

only those overpayments for which "official" actions were taken by the State unemployment insurance agency in response to the random audit investigations; hence, those cases reported as overpaid in table 1 were "sanctioned" by the State unemployment insurance agency through official actions that were taken. Also included in the random audit system is a measure which includes cases with errors that the State unemployment insurance agencies were either unwilling or unable to "sanction" through official actions plus all of the cases in which such actions were taken. For additional details on the other measures of payment errors, see *The Development of an Operational System*, pp. 21-25.

¹⁴ Additional analysis, not reported here, reveals that such reporting errors were quite common. For example, more than 25 percent of the cases analyzed in the pilot test period involved some error in the reporting or recording of base period wages in 3 of the 5 pilot test States, and more than 70 percent of the cases sampled in one of the States involved such errors. See *The Development of an Operational System*, p. 50.

¹⁵ It also should be emphasized that direct comparisons among the States are difficult to interpret, especially for fraud overpayments, because important differences in law and policy exist among these five States as to what conditions constitute the basis for establishing a fraud overpayment. Identical claimant behavior could lead to the establishment of a fraud overpayment in one State, but the establishment of a nonfraud overpayment in another State.

Small firms' employment growth twice that of large firms in 1983

Small businesses played a significant role in the 1983 recovery, according to the Small Business Administration's 1984 report of the President. In six major industries for which small- and large-dominated industries can be identified, small business employment growth of 2.6 percent was more than twice that of large business growth of 1.2 percent.

Small firms accounted for 6 percent of the growth in construction, 2 percent in retail trade, 6 percent in finance, insurance, and real estate, and 4 percent in services. Transportation, communication, and public utilities employment declined about .1 percent, and employment was unchanged in wholesale trade. In contrast, employment in large business-dominated industries declined in all but the finance, insurance, and real estate (up 1.5 percent) and services (up 4 percent) industries.

According to the report, "Small businesses furnish 2 of 3 workers with their first jobs. Many of these first-time positions are in the service sector, the traditional doorway to the job market for the young, minority, and unskilled jobseeker."

Over the 1980-82 period, firms with fewer than 100 employees accounted for 43 percent of the net increase in jobs. Creation of new small businesses alone added 2 million jobs. The service industry continued as the fastest growing. Employment increased 10 to 12 percent a year in small firms providing business, education, and legal services. Other rapidly growing industries included metal and anthracite mining, oil and gas extraction, real estate, social services, and security, commodity brokers, and services. Job generation slowed among small business industries in construction and wholesale and retail trade.

In addition to discussing the state of small business in 1983 and over the 1980-82 period, the 475-page report contains information on the changing industrial and size composition of U.S. business, historical patterns of small business financing, worker characteristics and size of business, export trade and small business, small business and procurement, women and minority owned businesses, development of small business data bases, export programs of the Federal Government, and Federal procurement from small businesses.

The State of Small Business: A Report of the President Transmitted to the Congress March 1984 can be purchased (\$13) from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402. □

Earnings in electric and gas utilities

Occupational pay levels in the Nation's privately operated electric and gas utility systems typically rose 45 to 55 percent between February 1978 and October 1982, according to a recent industry wage survey conducted by the Bureau of Labor Statistics.¹ By comparison, wages and salaries of all private industry workers covered by the Bureau's Employment Cost Index rose 45 percent, and those of all transportation and public utility workers rose 50 percent, between the first quarter of 1978 and the fourth quarter of 1982.

Slightly more than 100 physical, office clerical, and professional and technical occupations were selected to represent the utility systems' wage structure in the October 1982 survey. Average hourly earnings among the physical occupations studied ranged from \$7.51 an hour for janitors to 16.27 for watch engineers, but typically fell between \$10 and \$13. (See table 1.) Journeymen line workers, numerically the most important physical occupation studied (23,938 workers), averaged \$12.72 an hour. This compared with \$9.17 an hour for meter readers and \$10.82 for gas appliance service technicians, two other major groups. The physical jobs studied accounted for nearly one-half of the 361,000 nonsupervisory physical workers within scope of the survey.

Averages for the office clerical jobs studied ranged from \$5.69 an hour for messengers to \$9.35 for secretaries, with rates of \$7 to \$9 being the norm. Secretaries, numbering nearly 10,000, were by far the largest clerical group studied.

Hourly pay levels for professional and technical occupations ranged from \$8.68 for computer data librarians to \$14.53 for computer systems analysts. Drafters, the most numerous group, averaged \$10.48 an hour.

Occupational averages varied by region and by type of utility system. In general, averages were highest in the Pacific region and in combination electric and gas systems,² and lowest in the Southeast and in gas distribution systems. Table 1 illustrates the regional variations, with the largest

Table 1. Average straight-time hourly earnings¹ and number of workers in selected occupations,² electric and gas utility systems, United States and regions,³ October 1982

Occupation	United States		New England		Middle Atlantic		Border States		Southeast	
	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings
Physical occupations:										
Auxiliary-equipment operators (electric)	5,833	\$10.51	—	—	378	\$11.16	243	\$10.45	743	\$ 9.21
Control-room operators, conventional (electric)	4,615	13.24	227	\$12.67	476	13.89	294	12.27	674	12.09
Control-room operator assistants, conventional (electric)	2,626	11.89	42	12.02	228	12.98	242	10.54	484	10.76
Electricians, maintenance	7,020	12.70	530	11.30	867	12.74	440	11.81	1,098	11.77
Gas-main fitters	7,306	10.82	264	10.55	2,191	11.30	412	10.42	240	8.03
Janitors, porters, and cleaners	4,026	7.51	150	8.15	739	7.76	528	6.98	327	5.87
Line workers, journeymen	23,938	12.72	1,691	11.60	3,953	13.21	1,586	11.91	3,502	11.40
Mechanics, maintenance	7,531	12.56	333	11.50	719	12.76	594	11.66	1,163	11.65
Meter readers	18,649	9.17	1,049	8.92	3,901	9.56	1,523	8.95	2,135	8.27
Pipeline repairers (gas)	5,243	10.12	—	—	—	—	—	—	—	—
Service technicians, gas appliances	10,218	10.82	671	11.03	2,561	11.35	770	11.10	964	8.08
Watch engineers (electric)	2,681	16.27	137	16.49	420	17.37	201	16.14	188	13.38
Welders (gas)	1,676	11.98	22	11.69	253	12.72	124	11.71	70	11.05
Office clerical occupations:										
Accounting clerks	6,449	8.43	316	8.15	986	9.60	559	7.87	707	7.54
Messengers	481	5.69	29	5.87	80	6.01	60	5.74	45	5.81
Secretaries	9,979	9.35	616	9.19	1,289	11.06	932	9.33	1,355	8.38
Stenographers	3,359	7.96	71	7.65	782	8.63	136	7.13	402	6.77
Professional and technical occupations:										
Computer data librarians	119	8.68	—	—	34	10.38	9	9.27	10	7.60
Computer operators	1,513	9.70	106	9.88	221	11.51	112	9.60	153	8.26
Computer programmers	2,980	11.73	201	10.68	495	12.27	172	12.02	387	12.25
Computer systems analysts	2,989	14.53	191	14.48	412	15.46	220	13.18	337	12.04
Drafters	3,822	10.48	163	9.95	710	12.71	295	10.10	483	8.56
			Southwest	Great Lakes	Middle West		Mountain		Pacific	
Physical occupations:										
Auxiliary-equipment operators (electric)	1,353	\$10.01	1,483	\$10.91	468	\$11.24	431	\$10.74	468	\$12.00
Control-room operators, conventional (electric)	969	12.41	864	13.76	404	13.76	253	13.58	454	15.33
Control-room operator assistants, conventional (electric)	382	10.92	737	12.63	260	12.33	—	—	191	13.49
Electricians, maintenance	1,057	12.44	1,616	13.42	587	12.78	383	13.44	442	14.70
Gas-main fitters	586	6.64	2,409	11.41	495	10.95	175	12.31	534	11.94
Janitors, porters, and cleaners	462	5.92	1,125	8.48	290	8.45	209	6.31	196	8.60
Line workers, journeymen	2,693	12.05	4,764	13.18	1,636	12.51	1,404	13.25	2,709	14.58
Mechanics, maintenance	1,330	12.41	1,579	12.87	688	12.46	537	12.82	—	—
Meter readers	2,113	7.35	3,740	9.66	992	9.55	705	8.91	2,491	10.28
Pipeline repairers (gas)	2,455	9.63	—	—	—	—	—	—	—	—
Service technicians, gas appliances	868	8.21	1,977	11.67	886	10.57	167	11.69	—	—
Watch engineers (electric)	442	15.28	656	16.52	232	15.20	150	16.88	255	18.26
Welders (gas)	475	10.66	368	12.75	149	12.10	62	13.34	153	13.07
Office clerical occupations:										
Accounting clerks	1,463	7.59	1,052	8.82	375	6.96	337	7.78	654	10.62
Messengers	76	4.88	97	5.91	23	5.29	40	4.71	31	7.35
Secretaries	2,225	8.60	1,375	9.99	580	8.29	673	8.36	934	10.72
Stenographers	459	7.33	787	8.24	292	7.21	100	7.31	330	9.29
Professional and technical occupations:										
Computer data librarians	26	7.66	8	8.09	—	—	10	8.41	13	7.28
Computer operators	250	8.24	267	9.97	106	8.54	124	10.13	174	10.72
Computer programmers	581	11.88	489	10.97	191	11.14	206	11.61	258	12.17
Computer systems analysts	362	15.43	597	14.25	122	14.36	320	15.16	428	15.52
Drafters	690	9.61	619	10.50	295	10.27	277	9.90	290	11.70

¹Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

²The comprehensive report on the study includes data for additional occupations.

³The regions used in this study include: *New England*—Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont; *Middle Atlantic*—New Jersey, New York, and Pennsylvania; *Border States*—Delaware, District of Columbia, Kentucky, Maryland, Virginia, and West Virginia; *Southeast*—Alabama, Florida, Georgia, Mississippi, North Carolina, South Carolina, and Tennessee; *Southwest*—Arkansas, Louisiana, Oklahoma,

and Texas; *Great Lakes*—Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin; *Middle West*—Iowa, Kansas, Missouri, Nebraska, North Dakota, and South Dakota; *Mountain*—Arizona, Colorado, Idaho, Montana, New Mexico, Utah, and Wyoming; and *Pacific*—California, Nevada, Oregon, and Washington. Alaska and Hawaii were not included in this study.

NOTE: Dashes indicate that no data were reported or that data do not meet publication criteria.

differences commonly associated with the lower paying occupations. For example, janitors in the Pacific States averaged 47 percent more than their counterparts in the Southeast (\$8.60 versus \$5.87), compared with a 36-percent differential for watch engineers (\$18.26 versus \$13.38), and one

of only 18 percent for welders (\$13.07 over \$11.05).

Virtually all workers were in utilities providing paid holidays, paid vacations, and various health, insurance, and retirement benefits to physical and office workers. The most common provisions were 12 holidays annually and 2 weeks

of vacation pay after 1 year of service, 3 weeks after 10 years, 4 weeks after 15 years, and 5 weeks after 25 years. Nearly all workers were eligible for life, hospitalization, surgical, and basic and major medical insurance, and retirement pension plans. Accidental death and dismemberment insurance, dental insurance, and sick leave plans also were widespread in the industry, each applying to at least two-thirds of the workers. Most of the health, insurance, and retirement plans were paid for entirely by the employer.

Electric and gas utility systems within scope of the survey employed about 521,000 nonsupervisory employees in October 1982, an increase of 9 percent from February 1978. Over the period, employment grew 19 percent in electric systems and 8 percent in gas distribution systems, remained stable in combination electric and gas systems, and fell slightly in gas transmission systems.

Slightly more than three-fourths of the physical workers and about one-third of the office workers were covered by labor-management agreements in October 1982. The major union for both types of workers was the International Brotherhood of Electrical Workers (AFL-CIO).

A comprehensive report on the 1982 survey, *Industry Wage Survey: Electric and Gas Utilities, October 1982*, Bulletin 2218 (Bureau of Labor Statistics, 1984), is for sale by the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402. The report provides additional information on occupational earnings and employee benefits. □

——FOOTNOTES——

¹Earnings data exclude premium pay for overtime and for work on weekends, holidays, and late shifts. For an account of the 1978 study, see *Industry Wage Survey: Electric and Gas Utilities, February 1978*, Bulletin 2040 (Bureau of Labor Statistics, 1979).

²Under the classification system used for this study, a utility was considered a combination system if neither service contributed 95 percent or more of revenues obtained from electric and gas services. If one service did account for at least 95 percent of such revenues, the utility was considered as exclusively engaged in that service. Only the electric and gas operations of combination systems were included.

Pension plans as a spur to labor force withdrawal

To what extent may pension plans decrease labor force participation among older workers? In a study undertaken

for the National Bureau of Economic Research, economists at several universities probe the possible effect of defined-benefit pension plans on labor force behavior. Their objective, according to David A. Wise, author of the study, is "to demonstrate the order of magnitude of the potential incentive effects of these plans without attempting to present empirical estimates of the impacts, but suggesting the response of workers to pension plan characteristics could be substantial."

The economists consider the case of a 30-year-old worker in a "typical plan." The plan calculates normal retirement benefits as 1 percent of average earnings over the last 5 years of service multiplied by years of service. Benefits are reduced by 3 percent for each year that early retirement at age 55 precedes normal retirement at age 65. "Cliff vesting" occurs after 10 years, meaning the employee accrues no credits until meeting the service requirement. "The annual increment to pension wealth" is calculated as a percentage of the wage rate. "Underlying the calculations is a representative lifetime age-earnings profile that assumes substantial growth in real wage rates between ages 30 and 50 and very little growth from 50 to 65."

Under three accrual patterns based on wage inflation of 6 percent and nominal interest rates of 3, 6, and 9 percent, pension wealth increases by from 4 to 14 percent of wage earnings when vesting begins. The rate of accrual increases "slowly at first and then rather sharply until the age of early retirement." At the age of early retirement, the accrual rate drops sharply. This is because annual benefits are not reduced enough to offset the increase in the number of years the worker would receive benefits if he or she chooses early retirement.

For a plan without an early retirement option, or one "that uses an actuarially fair, early retirement reduction formula," benefits continue to increase to age 65.

The study emphasizes the importance of interest rates. It points out that "if interest rates are high relative to the rate of inflation, the accrual after age 55 can indeed be negative. In this case pension wealth could actually decline with additional years of work."

Wise's report is based on the introductory chapter of an NBER volume, "Pensions, Labor and Individual Choice," to be published by the University of Chicago Press. □