPS as a Longitudinal Survey," *Using the Current Population Survey as a Longitudinal Data Base*, Report 608 (Bureau of Labor Statistics, 1980), pp. 3-4.

Table 5. Current earnings relative to previous earnings of displaced workers reemployed in full-time wage and salary jobs by industry of lost job, January 1985

[Percent distribution]

Industry of lost job	Earnings in January 1985 relative to those of lost job				
	Total	20 percent or more below	Below, but within 20 percent	Equal or above, but within 20 percent	20 percent or more above
Total ¹	100.0	17.9	15.6	24.5	34.9
Construction	100.0	—	11.1	33.3	55.6
Manufacturing	100.0	23.0	17.9	22.8	30.9
Durable goods	100.0	24.9	21.5	18.6	29.3
Nondurable goods	100.0	19.9	11.7	30.0	33.6
Transportation and public utilities	100.0	—	25.7	47.3	20.3
Wholesale and retail trade	100.0	10.5	—	38.9	40.7
Finance and service industries	100.0	—	17.3	15.4	67.3
Public administration	100.0	52.8	—	—	44.4

¹ Includes mining, not shown separately.

NOTE: Data refer to persons age 20 and over with tenure of 3 years or more who lost or left a job between January 1979 and January 1984 because of plant closings or moves, slack work, or the abolishment of their positions or shifts. Includes workers who did not report earnings on lost job.

ployed in the same broad occupational group as they worked in at the job they lost. (See table 4.) This proportion is a slight change from that of a year earlier.

Another useful comparison to make in assessing the labor market experience of reemployed workers is to examine current earnings relative to previous earnings.⁶ To minimize the effect of differences in hours worked on weekly earnings, the earnings data were compared only for persons who lost a full-time wage and salary position and were similarly reemployed. Among such workers, almost 60 percent earned as much or more in the January 1985 job as they had in the lost job. However, about 18 percent earned substantially less—20 percent or more—in their new job than they had earned in their previous employment. (See table 5.) In January 1984, only about half of the reemployed full-time wage earners made as much, or more, than they had in their old jobs and more than a quarter had suffered losses of 20 percent or more.

Overall, persons displaced during the 1979-83 period appeared to be generally better off in January 1985 than they had been in January 1984. Individuals were more likely to be working and, when employed in full-time jobs, were more likely to have matched their former earnings. A sizable group, however, continued to have difficulty in the labor

market. For the most part, those with continuing difficulty were blacks, blue-collar workers, and persons formerly employed in manufacturing. More information on displaced workers will be available by the end of the 1986, when information from a second survey of displaced workers becomes available.⁷ □

—FOOTNOTES—

¹The displaced worker supplement was administered to all adult (20 years and older) respondents to the January 1984 Current Population Survey which is conducted by the Bureau of the Census for the Bureau of Labor Statistics. Those who answered in the affirmative to the question, "In the past 5 years, that is, since January 1979, has (name of respondent) lost or left a job because of a plant closing, an employer going out of business, a layoff from which (name of respondent) was not recalled, or other similar reasons?", were asked a series of more detailed questions about that job loss.

²"BLS Reports on Displaced Workers," USDL 84-492, Nov. 30, 1984; Paul O. Flaim and Ellen Sehgal, "Displaced workers of 1979-83: how well have they fared?" *Monthly Labor Review*, June 1985, pp. 3-16; and *Displaced Workers: 1979-83*, Bulletin 2240 (Bureau of Labor Statistics 1985).

³Robert W. Bednarzik and Richard M. Devens, Jr., eds., *Using the Current Population Survey as a Longitudinal Data Base*, Report 608 (Bureau of Labor Statistics, 1980); and *Proceedings of the Conference on Gross Flows in Labor Force Statistics* (Bureau of the Census and Bureau of Labor Statistics, June 1985).

⁴Hispanic origin includes both the white and black population groups.

⁵Michael Podgursky and Paul Swaim, "Labor Market Adjustment and Job Displacement: Evidence from the January 1984 Displaced Worker Survey" (Washington, Bureau of International Labor Affairs, November 1985), pp. 12 ff.

⁶*Ibid.*

⁷In January 1986, a second displaced workers supplement to the Current Population Survey was administered by the Census Bureau, sponsored jointly by the Employment and Training Administration and the Bureau of Labor Statistics. The data from the survey cover displacements over the January 1981-86 period.

Occupational pay structure in petroleum refineries

Hourly earnings of production workers in the Nation's petroleum refineries averaged \$14.20 in June 1985, according to a Bureau of Labor Statistics wage survey.¹ Just over nine-tenths of the 51,203 workers covered by the survey earned between \$12 and \$16 an hour; about one-half had earnings within a \$1 range—\$14.50 to \$15.50. The number of refineries paying single rates for individual occupations contributed substantially to this narrow spread, as did the relatively large proportion of skilled workers in the industry, the concentrations of employment in relatively few large companies, and the high degree of collective bargaining with a single union (the Oil, Chemical and Atomic Workers International Union, AFL-CIO).

Refinery workers averaged 23 percent more in June 1985 than in May 1981, when the last survey was conducted.²

This increase compares with a 22-percent rise in the wage and salary component of the Bureau's Employment Cost Index for all manufacturing industries between the second quarters of 1981 and 1985. The petroleum industry's wage change largely reflected increases granted to nearly seven-eighths of the workers under collective bargaining agreements. Provisions for automatic cost-of-living adjustments (COLA), triggered primarily by specified changes in the BLS Consumer Price Index, applied to less than 5 percent of the work force.

Among the eight geographic regions studied in 1985, pay levels for six fell within 4 percent of the industry's nationwide average (\$14.20 an hour). Averages were about 10 percent below this mark in the Western Pennsylvania-West Virginia region and in the Texas Inland-North Louisiana-Arkansas region. Regionally, pay levels of production and related workers ranged from \$12.65 in Western Pennsylvania-West Virginia to \$14.62 in the East Coast region. Workers in the Texas-Louisiana-Gulf Coast region, where two-fifths of the industry's work force was concentrated, averaged \$14.50 an hour.

Twenty-six occupations, accounting for nearly four-fifths of the production workers, were selected to represent the wage structure and activities of production and related workers in the industry. (See table 1.) Among these jobs, average hourly earnings ranged from \$11.41 for laborers to \$15.38 for chief operators of stills. Assistant operators, who help chief operators maintain stills, accounted for one-fifth of the industry's work force and averaged \$14.45 an hour. Chief operators' helpers, who maintain required temperatures in furnaces of stills and pumpers, averaged \$13.65 and \$14.49 an hour, respectively.

Average hourly earnings of the nine journeyman maintenance trades studied were closely grouped—ranging from \$14.07 for machinery mechanics to \$14.82 for boilermakers. General mechanics, the most numerous of these workers, averaged \$14.60 an hour. General mechanic includes skilled workers operating under maintenance craft consolidation plans (which combine two crafts or more into a single job), and mechanics working in small refineries where specialization in maintenance work is impractical. Maintenance trades helpers averaged \$12.77—9 percent below the lowest paid journeyman trade studied.

Paid holidays, usually 10 days annually, were provided to all production workers in the industry. All refineries studied also provided paid vacations to their production workers after qualifying periods of service. Typically, workers received 2 weeks of vacation pay after 1 year of service, 3 weeks after 5 years, 4 weeks after 10 years, 5 weeks after 15 years, and 6 weeks after 30 years. Virtually all refinery workers were provided at least part of the cost of life, hospitalization, surgical, basic medical, and major medical insurance, as well as retirement plans. Dental insurance and full or partial paid sick leave were provided to just over nine-tenths of the workers. Accidental death and dismemberment insurance was available to slightly more than four-

Table 1. Average straight-time hourly earnings and number of production and related workers in selected occupations, petroleum refineries, United States, June 1985

Occupation	Number of workers	Average (mean) hourly earnings ¹
Maintenance:		
Boilermakers	756	\$14.82
Carpenters	370	14.63
Electricians	1,316	14.69
Helpers, maintenance trades	717	12.77
Instrument repairers	1,490	14.74
Machinists	1,905	14.74
Mechanics, general	4,848	14.60
Mechanics (machinery)	534	14.07
Pipefitters	1,563	14.61
Welders, hand	783	14.58
Processing:		
Assistant operators	10,513	14.45
Chief operators	6,063	15.38
Chief operators' helpers	2,135	13.65
Compounders	157	14.14
Laborers	1,252	11.41
Loaders, tank cars or trucks	539	13.20
Package fillers, machine	198	11.63
Pumpers	1,155	14.49
Pumpers' helpers	374	13.96
Treaters, oils	324	13.09
Inspecting and testing:		
Routine testers, laboratory	1,904	14.13
Recording and control:		
Stock clerks	561	13.92
Material movement:		
Truckdrivers ²	40	13.00
Truckdrivers, medium truck	12	12.74
Truckdrivers, tractor-trailer	96	12.57
Power-truck operators ²	127	12.43
Forklift	120	12.43
Custodial:		
Guards ²	281	12.64
Guards I	71	12.22
Janitors	78	11.98

¹ Wage data are straight-time earnings which exclude premium pay for overtime and for work on weekends, holidays, and late shifts. Cost-of-living pay increases (but not bonuses) were included as part of the workers' regular pay. Excluded were performance bonuses and lump-sum payments of the type negotiated in the auto and aerospace industries as well as profit-sharing payments, attendance bonuses, Christmas or yearend bonuses, and other nonproduction bonuses.

² Includes data for subcategories not shown separately.

late fuel oil, residual fuel oils, lubricants, and other products from crude petroleum and its fractionation products. Production is accomplished through straight distillation of crude oil, redistillation of unfinished petroleum derivatives, cracking, or other processes as defined in the *Standard Industrial Classification Manual, 1972*, prepared by the U.S. Office of Management and Budget.

The 142 refineries within scope of the survey (those with at least 100 workers) employed 51,203 production and related workers in June 1985, down 22 percent from the 65,566 recorded in May 1981. Employment declines among the eight regions studied ranged from 2 percent in the West Coast to 40 percent in the East Coast, but typically ranged from about 20 to 30 percent among the other six regions. Much of this employment loss resulted from a lesser demand for petroleum products and the increased use of computerized processing equipment and other technological innovations.

Gasoline—including naphtha—was the major product of refineries employing more than nine-tenths of the production workers covered by the survey. Other products included distilled fuel oil, residual fuel oil, jet fuel, lubricating oil, and asphalt. Most workers in the Western Pennsylvania–West Virginia region were employed in refineries that were primarily manufacturing products other than gasoline, usually lubricating oil or distillate fuel oil. Refineries employing nearly three-fifths of the industry's workers were also processing petrochemicals.

A comprehensive report on the survey findings of *Industry Wage Survey: Petroleum Refining, June 1985* (Bulletin 2255), may be purchased from the Superintendent of Documents, Washington, DC 20402, or from the Bureau of Labor Statistics, Publications Sales Center, P.O. Box 2145, Chicago, IL 60690. □

—FOOTNOTES—

¹ Wage data are straight-time earnings which exclude premium pay for overtime and for work on weekends, holidays, and late shifts. Cost-of-living pay increases (but not bonuses) were included as part of the worker's regular pay. Excluded were performance bonuses and lump-sum payments of the type negotiated in the auto and aerospace industries, as well as profit-sharing payments, attendance bonuses, Christmas or yearend bonuses, and other nonproduction bonuses.

² For summary findings of the May 1981 study, see "Pay in petroleum refineries outpaces manufacturing rise," *Monthly Labor Review*, February 1983, pp. 42–43.

fifths of the work force; long-term disability insurance, to nearly three-fifths; and sickness and accident insurance, to two-fifths. Health plan coverage was usually financed jointly by the employer and employee.

The petroleum refining industry includes establishments engaged primarily in producing gasoline, kerosene, distil-