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4 The Structure of Private Pension Plans

4.1 The Distribution of Private Pension Plan Types

U.S. private pension plans are primarily of two types, defined benefit plans and defined contribution plans. These two types of plans account for 97 percent of all pension plans, and 98 percent of all covered workers participate in either defined benefit or defined contribution plans (table 4.1.3).

Tables 4.1.1 and 4.1.2 show the rapid growth in the number of defined benefit and defined contribution plans in the postwar period from 9,370 in 1946 to 616,642 in 1980. The annual net increase in IRS qualified pension plans averaged 6,090 in the late 1950s, 14,525 in the 1960s, and 36,496 in the 1970s. Between 1970 and 1974 the average net increase was 24,878 for defined benefit plans and 19,820 for defined contribution plans. Since the passage of the Employee Retirement Income Security Act in 1974 (ERISA), the growth of IRS qualified defined benefit plans has averaged 6,725 per year, while IRS qualified defined contribution plans have increased by 35,118 per year. ERISA's provisions apply primarily to defined benefit plans. The regulation of these plans as well as the government's reporting requirements for defined benefit plans presumably lessened their attractiveness relative to defined contribution plans. It is important to note that the data in tables 4.1.1 and 4.1.2 include only those plans with an IRS letter of qualification. Since plans may be qualified without a determination letter, these figures may understate the actual number of qualified pension plans. It should also be noted that increases in the number of qualified plans in effect may reflect, in part, the IRS qualification of preexisting plans rather than the creation of new plans.

Defined benefit plans determine workers' pension benefits on the basis of specified formulae. These formulae usually relate pension benefits to a number of factors associated with the employee's work history, including length of service and level of earnings. Contributions to firms' pension funds to finance the level of benefits "defined" by these formulae are made at the discretion of the firm, but are subject to certain minimum funding standards established in 1974 by ERISA.¹

In contrast to defined benefit plans, defined contribution plans make specific contributions to pension funds on behalf of each covered worker. The worker's pension benefit is determined by the performance of the pension fund portfolio and consists of the return of principal plus a prorated share of investment earnings.

Certain plans which ERISA requires to be reported as defined benefit plans combine features of standard defined benefit and defined contribution plans. Typically, these are collectively bargained multiemployer plans. They are usually referred to as negotiated contract plans or Taft-Hartley plans, because they fall within the jurisdiction of the Taft-Hartley Act (the Labor Management Relations Act of 1974). These plans are structured in the following manner. Participating employers make contributions on behalf of their employees to a central trust fund that is usually jointly managed by the employers and the union. The trustees establish a level of benefits that the fund can support based on the size of the trust

fund as well as projected future earnings and pension fund performance. The benefits are almost always determined as a fixed dollar amount per year of service. If the plan's investment experience or contribution rates change, the level of benefits often is adjusted to reflect the new circumstances. From the standpoint of the employer this type of plan has all the characteristics of a defined contribution plan because the employer's obligation to pension benefit payments is usually fully met by making predetermined pension fund contributions.² From the standpoint of employees as a group these are also defined contribution plans in that pension benefits to covered workers are ultimately determined by the level of employer contributions and pension fund performance. However, from the perspective of a single plan participant the calculation of benefits on the basis of a specified formula that is linked to neither the worker's contribution nor the fund's performance effectively makes the plan a defined benefit plan.

Although the great majority of plans, 65 percent, are defined contribution plans, these plans cover less than a third of all covered workers (table 4.1.3). The average number of workers in such plans is 34; for defined benefit plans, the number of participants averages 210. Table 4.1.4 presents the distribution of plan types by plan size and union status. Small plans, those with fewer than 25 workers, are almost 3 times as likely to be defined contribution plans as defined benefit plans. In contrast, defined contribution plans account for only 23 percent of plans with 10,000 or more participants. Table 4.1.5 supports the proposition that plans with few employees choose the defined contribution form of pension plan while large plans generally opt for defined benefit plans. Eighty percent of workers in the nation's largest plans participate in defined benefit plans; only 30 percent of workers in the nation's smallest plans are covered under defined benefit plans.

Relatively few small plans are union plans—plans subject to a collective bargaining agreement. Those few union plans with less than 100 participants are much more likely to be defined benefit than defined contribution plans. Table 4.1.5 shows that close to two-thirds of participants in plans with 10,000 or more covered workers belong to union plans.

In considering these numbers, it is important to bear in mind that the NBER-DOL EBS1 (1977) data source provides information about specific pension plans and not specific firms. Some firms have both primary and supplemental plans; supplemental plans may not cover as many employees as the firm's primary plan. Unfortunately, the NBER-DOL EBS1 (1977) data set does not distinguish primary from supplemental plans. There are many reasons that explain firm sponsorship of more than one plan. Firms often set up separate plans for different types of employees; i.e. one plan may cover salaried employees and another may cover hourly employees. In addition, some plans establish separate plans for workers in different plants. Information from the IRS 5500 File (1977) indicates that large firms sponsor, on average, over 4.5 plans.

While the correlation between plan size and firm size is not unity, it appears to be quite large. Small pension plans, most of which are plans of small firms, presumably favor the defined contribution plan relative to the defined benefit plan, in part, because of economies in bookkeeping. Many of the benefit formulae of defined benefit plans require maintaining detailed records concerning the workers' annual earnings and length of service.

The distribution of plan types by industry and union status is presented in table 4.1.6. In the agriculture, forestry, and fishing industry 67.23 percent of plans are defined contribution plans. The industry with the smallest percentage of defined contribution plans is manufacturing, 43.32 percent. These figures reflect in large part the typical sizes of plans in the agriculture and manufacturing industries. The former industry averages 46 participants per plan, while the latter averages 336 participants.

Despite the fact that the typical firm in the agricultural industry is small, most of covered employment in agriculture is concentrated in large firms; hence the majority of covered workers in agriculture, 65 percent, are participants in defined benefit plans. Table 4.1.7 indicates how covered industry employment is distributed across plan types. Retail trade represents the industry with the largest fraction (48 percent) of covered workers enrolled in defined contribution plans; in transportation, communications, and utilities only 14 percent of covered workers participate in this type of plan.

In construction and transportation, communications, and utilities, union participants outnumber nonunion participants. In five of the nine industries, defined benefit union participants outnumber their nonunion counterparts.

Pension plans covered under collective bargaining agreements (designated here as union plans) are quite large, averaging over 800 workers. The cross-tabulations of plans and participants by plan type and union status presented in tables 4.1.8 and 4.1.9 are therefore not surprising: 85 percent of union plans but only 29 percent of nonunion plans are defined benefit plans; over 85 percent of union workers are covered by defined benefit plans; for nonunion workers the comparable percentage is 63 percent.

According to table 4.1.10 multiemployer plans are predominantly defined benefit plans. In addition, close to 90 percent of workers in multiemployer plans participate in defined benefit plans. Multiemployer plans average 130 participants, while single employer plans average 74.54 participants. Table 4.1.10 also indicates that over 90 percent of participants in multiemployer plans are union participants (participants in plans covered by collective bargaining). Multiemployer union participants account for 36.61 percent of all union participants (table 4.1.11).

Table 4.1.1

Number of IRS Qualified Private Pension Plans in Effect, 1939-1980

	Number of Qualified Plans in Effect	Annual Qualifications	Annual Terminations
1939	659	NA	NA
1942	1,947	NA	NA
1944	7,786	NA	NA
1946	9,370	1,584	NA
1948	11,258	2,372	NA
1949	12,154	1,123	227
1950	NA	1,034	NA
1951	14,671	2,000	NA
1952	17,018	2,390	146
1953	20,675	3,780	123
1954	24,879	4,395	191
1955	28,169	3,582	292
1955	29,938	1,897	128
1956	34,882	5,247	303
1957	40,956	6,425	351
1958	47,507	6,954	403
1959	54,299	7,266	474
1960	63,698	9,957	558
1961	72,350	9,387	735
1962	81,709	10,218	859
1963	91,959	11,144	894
1964	102,626	11,708	1,041
1965	115,122	13,532	1,036
1966	132,095	18,183	1,210
1967	151,309	20,521	1,307
1968	173,648	23,782	1,443
1969	199,994	28,075	1,729
1970	225,899	32,574	2,306
1971	263,228	40,664	3,335
1972	309,043	49,335	3,560
1973	364,518	59,605	4,130
1974	419,119	59,385	4,784
1975	441,050	30,039	8,108
1976	444,544	28,124	24,630
1977	464,145	35,416	15,815
1978	514,534	65,684	15,286
1979	560,579	56,877	10,841
1980	616,642	69,342	13,279

Sources: EBRI Compilation of Internal Revenue Service Data Charles Spencer Associates

NA - Not Available

Table 4.1.2
Annual IRS Private Pension Plan Qualifications and Terminations by Plan Type, 1956-1980

Year	Defined Benefit Plans			Defined Contribution Plans			Net Total Plans
	Plans Qualified	Plans Terminated	Net Plans Qualified	Plans Qualified	Plans Terminated	Net Plans Qualified	
1956	3,175	192	2,983	2,072	111	1,961	4,944
1957	3,527	180	3,347	2,898	171	2,727	6,074
1958	3,883	224	3,659	3,071	179	2,892	6,551
1959	3,824	270	3,554	3,442	204	3,238	6,792
1960	5,011	300	4,711	4,946	258	4,688	9,399
1961	4,919	374	4,545	4,468	361	4,107	8,652
1962	5,188	476	4,712	5,030	383	4,647	9,359
1963	5,840	441	5,399	5,304	453	4,851	10,250
1964	6,581	509	6,072	5,127	532	4,595	10,667
1965	7,495	512	6,983	6,037	524	5,513	12,496
1966	10,124	603	9,521	8,059	607	7,452	16,973
1967	11,292	602	10,690	9,229	705	8,524	19,214
1968	12,896	672	12,224	10,886	771	10,115	22,339
1969	14,692	868	13,824	13,383	861	12,522	25,905
1970	16,512	1,142	15,370	16,062	1,164	14,898	30,268
1971	22,493	1,605	20,888	18,171	1,730	16,441	37,329
1972	28,265	1,745	26,520	21,070	1,775	19,295	45,815
1973	33,830	2,222	31,608	25,775	1,908	23,867	55,475
1974	32,579	2,577	30,002	26,806	2,207	24,599	54,601
1975	15,319	4,550	10,769	14,720	3,558	11,162	21,931
1976	4,790	8,970	-4,180	23,334	15,660	7,674	3,494
1977	6,953	5,337	1,616	28,463	10,478	17,985	19,601
1978	9,728	4,625	5,103	55,956	10,661	45,295	50,398
1979	15,755	3,267	12,488	41,122	7,574	33,548	46,036
1980	18,849	4,297	14,552	50,493	8,982	41,511	56,063

Source: EBRI Compilation of Internal Revenue Service Data

Table 4.1.3
Number of Plans and Participants by Plan Type, 1977

	Defined Benefit		Defined Contribution		Other ¹		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Plans	144,457	31.65	297,557	65.20	14,360	3.15	456,374	100
Participants	30,276,178	73.53	10,167,031	24.69	733,718	1.78	41,176,927	100

Source: NBER-DOL EBS1 File (1977)

1. Plans designated as "other" include defined benefit plans with benefits based partly on balance of separate account of participants, annuity arrangements of a certain exempt organization or a governmental unit, custodial accounts for regulated investment company stock, trusts treated as an individual retirement account, employee stock ownership plans not part of a qualified plan, and other plan types.

Table 4.1.4
Number of Plans by Plan Type, Plan Size, and Union Status, 1977

	Defined Benefit		Defined Contribution		Other ¹	
	Number of Plans	Row Percent	Number of Plans	Row Percent	Number of Plans	Row Percent
1-24 Participants						
Total	86,503	24.25	258,300	72.40	11,953	3.35
Union	2,572	67.76	1,137	29.95	87	2.29
Nonunion	81,935	23.95	250,460	73.22	9,660	2.82
Not Classified	1,995	18.30	6,702	61.47	2,205	20.23
25-49 Participants						
Total	14,298	41.20	19,320	55.67	1,085	3.13
Union	2,082	78.80	490	18.55	70	2.65
Nonunion	11,935	38.29	18,375	58.96	857	2.75
Not Classified	280	31.39	455	51.01	157	17.60
50-99 Participants						
Total	24,483	65.28	12,338	32.90	683	1.82
Union	7,507	90.70	700	8.46	70	.85
Nonunion	16,537	58.19	11,410	40.15	472	1.66
Not Classified	437	54.35	227	28.23	140	17.41
100-249 Participants						
Total	8,245	64.03	4,323	33.57	309	2.40
Union	3,108	89.16	343	9.84	35	1.00
Nonunion	5,031	54.85	3,914	42.67	228	2.49
Not Classified	105	48.61	65	30.09	46	21.30

Table 4.1.4 Continued
 Number of Plans by Plan Type, Plan Size, and Union Status, 1977

	Defined Benefit		Defined Contribution		Other ¹	
	Number of Plans	Row Percent	Number of Plans	Row Percent	Number of Plans	Row Percent
250-499 Participants						
Total	4,351	72.48	1,508	25.12	144	2.40
Union	1,895	89.64	191	9.04	28	1.32
Nonunion	2,398	63.32	1,293	34.14	96	2.53
Not Classified	57	58.16	22	22.45	19	19.39
500-999 Participants						
Total	2,912	76.92	791	20.89	83	2.19
Union	1,300	90.59	112	7.80	23	1.60
Nonunion	1,577	68.60	676	29.40	46	2.00
Not Classified	33	70.21	2	4.26	12	25.53
1,000-4,999 Participants						
Total	2,855	76.98	766	20.65	88	2.37
Union	1,435	88.80	151	9.34	30	1.86
Nonunion	1,391	67.95	609	29.75	47	2.30
Not Classified	28	66.67	5	11.90	9	21.43
5,000-9,999 Participants						
Total	483	79.70	113	18.65	10	1.65
Union	294	87.76	40	11.94	1	.30
Nonunion	187	71.10	72	27.38	4	1.52
Not Classified	1	20.00	0	.00	4	80.00
10,000+ Participants						
Total	329	75.98	98	22.63	6	1.39
Union	217	82.82	43	16.41	2	.76
Nonunion	110	67.07	54	32.93	0	.00
Not Classified	1	33.33	0	.00	2	66.67
TOTAL						
Total	144,457	31.65	297,557	65.20	14,360	3.15
Union	20,413	85.15	3,210	13.39	349	1.46
Nonunion	121,105	28.88	286,866	68.40	11,413	2.77
Not Classified	2,939	22.57	7,482	57.47	2,598	19.96

Source: NBER-DOL EBS1 File (1977)

1. See note 1, table 4.1.3.

Table 4.1.5
 Number of Participants by Plan Type, Plan Size, and Union Status, 1977

	Defined Benefit		Defined Contribution		Other ¹	
	Number of Participants	Row Percent	Number of Participants	Row Percent	Number of Participants	Row Percent
1-24 Participants						
Total	655,148	29.16	1,532,790	68.22	58,835	2.62
Union	22,067	69.10	8,890	27.84	980	3.07
Nonunion	619,990	28.79	1,485,627	69.00	47,582	2.21
Not Classified	13,090	21.24	38,272	62.10	10,272	16.67
25-49 Participants						
Total	504,298	42.09	655,496	54.70	38,483	3.21
Union	77,612	79.41	17,990	18.41	2,135	2.18
Nonunion	416,430	38.88	623,192	58.19	31,307	2.92
Not Classified	10,255	34.63	14,315	48.35	5,040	17.02
50-99 Participants						
Total	1,963,658	67.15	906,903	31.02	53,533	1.83
Union	626,167	90.94	56,297	8.18	6,055	.88
Nonunion	1,306,252	60.01	834,802	38.35	35,595	1.64
Not Classified	31,237	53.02	15,802	26.82	11,882	20.17
100-249 Participants						
Total	1,312,592	65.02	657,835	32.59	48,234	2.39
Union	503,861	89.10	56,392	9.97	5,276	.93
Nonunion	791,861	55.80	591,578	41.68	35,791	2.52
Not Classified	16,870	49.76	9,864	29.10	7,166	21.14

Table 4.1.5 Continued
 Number of Participants by Plan Type, Plan Size, and Union Status, 1977

	Defined Benefit		Defined Contribution		Other ¹	
	Number of Participants	Row Percent	Number of Participants	Row Percent	Number of Participants	Row Percent
250-499 Participants						
Total	1,535,625	72.91	520,997	24.74	49,451	2.35
Union	675,869	89.60	68,472	9.08	9,956	1.32
Nonunion	839,255	63.69	445,242	33.79	33,147	2.52
Not Classified	20,500	60.07	7,282	21.34	6,346	18.59
500-999 Participants						
Total	2,055,157	77.31	544,538	20.48	58,601	2.21
Union	921,522	90.71	77,525	7.63	16,853	1.66
Nonunion	1,111,254	69.07	464,746	28.89	32,911	2.05
Not Classified	22,380	66.84	2,266	6.77	8,836	26.39
1,000-4,999 Participants						
Total	6,021,942	77.47	1,579,806	20.32	171,310	2.21
Union	3,072,701	88.96	318,900	9.23	62,451	1.81
Nonunion	2,896,555	68.29	1,250,811	29.49	94,446	2.23
Not Classified	52,684	68.25	10,094	13.08	14,411	18.67
5,000-9,999 Participants						
Total	3,250,302	79.21	794,636	19.37	58,174	1.42
Union	1,946,946	87.24	277,442	12.43	7,434	.33
Nonunion	1,291,063	70.33	517,193	28.17	27,493	1.50
Not Classified	12,292	34.59	0	.00	23,247	65.41
10,000+ Participants						
Total	12,977,458	80.36	2,974,028	18.42	197,098	1.22
Union	8,586,569	83.70	1,527,285	14.89	144,492	1.41
Nonunion	4,376,632	75.16	1,446,743	24.84	0	.00
Not Classified	14,256	21.32	0	.00	52,605	78.68
TOTAL						
Total	30,276,178	73.53	10,167,031	24.69	733,718	1.78
Union	16,433,318	86.05	2,409,195	12.61	255,634	1.34
Nonunion	13,649,294	63.05	7,659,938	35.39	338,275	1.56
Not Classified	193,566	44.88	97,898	22.70	139,808	32.42

Source: NBER-DOL EBS1 File (1977)

1. See note 1, table 4.1.3.

Table 4.1.6
 Number of Plans by Plan Type, Industry, and Union Status, 1977

	Defined Benefit		Defined Contribution		Other ¹	
	Number of Plans	Row Percent	Number of Plans	Row Percent	Number of Plans	Row Percent
Agriculture, Forestry and Fishing						
Total	2,307	29.37	5,280	67.23	267	3.40
Union	195	68.66	71	25.00	18	6.34
Nonunion	2,074	28.27	5,067	69.07	195	2.66
Not Classified	37	16.09	141	61.30	52	22.61
Mining						
Total	1,151	46.04	1,272	50.88	77	3.08
Union	350	87.72	49	12.28	0	.00
Nonunion	783	38.92	1,187	59.00	42	2.09
Not Classified	17	19.54	35	40.23	35	40.23
Construction						
Total	6,430	31.16	13,763	66.69	444	2.15
Union	1,134	79.30	245	17.13	51	3.57
Nonunion	5,140	27.52	13,322	71.33	214	1.15
Not Classified	155	29.41	195	37.00	177	33.59
Manufacturing						
Total	34,784	55.04	27,380	43.32	1,034	1.64
Union	11,121	91.51	918	7.55	114	.94
Nonunion	23,124	46.57	25,758	51.88	769	1.55
Not Classified	537	38.69	702	50.58	149	10.73
Transportation, Communications, and Utilities						
Total	4,547	53.18	3,890	45.50	113	1.32
Union	924	82.87	186	16.68	5	.45
Nonunion	3,547	48.98	3,612	49.88	82	1.13
Not Classified	75	39.68	90	47.62	24	12.70

Table 4.1.6 Continued
 Number of Plans by Plan Type, Industry, and Union Status, 1977

	Defined Benefit		Defined Contribution		Other ¹	
	Number of Plans	Row Percent	Number of Plans	Row Percent	Number of Plans	Row Percent
Wholesale Trade						
Total	10,399	33.13	20,449	65.14	542	1.73
Union	471	63.22	273	36.64	1	.13
Nonunion	9,587	32.38	19,680	66.46	343	1.16
Not Classified	339	32.91	495	48.06	196	19.03
Retail Trade						
Total	10,826	30.04	24,252	67.29	963	2.67
Union	308	70.32	112	25.57	18	4.11
Nonunion	10,354	29.84	23,620	68.07	725	2.09
Not Classified	163	18.13	518	57.62	218	24.25
Finance, Insurance, and Real Estate						
Total	11,398	42.59	14,767	55.17	599	2.24
Union	106	51.96	97	47.55	1	.49
Nonunion	11,102	43.07	14,241	55.25	434	1.68
Not Classified	189	24.23	428	54.87	163	20.90
Services						
Total	20,577	15.35	108,808	81.14	4,708	3.51
Union	567	58.27	386	39.67	20	2.06
Nonunion	19,534	15.11	105,808	81.86	3,906	3.02
Not Classified	474	12.25	2,613	67.55	781	20.19
Tax-Exempt Organizations						
Total	4,283	52.17	2,680	32.64	1,247	15.19
Union	315	81.82	65	16.88	5	1.30
Nonunion	3,872	50.46	2,579	33.61	1,222	15.93
Not Classified	94	63.95	35	23.81	18	12.24
Not Classified						
Total	37,756	32.23	75,016	64.04	4,367	3.73
Union	4,918	84.34	803	13.77	110	1.89
Nonunion	31,983	29.77	71,986	67.00	3,476	3.24
Not Classified	854	22.13	2,226	57.68	779	20.19
TOTAL						
Total	144,457	31.65	297,557	65.20	14,360	3.15
Union	20,413	85.15	3,210	13.39	349	1.46
Nonunion	121,105	28.88	286,866	68.40	11,413	2.77
Not Classified	2,939	22.57	7,482	57.47	2,598	19.96

Source: NBER-DOL EBS1 File (1977)

1. See note 1, table 4.1.3

Table 4.1.7
 Number of Participants by Plan Type, Industry, and Union Status, 1977

	Defined Benefit		Defined Contribution		Other ¹	
	Number of Participants	Row Percent	Number of Participants	Row Percent	Number of Participants	Row Percent
Agriculture, Forestry, and Fishing						
Total	106,901	65.52	47,588	29.16	8,675	5.32
Union	33,751	96.95	691	1.98	370	1.06
Nonunion	68,964	58.31	46,205	39.07	3,107	2.63
Not Classified	4,183	41.54	690	6.85	5,197	51.61
Mining						
Total	238,706	66.02	110,551	30.58	12,303	3.40
Union	114,708	86.16	18,433	13.84	0	.00
Nonunion	123,263	80.12	91,575	11.98	12,145	7.89
Not Classified	735	51.22	543	37.84	157	10.94
Construction						
Total	1,985,381	81.98	411,163	16.98	25,281	1.04
Union	1,878,431	91.35	157,818	7.68	20,006	.97
Nonunion	95,821	27.33	251,666	71.79	3,066	.87
Not Classified	11,128	74.13	1,677	11.17	2,207	14.70
Manufacturing						
Total	11,688,198	79.36	2,764,869	18.77	275,339	1.87
Union	6,445,651	88.99	669,475	9.24	128,046	1.77
Nonunion	5,160,814	70.82	2,069,546	28.40	56,714	.78
Not Classified	81,731	41.25	25,846	13.04	90,579	45.82
Transportation, Communications, and Utilities						
Total	2,143,743	85.16	357,858	14.22	15,511	.62
Union	1,593,636	89.83	174,069	9.81	6,259	.35
Nonunion	541,662	74.16	181,766	24.89	6,945	.95
Not Classified	8,443	66.13	2,020	15.82	2,305	18.05

Table 4.1.7 Continued
 Number of Participants by Plan Type, Industry, and Union Status, 1977

	Defined Benefit		Defined Contribution		Other ¹	
	Number of Participants	Row Percent	Number of Participants	Row Percent	Number of Participants	Row Percent
Wholesale Trade						
Total	811,815	67.04	389,977	32.20	9,206	.76
Union	423,696	97.29	11,620	2.67	204	.05
Nonunion	377,930	49.82	372,773	49.14	7,849	1.03
Not Classified	10,188	60.20	5,583	32.99	1,152	6.81
Retail Trade						
Total	1,383,635	51.00	1,304,888	48.10	24,469	.90
Union	643,202	72.01	247,130	27.67	2,879	.32
Nonunion	735,506	41.12	1,044,776	58.41	8,276	.46
Not Classified	4,926	15.78	12,980	41.58	13,312	42.64
Finance, Insurance, and Real Estate						
Total	1,358,580	60.57	827,475	36.89	56,900	2.54
Union	68,270	50.20	66,383	48.82	1,335	.98
Nonunion	1,282,563	61.53	751,986	36.08	49,862	2.39
Not Classified	7,745	34.34	9,105	40.37	5,702	25.28
Services						
Total	1,582,990	59.32	1,026,677	38.47	59,036	2.21
Union	595,014	78.58	158,910	20.99	3,322	.44
Nonunion	977,050	51.98	854,246	45.44	48,493	2.58
Not Classified	10,925	34.50	13,520	42.70	7,220	22.80
Tax-Exempt Organizations						
Total	1,460,906	89.07	122,936	7.49	56,356	3.44
Union	306,343	91.40	26,120	7.79	2,690	.80
Nonunion	1,150,374	88.51	96,553	7.43	52,810	4.06
Not Classified	4,187	78.94	262	4.94	855	16.12
Not Classified						
Total	7,515,325	71.51	2,803,050	26.68	190,642	1.81
Union	4,330,611	81.71	878,541	16.58	90,519	1.71
Nonunion	3,135,342	61.20	1,898,843	37.06	89,004	1.74
Not Classified	49,370	57.31	25,665	29.79	11,118	12.90
TOTAL						
Total	30,276,178	73.53	10,167,031	24.69	733,718	1.78
Union	16,433,318	86.05	2,409,195	12.61	255,634	1.34
Nonunion	13,649,294	63.05	7,659,938	35.39	338,275	1.56
Not Classified	193,566	44.88	97,898	22.70	139,808	32.42

Source: NBER-DOL EBS1 File (1977)

1. See note 1, table 4.1.3.

Table 4.1.8
 Number of Plans by Plan Type and Union Status, 1977

	Defined Benefit		Defined Contribution		Other ¹	
	Number of Plans	Row Percent	Number of Plans	Row Percent	Number of Plans	Row Percent
Union Plans	20,413	85.15	3,210	13.39	349	1.46
Non-Union Plans	121,105	28.88	286,866	68.40	11,413	2.72
Not Classified	2,939	22.57	7,482	57.47	2,598	19.96
TOTAL	144,457	31.65	297,557	65.20	14,360	3.15

Source: NBER-DOL EBS1 File (1977)

1. See note 1, table 4.1.3.

Table 4.1.9
 Number of Participants by Plan Type and Union Status, 1977

	Defined Benefit		Defined Contribution		Other ¹	
	Number of Participants	Percent	Number of Participants	Percent	Number of Participants	Percent
Union Plans	16,433,318	86.05	2,409,195	12.61	255,634	1.34
Non-Union Plans	13,649,294	63.05	7,659,938	35.39	338,275	1.56
Not Classified	193,566	44.88	97,898	22.70	139,808	32.42
TOTAL	30,276,178	73.53	10,167,031	24.69	733,718	1.78

Source: NBER-DOL EBS1 File (1977)

1. See note 1, table 4.1.3.

Table 4.1.10
Number of Plans by Plan Type, Plan Entity, and Union Status, 1977

	Defined Benefit		Defined Contribution		Other ¹	
	Number of Plans	Row Percent	Number of Plans	Row Percent	Number of Plans	Row Percent
Single Employer						
Total	135,993	31.16	287,236	65.83	13,117	3.04
Union	17,440	85.35	2,747	13.44	246	1.20
Nonunion	115,900	28.68	277,543	68.68	10,683	2.64
Not Classified	2,652	22.51	6,945	58.94	2,186	18.55
Multi-Employer						
Total	5,144	57.65	3,417	38.50	361	4.05
Union	2,614	84.40	388	12.63	95	3.07
Nonunion	2,408	44.09	2,918	53.43	135	2.47
Not Classified	121	33.61	110	30.56	129	35.83
Not Classified						
Total	3,320	29.89	6,903	62.16	883	7.95
Union	357	81.69	73	16.70	7	1.60
Nonunion	2,796	28.55	6,404	65.39	594	6.06
Not Classified	165	18.94	425	48.79	281	32.26
TOTAL						
Total	144,457	31.65	297,557	65.20	14,360	3.15
Union	20,413	85.15	3,210	13.39	349	1.46
Nonunion	121,105	28.88	286,866	68.40	11,413	2.72
Not Classified	2,939	22.57	7,482	57.47	2,598	19.96

Source: NBER-DDL EBS1 File (1977)

1. See note 1, table 4.1.3.

Table 4.1.11
Number of Participants by Plan Type, Plan Entity, and Union Status, 1977

	Defined Benefit		Defined Contribution		Other ¹	
	Number of Participants	Row Percent	Number of Participants	Row Percent	Number of Participants	Row Percent
Single Employer						
Total	22,726,402	69.88	9,166,290	28.19	628,225	1.93
Union	9,919,831	83.80	1,733,546	14.64	183,959	1.55
Nonunion	12,647,747	62.28	7,345,166	36.17	315,740	1.55
Not Classified	158,823	42.36	87,577	23.36	128,524	34.28
Multi-Employer						
Total	6,693,176	87.32	889,771	11.61	82,119	1.07
Union	6,266,197	89.62	662,702	9.48	62,731	.90
Nonunion	396,953	63.21	222,021	35.36	8,975	1.43
Not Classified	30,024	66.01	5,046	11.09	10,411	22.89
Not Classified						
Total	856,600	86.44	110,970	11.20	23,374	2.36
Union	247,289	91.87	12,945	4.81	8,943	3.32
Nonunion	604,592	85.05	92,750	13.05	13,559	1.91
Not Classified	4,718	43.43	5,274	48.55	871	8.02
TOTAL						
Total	30,276,178	73.53	10,167,031	24.69	733,718	1.78
Union	16,433,318	86.05	2,409,195	12.61	255,634	1.34
Nonunion	13,649,294	63.05	7,659,938	35.39	338,275	1.56
Not Classified	193,566	44.88	97,898	22.70	139,808	32.42

Source: NBER-DDL EBS1 File (1977)

1. See note 1, table 4.1.3.

4.2 Participation Requirements of Private Pension Plans

For each worker three dates are relevant to pension plan participation: the initial date of plan participation; the date after which service begins to be credited for vesting purposes—which is required by law to be the later of the date of hire or age 22; and the date after which service is credited for benefit accrual. This section analyzes the first of these dates—the initial date of plan participation.

According to ERISA regulations a worker's participation in a private pension plan cannot, in general, be delayed beyond the later of two dates: the date on which the worker reaches age 25 or the date on which she (he) completes 1 year of service.³ The setting of an initial date of "participation" serves three purposes. First, it determines the number of plan participants for reporting purposes, i.e. official reports to the government. Second, it determines the number of participants for the calculation of plan liabilities and funding require-

ments. And third, the initial date of participation is treated by many plans as the date after which workers begin to acquire credited years of service for purposes of benefit accrual. In the Bankers Trust survey of large corporate pension plans, for example, roughly half of the plans counted only years of service after the initial date of plan participation for benefit accrual.⁴ The initial date of participation appears, then, to provide at least an upper bound for the date after which benefit accrual commences.

In addition to regulating minimum age and service requirements, ERISA restricts the use of maximum age limitations for pension plan participation. Under ERISA, a plan's maximum age for participation can restrict the participation of new employees if they are within 5 years of normal retirement age when first employed. More severe maximum age restrictions are disallowed under the law.

Minimum requirements for participation in private pension plans are detailed in tables 4.2.1–4.2.23. These tables examine plans with respect to their minimum age and service requirements; in addition, they describe the number of participants covered by plans with such requirements. The information is cross-tabulated by plan type, plan size, industry, union status, and plan entity. The mean values of minimum age and service requirements as well as distributions of these requirements are provided.

Slightly fewer than 80 percent of plans have either a minimum age requirement, a minimum service requirement, or both (table 4.2.1). Employment, however, is not concentrated in such plans. Only about one-half of covered workers in our 1977 data set were participants in plans with participation requirements (table 4.2.2). While the fractions of defined benefit and defined contribution plans with participation requirements are quite similar, only 40 percent of workers covered by defined benefit plans are working in firms with such requirements, while over 75 percent of workers covered by defined contribution plans are subject to these provisions.

Of plans with age participation requirements over half specify age 25 as the initial age for participation; another 20 percent specify age 21. However, almost three-quarters of plan participants covered by these requirements work in plans that specify age 25 as the critical age for participation (table 4.2.3). Table 4.2.4 examines the distribution of service requirements. Virtually all plans with service requirements specify 3 years or less. One year is the most common requirement; 87 percent of all participants in plans with a service requirement are subject to a 1-year service requirement.

Minimum participation requirements are a much more common feature of small plans than of large plans. For plans with fewer than 25 participants, the fraction with minimum participation requirements is 84 percent. In contrast, for very large plans with 10,000 or more covered workers the fraction is 50 percent (table 4.2.3). A comparison of tables 4.2.5 and 4.2.6 reveals that plan size is an important variable in explaining the relative concentration of covered workers in plans with no eligibility rules. For any given plan size workers are proportionately allocated among firms with and without minimum eligibility requirements. However, over half of the covered workers are employed in large firms with more than 500 workers. These firms account for less than 1 percent of all firms with pension plans, and fewer than half of these firms have minimum eligibility requirements.

In certain industries pension plan minimum eligibility requirements are more prevalent than in others. In the agriculture, wholesale, and retail trade industries the fraction of plans with participation requirements is 5 percent greater than the average; in the mining and manufacturing industries the fraction is roughly 10 percent smaller (table 4.2.7).

Firms with pension plans that are covered by collective bargaining agreements differ greatly from nonunionized plans in terms of participation provisions. Only 40 percent of union plans specify preconditions for participation in the pension plans, and only a third of covered union workers are covered by such plans (tables 4.2.9 and 4.2.10).

Single employer plans are much more likely to require that workers be of a certain age and/or have a certain number of years of service prior to joining the plan: 54 percent of participants in single employer plans are subject to these provisions; the comparable figure for multiemployer plan participants is 17 percent (tables 4.2.11 and 4.2.12).

The picture that emerges from these tables is that eligibility rules are a feature of small, single employer, nonunionized plans, but that a sizable fraction of the pension covered work force, 50 percent, escape these eligibility requirements by finding jobs in large and often unionized firms with no such requirements.

Tables 4.2.1 through 4.2.12 also detail the mean value of these pension eligibility requirements. Age requirements for plans with such requirements average 23.7 years, 1.3 years below the ERISA age of 25. These figures are also fairly similar when weighted by the number of plan participants (table 4.2.13). Defined benefit plans have somewhat stricter participation requirements than defined contribution plans.

Average service requirements tend to increase with plan size although there is little systematic correlation between average participation age and this variable (tables 4.2.5 and 4.2.6). The industry numbers in tables 4.2.8 and 4.2.9 indicate little difference across industries with respect to the size of these requirements. Union age requirements appear on average to be quite similar to nonunion age requirements, although union service requirements are a bit more demanding than are nonunion service requirements (tables 4.2.9 and 4.2.10). Finally, multiemployer plans appear to have larger service requirements for participation than do single employer plans (tables 4.2.11 and 4.2.12).

Tables 4.2.13 to 4.2.23 describe maximum age restrictions of private pension plans. Fewer than a third of private pension plans restrict participation in a plan because a worker is too old (table 4.2.13). Those plans with maximum age limitations account for 43 percent of total plan participants (table 4.2.14). For plans with maximum age limitations, the mean age limitation is 59.9 weighting by plans and 61.8 weighting by participants. Defined benefit plans are 4 times more likely than defined contribution plans to restrict participation on the basis of old age.

The distributions of plans and participants by the plan's maximum age for participation are presented in table 4.2.15. The four maximum ages chosen most often by pension plans are 55, 60, 64, and 65. Table 4.2.15 suggests and table 4.2.16 confirms that maximum participation ages are an increasing function of plan size. Small plans, in general, are about half as likely as large plans to restrict plan participation because a new employee is too old. In considering these numbers, one should perhaps bear in mind that firms have an additional method of restricting the participation of new older workers—simply not to hire the workers.

The service industry appears to be the least restrictive with respect to plan participation of older workers (table 4.2.18). In services only one-fifth of pension plans have maximum age restrictions. In the transportation, communications, and utility industry, on the other hand, close to half the pension plans restrict the participation of newly employed elderly workers. The average maximum participation ages vary by as much as 2 years across industries (tables 4.2.18 and 4.2.19).

Tables 4.2.20 and 4.2.21 suggest that small union plans are more likely than small nonunion plans to have maximum age restrictions, while the opposite relation holds for large plans. The fraction of union plans with maximum ages, 43 percent, exceeds the nonunion fraction of 31 percent. However, less than a third of union plan participants are covered by plans with such provisions while over half of nonunion participants are covered under such provisions.

The figures in tables 4.2.22 and 4.2.23 indicate that large multiemployer plans rarely specify maximum age restrictions, although multiemployer plans in general are slightly more likely than single employer plans to have these restrictions.

Table 4.2.1
Number of Plans by Participation Requirements and Plan Type, 1977

	Age			Service			Age and Service				No Requirements	
	Number	Row Percent	Mean Age	Number	Row Percent	Mean Service	Number	Row Percent	Mean Age	Mean Service	Number	Row Percent
Defined Benefit	16,060	11.12	24.42	23,145	16.02	1.52	70,345	48.70	24.56	1.53	34,904	24.16
Defined Contribution	25,802	8.67	23.09	118,956	39.98	1.82	99,408	33.41	23.16	1.32	53,389	17.94
Other	735	5.12	23.89	5,105	35.56	2.30	2,734	19.04	24.15	1.58	5,784	40.28
TOTAL	42,599	9.33	23.61	147,207	32.26	1.79	172,488	37.80	23.75	1.41	94,078	20.61

Source: NBER-DOL EBS1 File (1977)

Table 4.2.2
Number of Participants by Participation Requirements and Plan Type, 1977

	Age			Service			Age and Service				No Requirements	
	Number	Row Percent	Mean Age	Number	Row Percent	Mean Service	Number	Row Percent	Mean Age	Mean Service	Number	Row Percent
Defined Benefit	1,093,740	3.61	24.52	4,565,437	15.08	1.12	6,178,060	20.41	24.93	1.18	18,438,940	60.90
Defined Contribution	315,060	3.10	22.42	4,996,455	49.14	1.26	2,145,612	21.10	23.22	1.24	2,709,903	26.65
Other	17,912	2.44	22.23	225,642	30.75	1.98	157,292	21.44	24.50	1.18	332,869	45.37
TOTAL	1,426,713	3.46	24.03	9,787,535	23.77	1.21	8,480,965	20.60	24.49	1.19	21,481,712	52.17

Source: NBER-DOL EBS1 File (1977)

Table 4.2.3
Distribution of Participation Requirement Ages, 1977

Age	Plans		Participants	
	Number	Column Percent	Number	Column Percent
16	190	.09	8,990	.09
17	164	.08	2,043	.02
18	9,551	4.44	355,393	3.59
19	1,848	.86	33,159	.33
20	6,273	2.92	211,249	2.13
21	43,623	20.29	891,115	8.99
22	6,857	3.19	224,003	2.26
23	4,991	2.32	123,358	1.25
24	11,826	5.50	254,074	2.56
25	117,725	54.75	7,188,451	72.56
26	409	.19	8,119	.08
27	684	.32	34,751	.35
28	886	.41	21,415	.22
29	210	.10	2,082	.02
30	9,790	4.55	548,860	5.54
Total	215,027	100.00	9,907,062	100.00

Source: NBER-DOL EBS1 File (1977)

Table 4.2.4
Distribution of Years of Service Participation Requirements, 1977

Years of Service	Plans		Participants	
	Number	Column Percent	Number	Column Percent
1	205,090	64.34	15,797,721	86.76
2	40,586	12.73	1,096,526	6.02
3	72,891	22.87	1,306,115	7.17
4	17	.01	175	.00
5	186	.06	8,759	.05
Total	318,770	100.00	18,209,296	100.00

Source: NBER-DOL EBS1 File (1977)

Table 4.2.5
Number of Plans by Participation Requirements and Plan Size, 1977

	Age			Service			Age and Service				No Requirements	
	Number	Row Percent	Mean Age	Number	Row Percent	Mean Service	Number	Row Percent	Mean Age	Mean Service	Number	Row Percent
1-24 Participants	36,855	10.33	23.48	119,490	33.49	1.88	140,157	39.29	23.67	1.42	60,252	16.89
25-49 Participants	2,170	6.25	24.07	11,235	32.38	1.43	13,195	38.02	23.55	1.38	8,102	23.35
50-99 Participants	2,380	6.35	24.96	9,730	25.95	1.36	11,917	31.78	24.40	1.37	13,475	35.93
100-249 Participants	583	4.53	24.15	3,316	25.76	1.31	3,708	28.80	24.32	1.30	5,268	40.92
250-499 Participants	261	4.35	23.49	1,446	24.09	1.27	1,568	26.12	24.57	1.25	2,727	45.43
500-999 Participants	170	4.49	24.04	817	21.59	1.21	924	24.42	24.73	1.16	1,873	49.50
1,000-4,999 Participants	144	3.88	24.10	837	22.57	1.15	837	22.57	24.68	1.10	1,890	50.97
5,000-9,999 Participants	23	3.81	24.71	217	35.93	1.09	100	16.56	24.64	1.10	264	43.71
10,000+ Participants	9	2.09	24.58	117	27.21	1.15	79	18.37	24.79	1.05	225	52.33
TOTAL	42,599	9.33	23.61	147,207	32.26	1.79	172,488	37.80	23.75	1.41	94,078	20.61

Source: NBER-DOL EBS1 File (1977)

Table 4.2.6
Number of Participants by Participation Requirements and Plan Size, 1977

	Age			Service			Age and Service				No Requirements	
	Number	Row Percent	Mean Age	Number	Row Percent	Mean Service	Number	Row Percent	Mean Age	Mean Service	Number	Row Percent
1-24 Participants	202,072	8.99	23.35	692,702	30.83	1.61	975,047	43.40	23.52	1.43	376,940	16.78
25-49 Participants	73,745	6.15	23.99	382,130	31.89	1.43	452,585	37.77	23.60	1.38	289,817	24.19
50-99 Participants	188,037	6.43	25.07	743,785	25.44	1.36	918,260	31.40	24.46	1.38	1,074,010	36.73
100-249 Participants	90,972	4.51	24.10	514,641	25.49	1.30	571,603	28.32	24.37	1.30	841,444	41.68
250-499 Participants	89,884	4.27	23.49	507,220	24.08	1.27	546,961	25.97	24.55	1.25	962,007	45.68
500-999 Participants	118,536	4.46	23.98	573,994	21.59	1.20	648,247	24.39	24.74	1.15	1,317,507	49.56
1,000-4,999 Participants	297,977	3.83	24.22	1,731,188	22.27	1.14	1,742,714	22.42	24.73	1.10	4,001,177	51.47
5,000-9,999 Participants	186,643	4.55	24.55	1,405,716	34.26	1.09	700,819	17.08	24.68	1.09	1,809,932	44.11
10,000+ Participants	178,844	1.11	23.10	3,236,157	20.04	1.13	1,924,717	11.92	24.86	1.02	10,808,865	66.93
TOTAL	1,426,713	3.46	24.03	9,787,535	23.77	1.21	8,480,965	20.60	24.49	1.19	21,481,712	52.17

Source: NBER-DOL EBS1 File (1977)

Table 4.2.7
Number of Plans by Participation Requirements and Industry, 1977

	Age			Service			Age and Service				No Requirements	
	Number	Row Percent	Mean Age	Number	Row Percent	Mean Service	Number	Row Percent	Mean Age	Mean Service	Number	Row Percent
Agriculture, Forestry, and Fishing	755	9.62	23.39	3,129	39.85	2.11	2,776	35.35	23.81	1.42	1,192	15.18
Mining	168	6.73	23.05	679	27.19	1.41	754	30.20	23.06	1.29	896	35.88
Construction	1,701	8.24	23.30	5,915	28.66	1.55	9,005	43.64	23.73	1.52	4,015	19.46
Manufacturing	3,939	6.23	24.02	16,501	26.11	1.42	22,895	36.23	23.85	1.45	19,860	31.43
Transportation, Communications, and Utilities	676	7.91	24.29	2,087	24.41	1.59	4,200	49.13	23.99	1.41	1,586	18.55
Wholesale Trade	2,601	8.29	24.27	8,752	27.89	1.50	15,059	47.98	23.66	1.48	4,974	15.85
Retail Trade	3,070	8.52	23.38	10,367	28.77	1.76	17,481	48.51	23.43	1.51	5,121	14.21
Finance, Insurance and Real Estate	2,472	9.24	24.50	7,234	27.03	1.64	12,062	45.07	24.27	1.39	4,994	18.66
Services	17,845	13.31	23.34	52,314	39.01	1.98	39,911	29.76	23.62	1.26	24,020	17.91
Tax-Exempt Organizations	585	7.13	24.30	1,418	17.28	1.40	4,042	49.24	24.64	1.40	2,163	26.35
Not Classified	8,782	7.50	23.58	38,806	33.13	1.81	44,298	37.82	23.72	1.44	25,251	21.56
TOTAL	42,599	9.33	23.61	147,207	32.26	1.79	172,488	37.80	23.75	1.41	94,078	20.61

Source: NBER-DOL EBS1 File (1977)

Table 4.2.8
Number of Participants by Participation Requirements and Industry, 1977

	Age			Service			Age and Service				No Requirements	
	Number	Row Percent	Mean Age	Number	Row Percent	Mean Service	Number	Row Percent	Mean Age	Mean Service	Number	Row Percent
Agriculture, Forestry, and Fishing	4,890	3.00	23.47	61,068	37.43	1.24	44,818	27.47	23.95	1.25	52,385	32.11
Mining	8,429	2.33	20.37	111,004	30.70	1.08	51,118	14.14	24.63	1.07	191,006	52.83
Construction	22,750	.94	22.61	596,424	24.63	1.07	118,329	4.89	23.59	1.38	1,684,319	69.55
Manufacturing	398,387	2.70	24.55	3,276,311	22.24	1.23	2,356,715	16.00	24.52	1.15	8,696,991	59.05
Transportation, Communications, and Utilities	87,564	3.47	23.76	459,230	18.21	1.07	484,009	19.19	24.25	1.10	1,491,306	59.13
Wholesale Trade	65,352	5.40	24.58	258,978	21.39	1.38	309,766	25.58	23.98	1.33	576,901	47.64
Retail Trade	108,155	3.99	24.38	1,099,245	40.52	1.10	762,010	28.09	24.12	1.24	743,579	27.41
Finance, Insurance and Real Estate	150,019	6.69	25.45	535,339	23.87	1.29	907,956	40.48	24.63	1.12	649,639	28.96
Services	163,798	6.14	24.25	718,213	26.91	1.43	778,531	29.17	24.48	1.28	1,008,159	37.78
Tax-Exempt Organizations	36,731	2.24	22.85	157,348	9.59	1.12	177,065	10.80	25.03	1.24	1,269,053	77.37
Not Classified	380,634	3.62	22.98	2,519,370	23.97	1.21	2,490,642	23.70	24.66	1.20	5,118,369	48.70
TOTAL	1,426,713	3.46	24.03	9,787,535	23.77	1.21	8,480,965	20.60	24.49	1.19	21,481,712	52.17

Source: NBER-DOL EBS1 File (1977)

Table 4.2.9
Number of Plans by Participation Requirements and Union Status, 1977

	Age			Service			Age and Service				No Requirements	
	Number	Row Percent	Mean Age	Number	Row Percent	Mean Service	Number	Row Percent	Mean Age	Mean Service	Number	Row Percent
Union Plans	1,003	4.18	23.77	4,335	18.09	1.26	3,453	14.41	24.50	1.29	15,179	63.32
Nonunion Plans	40,373	9.63	23.59	139,999	33.38	1.80	164,811	39.30	23.73	1.41	74,199	17.69
Not Classified	1,222	9.39	23.90	2,872	22.07	1.77	4,223	32.44	23.82	1.48	4,699	36.10
TOTAL	42,599	9.33	23.61	147,207	32.26	1.79	172,488	37.80	23.75	1.41	94,078	20.61

Source: NBER-DOL EBS1 File (1977)

Table 4.2.10
Number of Participants by Participation Requirements and Union Status, 1977

	Age			Service			Age and Service				No Requirements	
	Number	Row Percent	Mean Age	Number	Row Percent	Mean Service	Number	Row Percent	Mean Age	Mean Service	Number	Row Percent
Union Plans	371,316	1.94	22.86	3,790,628	19.85	1.10	2,039,932	10.68	24.79	1.06	12,896,270	67.53
Nonunion Plans	1,045,288	4.83	24.44	5,869,577	27.11	1.28	6,357,887	29.37	24.40	1.23	8,374,753	38.69
Not Classified	10,108	2.34	23.74	127,329	29.52	1.18	83,146	19.28	24.02	1.36	210,688	48.85
TOTAL	1,426,713	3.46	24.03	9,787,535	23.77	1.21	8,480,965	20.60	24.49	1.19	21,481,712	52.17

Source: NBER-DOL EBS1 File (1977)

Table 4.2.11
Number of Plans by Participation Requirements and Plan Entity, 1977

	Age			Service			Age and Service				No Requirements	
	Number	Row Percent	Mean Age	Number	Row Percent	Mean Service	Number	Row Percent	Mean Age	Mean Service	Number	Row Percent
Single Employer	41,107	9.42	23.61	141,526	32.43	1.79	165,847	38.01	23.74	1.41	87,864	20.14
Multi Employer	366	4.10	23.63	2,123	23.80	1.54	2,797	31.36	24.01	1.38	3,633	40.73
Not Classified	1,124	10.12	23.42	3,556	32.03	1.79	3,843	34.61	23.82	1.43	2,580	23.24
TOTAL	42,599	9.33	23.61	147,207	32.26	1.79	172,488	37.80	23.75	1.41	94,078	20.61

Source: NBER-DOL EBS1 File (1977)

Table 4.2.12
Number of Participants by Participation Requirements and Plan Entity, 1977

	Age			Service			Age and Service				No Requirements	
	Number	Row Percent	Mean Age	Number	Row Percent	Mean Service	Number	Row Percent	Mean Age	Mean Service	Number	Row Percent
Single Employer	1,218,623	3.75	24.32	8,085,509	24.86	1.24	8,149,062	25.06	24.50	1.19	15,067,721	46.33
Multi Employer	182,514	2.38	22.06	1,512,963	19.74	1.05	222,033	2.90	24.15	1.25	5,747,554	74.98
Not Classified	25,575	2.58	24.25	189,061	19.08	1.22	109,869	11.09	24.46	1.27	666,437	67.25
TOTAL	1,426,713	3.46	24.03	9,787,535	23.77	1.21	8,480,965	20.60	24.49	1.19	21,481,712	52.17

Source: NBER-DOL EBS1 File (1977)

Table 4.2.13
Number of Plans by Maximum Age for Plan Participation and Plan Type, 1977

	With Maximum Age			Without Maximum Age	
	Number	Row Percent	Mean Age	Number	Row Percent
Defined Benefit	91,794	63.54	59.40	52,662	36.46
Defined Contribution	50,080	16.83	60.65	247,476	83.17
Other	2,775	19.33	62.28	11,584	80.67
TOTAL	144,650	31.70	59.89	311,723	68.30

Source: NBER-DOL EBS1 File (1977)

Table 4.2.14
Number of Participants by Maximum Age for Plan Participation and Plan Type, 1977

	With Maximum Age			Without Maximum Age	
	Number	Row Percent	Mean Age	Number	Row Percent
Defined Benefit	15,571,307	51.43	61.65	14,704,870	48.57
Defined Contribution	1,648,388	16.21	63.19	8,518,642	83.79
Other	299,509	40.82	60.95	434,207	59.18
TOTAL	17,519,205	42.55	61.78	23,657,720	57.45

Source: NBER-DOL EBS1 File (1977)

Table 4.2.15
Distribution of Maximum Ages for Plan Participation, 1977

	Plans		Participants	
	Number	Percent	Number	Column Percent
41	1	.00	247	.00
42	0	.00	0	.00
43	0	.00	0	.00
44	0	.00	0	.00
45	112	.06	4,006	.02
46	17	.01	1,505	.01
47	2	.00	449	.00
48	58	.03	3,822	.02
49	140	.08	7,158	.04
50	1,502	.85	204,764	1.17
51	206	.12	10,019	.06
52	286	.16	25,995	.15
53	212	.12	60,369	.34
54	1,600	.90	64,969	.37
55	33,600	18.98	1,357,559	7.74
56	7,011	3.96	164,948	.94
57	1,474	.83	75,003	.43
58	1,672	.94	136,163	.78
59	5,327	3.01	525,506	3.00
60	47,251	26.70	6,200,009	35.36
61	3,614	2.04	157,311	.90
62	2,652	1.50	154,438	.88
63	1,509	.85	181,665	1.04
64	35,952	20.31	1,179,421	6.73
65	25,613	14.47	6,336,796	36.14
66	805	.45	19,555	.11
67	237	.13	14,105	.08
68	432	.24	483,084	2.76
69	373	.21	6,540	.04
70	3,128	1.77	112,515	.64
71	1,409	.80	11,868	.07
72	231	.13	5,635	.03
73	35	.02	280	.00
74	88	.05	2,674	.02
75	381	.22	8,030	.05
76	0	.00	0	.00
77	0	.00	0	.00
78	17	.01	1,050	.01
79	20	.01	1,176	.01
80	23	.01	15,043	.09
Total	176,990	100.00	17,533,677	100.00

Source: NBER-DOL EBS1 File (1977)

Table 4.2.16
Number of Plans by Maximum Age for Plan Participation and Plan Size, 1977

	With Maximum Age			Without Maximum Age	
	Number	Row Percent	Mean Age	Number	Row Percent
1-24 Participants	99,522	27.90	59.61	257,232	72.10
25-49 Participants	13,195	38.02	60.53	21,507	61.98
50-99 Participants	18,550	49.46	60.40	18,952	50.54
100-249 Participants	6,092	47.31	60.32	6,784	52.69
250-499 Participants	3,071	51.17	60.57	2,931	48.83
500-999 Participants	1,878	49.63	60.56	1,906	50.37
1,000-4,999 Participants	1,843	49.72	61.51	1,864	50.28
5,000-9,999 Participants	313	51.74	62.06	292	48.26
10,000+ Participants	182	42.13	62.14	250	57.87
TOTAL	144,650	31.70	59.89	311,723	68.30

Source: NBER-DOL EBS1 File (1977)

Table 4.2.17
Number of Participants by Maximum Age for Plan Participation and Plan Size, 1977

	With Maximum Age			Without Maximum Age	
	Number	Row Percent	Mean Age	Number	Row Percent
1-24 Participants	720,317	32.06	59.88	1,526,455	67.94
25-49 Participants	456,505	38.10	60.52	741,772	61.90
50-99 Participants	1,476,615	50.50	60.51	1,447,477	49.50
100-249 Participants	963,247	47.72	60.31	1,055,413	52.28
250-499 Participants	1,083,299	51.44	60.55	1,022,774	48.56
500-999 Participants	1,327,265	49.93	60.54	1,331,030	50.07
1,000-4,999 Participants	3,908,158	50.28	61.65	3,864,898	49.72
5,000-9,999 Participants	2,076,478	50.61	62.01	2,026,633	49.39
10,000+ Participants	5,507,318	34.10	63.32	10,641,265	65.90
TOTAL	17,519,205	42.55	61.78	23,657,720	57.45

Source: NBER-DOL EBS1 File (1977)

Table 4.2.18
Number of Plans by Maximum Age for Plan Participation and Industry, 1977

	With Maximum Age			Without Maximum Age	
	Number	Row Percent	Mean Age	Number	Row Percent
Agriculture, Forestry, and Fishing	2,524	32.14	60.98	5,329	67.86
Mining	868	34.73	61.83	1,631	65.27
Construction	6,553	31.76	59.52	14,083	68.24
Manufacturing	26,759	42.34	60.03	36,437	57.66
Transportation, Communications, and Utilities	4,055	47.43	60.42	4,494	52.57
Wholesale Trade	10,904	34.74	59.43	20,484	65.26
Retail Trade	12,132	33.66	59.87	23,908	66.34
Finance, Insurance, and Real Estate	10,125	37.83	59.82	16,638	62.17
Services	27,615	20.59	59.40	106,477	79.41
Tax-Exempt Organizations	4,153	50.59	60.73	4,056	49.41
Not Classified	38,957	33.26	60.09	78,182	66.74
TOTAL	144,650	31.70	59.89	311,723	68.30

Source: NBER-DOL EBS1 File (1977)

Table 4.2.19
Number of Participants by Maximum Age for Plan Participation and Industry, 1977

	With Maximum Age			Without Maximum Age	
	Number	Row Percent	Mean Age	Number	Row Percent
Agriculture, Forestry, and Fishing	90,395	55.40	62.03	72,768	44.60
Mining	212,732	58.84	62.31	148,827	41.16
Construction	181,911	7.51	62.42	2,239,913	92.49
Manufacturing	7,707,391	52.33	62.12	7,021,014	47.67
Transportation, Communications, and Utilities	977,870	38.85	62.54	1,539,240	61.15
Wholesale Trade	423,317	34.96	60.99	787,681	65.04
Retail Trade	912,734	33.64	61.00	1,800,257	66.36
Finance, Insurance, and Real Estate	1,287,715	57.41	61.01	955,238	42.59
Services	1,012,102	37.92	60.12	1,656,601	62.08
Tax-Exempt Organizations	316,944	19.32	61.80	1,323,253	80.68
Not Classified	4,396,091	41.83	61.82	6,112,925	58.17
TOTAL	17,519,205	42.55	61.78	23,657,720	57.45

Source: NBER-DOL EBS1 File (1977)

Table 4.2.20
Number of Plans by Maximum Age for Plan Participation and Union Status, 1977

	With Maximum Age			Without Maximum Age	
	Number	Row Percent	Mean Age	Number	Row Percent
Union Plans	10,386	43.33	60.64	13,584	56.67
Nonunion Plans	131,121	31.27	59.83	288,262	68.73
Not Classified	3,142	24.14	59.86	9,876	75.86
TOTAL	144,650	31.70	59.89	311,723	68.30

Source: NBER-DOL EBS1 File (1977)

Table 4.2.21
Number of Participants by Maximum Age for Plan Participation and Union Status, 1977

	With Maximum Age			Without Maximum Age	
	Number	Row Percent	Mean Age	Number	Row Percent
Union Plans	6,298,917	32.98	62.22	12,799,230	67.02
Nonunion Plans	11,041,961	51.01	61.55	10,605,545	48.99
Not Classified	178,327	41.35	61.07	252,945	58.65
TOTAL	17,519,205	42.55	61.78	23,657,720	57.45

Source: NBER-DOL EBS1 File (1977)

Table 4.2.22
Number of Plans by Maximum Age for Plan Participation and Plan Entity, 1977

	With Maximum Age			Without Maximum Age	
	Number	Row Percent	Mean Age	Number	Row Percent
Single Employer	137,983	31.62	59.87	298,362	68.38
Multi Employer	3,061	34.32	60.69	5,859	65.68
Not Classified	3,605	32.46	59.80	7,501	67.54
TOTAL	144,650	31.70	59.89	311,723	68.30

Source: NBER-DOL EBS1 File (1977)

Table 4.2.23
Number of Participants by Maximum Age for Plan Participation and Plan Entity, 1977

	With Maximum Age			Without Maximum Age	
	Number	Row Percent	Mean Age	Number	Row Percent
Single Employer	16,659,667	51.23	61.78	15,861,249	48.77
Multi Employer	501,767	6.55	62.50	7,163,298	93.45
Not Classified	357,770	36.10	60.85	633,173	63.90
TOTAL	17,519,205	42.55	61.78	23,657,720	57.45

Source: NBER-DOL EBS1 File (1977)

4.3 Vesting Provisions of Private Pension Plans

Roughly 14 percent of U.S. private pension plans immediately vest their employees' pension benefits. The remaining plans specify rules on the basis of years of service and/or age that determine the accumulation of vested benefits. Vested benefits are the nonforfeitable benefits a worker is entitled to receive based on past employment. Vested benefits are legal assets owned by the employee regardless of whether she (he) continues to work for her (his) current employer unless she (he) dies prior to reaching retirement age. In the event of pension plan termination vested benefits represent a senior claim on the fund's assets; if pension assets are insufficient to meet vested liabilities, a portion of the firm's assets may be attached to cover these liabilities. If these two sources of funds are insufficient to cover vested liabilities, the Pension's Benefit Guaranty Corporation (PBGC) insures the residual vested liability. Nonvested accrued pension benefits, on the other hand, are paid in the event of plan termination only to the extent that pension fund assets exceed vested liabilities. ERISA provides certain legal safeguards with respect to benefit vesting. In particular ERISA stipulates that accrued benefits based on an employee's own contribution to the pension fund are immediately vested. Benefits accrued on the basis of the employer's contributions need not be immediately vested. However, vesting must accrue with increased service.

ERISA requires that pension vesting provisions be at least as liberal as the following rule: An employee with 10 years of service has at least a 50 percent right to accrued benefits derived from the employer's contributions. In addition, employees with 10 years of service who are 50 percent vested are entitled to at least a 10 percent annual increase in their vested rights until 100 percent vesting is reached.

While the ERISA requirements are sufficiently broad to accommodate a large number of different pension vesting rules, roughly three-quarters of U.S. private pension plans specify one of the nine vesting rules analyzed in the tables discussed below. These rules are of two types. The first is complete vesting after a certain number of years of service with no partial vesting during earlier years of service. This type of vesting is frequently referred to as "cliff" vesting. The second type of vesting rule provides for partial vesting that gradually increases until full vesting is reached. This is often referred to as "graded" vesting. In addition to immediate vesting, the cliff vesting rules include vesting after 3, 5, and 10 years.

Three graded vesting rules commonly used are the "rule of 45," the "25-5-10 rule," and the "40-5-10 rule." The "rule of 45" specifies that an employee with 5 years of service becomes 50 percent vested when the sum of her (his) age plus years of service equals or exceeds 45, with benefits vested an additional 10 percent for each subsequent year of service. The "25-5-10 rule" provides for 25 percent vesting after 5 years with 5 percent additional vesting for each of the next 5 years, followed by 10 percent additional vesting for each of the next 5 years. The "40-5-10 rule" involves 40 percent vesting after 4 years, 5 percent for each of the next 2 years, and 10 percent for each of 5 years thereafter.

Most of the remaining plans with graded vesting provisions can be classified as either "5-year graded" or "10-year graded." A "5-year graded" formula specifies that an employee is to be vested an additional 20 percent for each year of service with full vesting after 5 years. Similarly, "10-year graded" takes place at a rate of 10 percent per year with full vesting at 10 years. The "10-year graded" formulae, however, do not always begin partial vesting immediately; some specify 30 percent vesting after 3 years with 10 percent per year thereafter, and some specify 50 percent vesting at 5 years with 10 percent per year thereafter; in both cases full vesting is achieved within 10 years.

Tables 4.3.1–4.3.10 present the distribution of plans by vesting formulae as well as the number of participants covered by these formulae. The formulae are cross-tabulated by plan type, plan size, industry, union status, and plan entity. For plans which do not immediately vest their workers, the most common vesting provision is cliff vesting after 10 years of service (18.29 percent of all plans). These plans tend to be quite large. They cover over 50 percent of all private pension participants. The next most common provision is "10-year graded" (16.90 percent). These plans, however, cover only 4.83 percent of private pension participants.

The numbers in table 4.3.1 indicate that only 8.17 percent of defined benefit plans provide immediate vesting; in contrast, 23 percent of defined contribution plans immediately vest their covered workers. Defined contribution plans are much more likely to permit partial vesting: 3.75 percent specify such formulae while the corresponding number for defined benefit plans is 30.61 percent. The only exceptions are those plans specifying the "25-5-10 rule." Defined benefit plans are more likely to have this type of vesting provision, 9.01 percent of plans compared with 3.40 percent for defined contribution plans.

Plan size appears to be a central determinant of vesting formulae. The smallest plans, those with less than 25 participants, are more than 3 times as likely to vest their workers' benefits immediately. The probability that a plan has a 10-year cliff vesting provision is highly correlated with plan size: 69.43 percent of the largest plans have this provision while the corresponding figure for smaller plans is only 11.40 percent. Smaller plans appear to have a higher probability of using one of the five graded vesting provisions than do larger plans. A percentage of 38.59 of plans with less than 25 participants specify one of these formulae. For plans with over 10,000 participants, the figure is only 7.11 percent.

Tables 4.3.5 and 4.3.6 tabulate this information by industry. Plans in the agriculture and services industries are more likely to provide immediate vesting: 24.63 percent and 21.55 percent of plans in these respective industries specify immediate vesting. But these plans

tend to be quite small, covering only 5.63 and 6.25 percent of covered workers, respectively. While there are substantial variations across industries in the fraction of plans with each formula, there is little variation across industries in the fraction of participants covered by each formula; this suggests that most of the differences across industries occur in very small plans.

Tables 4.3.7 and 4.3.8 demonstrate that nonunion plans and nonunion workers are more likely to have immediate vesting while union plans and union workers are more likely to have 10-year cliff vesting. Nonunion workers are also slightly more likely to be covered by one of the five graded vesting formulae (15.76 percent versus 7.91 percent).

Tables 4.3.9 and 4.3.10 tabulate these vesting data by plan entity. Single employer plans are more than twice as likely to specify immediate vesting, but on a participant-weighted basis this discrepancy disappears. Participants of single employer plans are also more likely to be covered by "10-year graded" vesting rules, while multiemployer plan participants are more likely to be covered by the "40-5-10 rule."

Tables 4.3.11 through 4.3.20 evaluate plans' relative vesting generosity by calculating the mean years until an employee is fully vested. For plans that relate an employee's vesting status to her (his) age, the calculation assumes that the typical employee is hired at age 30. On average, defined contribution plans fully vest their employees 3 years earlier than defined benefit plans. Smaller plans also tend to fully vest their employees sooner than do plans in the services and agriculture industries. Nonunion plans fully vest their participants after an average of 8.97 years; union plans fully vest after an average of 9.73 years. There is little variation in the mean years until full vesting by plan entity.

Some plans may appear to be less generous than others because they delay full vesting for a longer length of time, when in fact they have quite liberal provisions for partial vesting in the years prior to full vesting. Table 4.3.21 classifies plans and workers according to whether workers are partially or fully vested after various years of service. For partially vested workers the table presents the mean amount vested—the average fraction of the worker's accrued benefit that is nonforfeitable after each of the specified years of service.

Tables 4.3.21 and 4.3.22 tabulate this information by plan type. After 5 years of service, a much larger fraction of defined contribution participants are fully vested than are defined benefit participants. In addition, after 5 years of service 26.83 percent of defined contribution workers are partially vested while only 9.40 percent of defined benefit workers have accrued any vested benefits. The mean amount vested for partially vested defined contribution participants is higher than that for partially vested defined benefit participants: 44.34 percent versus 37.60 percent.

Workers in very small plans face the most liberal partial and full vesting provisions over their first 5 years of service (tables 4.3.23 and 4.3.24). The percent of small plan participants that are fully vested is 31.10, and the percent that are partially vested after 5 years of service is 44.70. The corresponding figures for plans with more than 10,000 participants are 10.83 and 10.19 percent, respectively. This is consistent with the finding in table 4.3.3 that larger plans are much more likely to have a 10-year cliff vesting formula.

Slightly more workers in the transportation and service industries are fully vested after 5 years of service (tables 4.3.25 and 4.3.26); this fact is offset, however, by the small fraction of these workers that are partially vested after 5 years of service. In the case of transportation workers, only 2.68 percent of covered workers are partially vested within the first 5 years of service. Overall, mining and construction workers are the most likely to be partially vested after 5 years (35.04 and 35.30 percent of covered workers, respectively), while workers in the manufacturing and transportation industries are the least likely to be partially vested (10.87 and 2.68 percent, respectively).

Tables 4.3.27 and 4.3.28 indicate that nonunion plans have more generous vesting provisions with respect to both full and partial vesting. After 5 years of service 18.55 percent of nonunion workers are fully vested compared with 6.53 percent of union workers; and 17.24 percent of nonunion workers but only 9.31 percent of union workers are partially vested during the first 5 years of service. On a plan-weighted basis, multiemployer plans are

more likely to partially vest their workers in years prior to full vesting (table 4.3.29), but are equally likely to provide partial vesting when the data are tabulated on a participant-weighted basis (table 4.3.30).

ERISA permits plans to exclude years of service completed prior to age 22 when determining vesting. Tables 4.3.31 through 4.3.40 indicate that the large majority of plans, 88.30 percent, count all years of service for purposes of determining an employee's vesting status. This fraction varies slightly across plan types, plan sizes, industries, union status, and plan entity.

Table 4.3.1
Number of Plans by Vesting Formulae and Plan Type, 1977

	Full and Immediate	Full at 3 Years	Full at 5 Years	Full at 10 Years	Rule of 45	25-5-10 Rule	40-5-10 Rule	5 Year Graded	10 Year Graded	Not Classified
<u>Defined Benefit</u>										
Number	11,799	1,318	1,328	40,773	720	12,999	3,750	6,175	20,520	44,961
Percent	8.17	.91	.92	28.25	.50	9.01	2.60	4.28	14.22	31.15
<u>Defined Contribution</u>										
Number	51,236	14,039	10,475	39,640	2,519	10,025	15,416	27,947	53,761	70,150
Percent	17.36	4.76	3.55	13.43	.85	3.40	5.22	9.47	18.21	23.76
<u>Total</u>										
Number	63,035	15,358	11,803	80,413	3,239	23,025	19,166	34,122	74,281	115,112
Percent	14.34	3.49	2.69	18.29	.74	5.24	4.36	7.76	16.90	26.19

Source: NBER-DOL EBS1 Subsample (1977)

Table 4.3.2
Number of Participants by Vesting Formulae and Plan Type, 1977

	Full and Immediate	Full at 3 Years	Full at 5 Years	Full at 10 Years	Rule of 45	25-5-10 Rule	40-5-10 Rule	5 Year Graded	10 Year Graded	Not Classified
<u>Defined Benefit</u>										
Number	182,627	263,794	296,385	19,190,647	175,439	895,042	609,112	58,701	587,602	7,274,347
Percent	.62	.89	1.00	64.98	.59	3.03	2.06	.20	1.99	24.63
<u>Defined Contribution</u>										
Number	1,195,940	378,460	710,317	1,966,964	53,575	321,349	176,669	531,489	1,275,467	2,415,954
Percent	13.25	4.19	7.87	21.79	.59	3.56	1.96	5.89	14.13	26.77
<u>Total</u>										
Number	1,378,567	642,254	1,006,702	21,157,612	229,014	1,216,392	785,782	590,191	1,863,070	9,690,301
Percent	3.58	1.67	2.61	54.87	.59	3.15	2.04	1.53	4.83	25.13

Source: NBER-DOL EBS1 Subsample (1977)

Table 4.3.3
Number of Plans by Vesting Formulae and Plan Size, 1977

	Full and Immediate	Full at 3 Years	Full at 5 Years	Full at 10 Years	Rule of 45	25-5-10 Rule	40-5-10 Rule	5 Year Graded	10 Year Graded	Not Classified
<u>1-24 Participants</u>										
Number	59,335	14,219	10,095	39,064	2,283	16,319	18,610	33,855	61,151	87,724
Percent	17.32	4.15	2.95	11.40	.67	4.76	5.43	9.88	17.85	25.60
<u>25-49 Participants</u>										
Number	1,818	215	1,005	10,835	0	2,760	215	0	7,335	9,231
Percent	5.44	.64	3.01	32.43	.00	8.26	.64	.00	21.95	27.63
<u>50-99 Participants</u>										
Number	435	648	0	16,313	714	2,589	0	0	4,648	11,467
Percent	1.18	1.76	.00	44.31	1.94	7.03	.00	.00	12.63	31.15
<u>100-249 Participants</u>										
Number	851	56	222	5,941	211	532	156	156	794	3,604
Percent	6.80	.45	1.77	47.44	1.68	4.25	1.25	1.25	6.34	28.78

Table 4.3.3 Continued
 Number of Plans by Vesting Formulae and Plan Size, 1977

	Full and Immediate	Full at 3 Years	Full at 5 Years	Full at 10 Years	Rule of 45	25-5-10 Rule	40-5-10 Rule	5 Year Graded	10 Year Graded	Not Classified
250-499 Participants										
Number	314	115	151	2,999	0	405	178	5	157	1,511
Percent	5.38	1.97	2.59	51.40	.00	6.94	3.05	.09	2.69	25.90
500-999 Participants										
Number	135	0	143	2,075	18	364	0	18	77	803
Percent	3.72	.00	3.94	57.12	.50	10.02	.00	.50	2.12	22.10
1,000-4,999 Participants										
Number	109	99	158	2,473	0	8	0	73	81	613
Percent	3.02	2.74	4.37	68.43	.00	.22	.00	2.02	2.24	16.96
5,000-9,999 Participants										
Number	12	0	12	417	8	5	3	10	23	97
Percent	2.04	.00	2.04	71.04	1.36	.85	.51	1.70	3.92	16.52
10,000+ Participants										
Number	22	4	14	293	4	9	1	3	13	59
Percent	5.21	.95	3.32	69.43	.95	2.13	.24	.71	3.08	13.98
TOTAL										
Number	63,035	15,358	11,803	80,413	3,239	23,025	19,166	34,122	74,281	115,122
Percent	14.34	3.49	2.69	18.29	.74	5.24	4.36	7.76	16.90	26.19

Source: NBER-DOL EBS1 Subsample (1977)

Table 4.3.4
 Number of Participants by Vesting Formulae and Plan Size, 1977

	Full and Immediate	Full at 3 Years	Full at 5 Years	Full at 10 Years	Rule of 45	25-5-10 Rule	40-5-10 Rule	5 Year Graded	10 Year Graded	Not Classified
1-24 Participants										
Number	204,275	68,501	54,711	324,741	20,253	128,173	77,175	160,492	530,745	567,935
Percent	9.56	3.21	2.56	15.20	.95	6.00	3.61	7.51	24.84	26.58
25-49 Participants										
Number	45,850	6,902	27,233	382,991	0	95,509	7,549	0	235,431	301,186
Percent	4.16	.63	2.47	34.73	.00	8.66	.68	.00	21.35	27.31
50-99 Participants										
Number	34,229	57,098	0	1,381,903	40,627	214,203	0	0	327,109	862,737
Percent	1.17	1.96	.00	47.36	1.39	7.34	.00	.00	11.21	29.57
100-249 Participants										
Number	161,232	9,450	25,227	958,371	28,863	86,581	31,651	27,224	129,897	537,716
Percent	8.08	.47	1.26	48.01	1.45	4.34	1.59	1.36	6.51	26.94
250-499 Participants										
Number	97,394	43,378	57,847	1,150,695	0	148,898	79,946	2,273	54,992	549,529
Percent	4.46	1.99	2.65	52.66	.00	6.81	3.66	.10	2.52	25.15
500-999 Participants										
Number	102,513	0	110,486	1,544,688	15,899	227,551	0	11,207	76,920	586,293
Percent	3.83	.00	4.13	57.73	.59	8.50	.00	.42	2.87	21.91
1,000-4,999 Participants										
Number	190,384	255,648	271,349	4,509,278	0	31,588	0	252,261	110,982	925,344
Percent	2.91	3.90	4.14	68.88	.00	.48	.00	3.85	1.70	14.13
5,000-9,999 Participants										
Number	68,709	0	80,871	2,889,272	55,524	49,753	29,193	82,859	148,408	712,553
Percent	1.67	.00	1.96	70.18	1.35	1.21	.71	2.01	3.60	17.31

Table 4.3.4 Continued

Number of Participants by Vesting Formulae and Plan Size, 1977

	Full and Immediate	Full at 3 Years	Full at 5 Years	Full at 10 Years	Rule of 45	25-5-10 Rule	40-5-10 Rule	5 Year Graded	10 Year Graded	Not Classified
10,000+ Participants										
Number	473,977	201,275	378,975	8,015,668	67,851	234,132	560,266	53,871	248,582	4,647,004
Percent	3.18	1.35	2.55	53.86	.46	1.57	3.76	.36	1.67	31.23
TOTAL										
Number	1,378,567	642,254	1,006,702	21,157,612	229,014	1,216,392	785,782	590,191	1,863,070	9,690,301
Percent	3.58	1.67	2.61	54.87	.59	3.15	2.04	1.53	4.83	25.13

Source: NBER-DOL EBS1 Subsample (1977)

Table 4.3.5

Number of Plans by Vesting Formulae and Industry, 1977

	Full and Immediate	Full at 3 Years	Full at 5 Years	Full at 10 Years	Rule of 45	25-5-10 Rule	40-5-10 Rule	5 Year Graded	10 Year Graded	Not Classified
Agriculture, Forestry, and Fishing										
Number	1,864	372	73	1,298	0	663	681	0	499	2,117
Percent	24.63	4.92	.96	17.15	.00	8.76	9.00	.00	6.59	27.98
Mining										
Number	92	0	8	478	73	135	0	19	460	1,165
Percent	3.79	.00	.33	19.67	3.00	5.56	.00	.78	18.93	47.94
Construction										
Number	2,362	398	0	2,423	0	853	1,990	1,845	3,096	2,080
Percent	15.70	2.65	.00	16.10	.00	5.67	13.23	12.26	20.58	13.82
Manufacturing										
Number	3,914	164	231	21,631	2,602	7,941	119	1,058	12,322	12,163
Percent	6.30	.26	.37	34.81	4.19	12.78	.19	1.70	19.83	19.57
Transportation, Communications, and Utilities										
Number	29	26	866	3,096	0	56	0	1,845	217	2,069
Percent	.35	.32	10.56	37.74	.00	.68	.00	22.49	2.65	25.22
Wholesale Trade										
Number	2,242	1,845	1,845	5,981	56	2,302	2,242	1,845	9,704	4,396
Percent	6.91	5.68	5.68	18.43	.17	7.09	6.91	5.68	29.90	13.54
Retail Trade										
Number	4,943	423	75	5,412	5	1,364	3,691	6,472	5,283	8,105
Percent	13.82	1.18	.21	15.13	.01	3.81	10.32	18.09	14.77	22.66
Finance, Insurance, and Real Estate										
Number	4,088	1,845	44	6,692	424	1,734	1,407	3,694	3,707	8,454
Percent	12.74	5.75	.14	20.85	1.32	5.40	4.38	11.51	11.55	26.35
Services										
Number	27,096	6,185	2,061	6,476	74	2,640	8,971	14,905	21,974	35,354
Percent	21.55	4.92	1.64	5.15	.06	2.10	7.13	11.85	17.48	28.12
Tax-Exempt Organizations										
Number	187	133	10	1,045	0	1,242	0	0	839	1,113
Percent	4.09	2.91	.22	22.87	.00	27.18	.00	.00	18.36	24.36
Not Classified										
Number	16,212	3,962	6,587	25,877	2	4,090	63	2,436	16,175	38,091
Percent	14.28	3.49	5.80	22.80	.00	3.60	.06	2.15	14.25	33.56
TOTAL										
Number	63,035	15,358	11,806	80,413	3,239	23,025	19,166	34,122	74,281	115,112
Percent	14.34	3.49	2.69	18.29	.74	5.24	4.36	7.76	16.90	26.19

Source: NBER-DOL EBS1 Subsample (1977)

Table 4.3.6
Number of Participants by Vesting Formulae and Industry, 1977

	Full and Immediate	Full at 3 Years	Full at 5 Years	Full at 10 Years	Rule of 45	25-5-10 Rule	40-5-10 Rule	5 Year Graded	10 Year Graded	Not Classified
<u>Agriculture, Forestry, and Fishing</u>										
Number	7,832	1,118	369	69,961	0	9,582	3,284	0	25,619	21,375
Percent	5.63	.80	.27	50.28	.00	6.89	2.36	.00	18.41	15.36
<u>Mining</u>										
Number	13,918	0	7,014	176,694	369	98,732	0	5,150	10,848	67,039
Percent	3.66	.00	1.85	46.53	.10	26.00	.00	1.36	2.86	17.65
<u>Construction</u>										
Number	99,085	112,597	0	1,070,943	0	39,137	596,022	11,073	70,694	286,773
Percent	4.33	4.92	.00	46.84	.00	1.71	26.07	.48	3.09	12.54
<u>Manufacturing</u>										
Number	431,911	208,115	506,427	7,997,684	97,101	501,866	50,485	255,115	605,298	3,205,009
Percent	3.12	1.50	3.65	57.71	.70	3.62	.36	1.84	4.37	23.13
<u>Transportation, Communications, and Utilities</u>										
Number	60,667	128,069	45,641	1,332,846	0	9,056	0	1,845	34,182	1,049,552
Percent	2.28	4.81	1.71	50.07	.00	.34	.00	.07	1.28	39.43
<u>Wholesale Trade</u>										
Number	12,009	16,610	3,691	602,704	9,281	56,477	10,817	5,536	159,568	176,220
Percent	1.14	1.58	.35	57.24	.88	5.36	1.03	.53	15.15	16.74
<u>Retail Trade</u>										
Number	53,329	53,110	32,752	1,613,312	31,707	237,986	16,609	38,411	84,080	486,517
Percent	2.01	2.01	1.24	60.93	1.20	8.99	.63	1.45	3.18	18.37
<u>Finance, Insurance, and Real Estate</u>										
Number	4,485	9,227	88,881	902,826	43,469	57,551	11,523	30,178	220,549	519,494
Percent	.24	.49	4.71	47.81	2.30	3.05	.61	1.60	11.68	27.51
<u>Services</u>										
Number	154,471	70,017	12,223	1,168,978	23,268	9,395	38,385	71,207	223,396	698,254
Percent	6.25	2.84	.49	47.33	.94	.38	1.55	2.88	9.05	28.27
<u>Tax-Exempt Organizations</u>										
Number	20,305	1,198	19,363	396,161	0	52,070	0	0	12,159	963,707
Percent	1.39	.08	1.32	27.04	.00	3.55	.00	.00	.83	65.78
<u>Not Classified</u>										
Number	520,550	42,190	290,339	5,825,500	23,816	144,535	58,654	171,671	416,673	2,216,358
Percent	5.36	.43	2.99	59.99	.25	1.49	.60	1.77	4.29	22.82
<u>TOTAL</u>										
Number	1,378,567	642,254	1,006,702	21,157,612	229,014	1,216,392	785,782	590,191	1,863,070	9,690,301
Percent	3.58	1.67	2.61	54.87	.59	3.15	2.04	1.53	4.83	25.13

Source: NBER-DOL EBS1 Subsample (1977)

Table 4.3.7
Number of Plans by Vesting Formulae and Union Status, 1977

	Full and Immediate	Full at 3 Years	Full at 5 Years	Full at 10 Years	Rule of 45	25-5-10 Rule	40-5-10 Rule	5 Year Graded	10 Year Graded	Not Classified
<u>Union Plans</u>										
Number	826	172	157	13,547	100	1,080	1,906	31	828	5,174
Percent	3.47	.72	.66	56.87	.42	4.53	8.00	.13	3.48	21.72
<u>Non-Union Plans</u>										
Number	61,691	15,185	11,646	66,638	3,139	21,324	15,017	33,693	69,365	108,758
Percent	15.18	3.74	2.87	16.39	.77	5.25	3.69	8.29	17.07	26.76
<u>Not Classified</u>										
Number	516	0	0	227	0	619	2,242	397	4,088	1,179
Percent	5.57	.00	.00	2.45	.00	6.68	24.19	4.28	44.11	12.72
<u>TOTAL</u>										
Number	63,035	15,358	11,803	80,413	3,239	23,025	19,166	34,122	74,281	115,112
Percent	14.34	3.49	2.69	18.29	.74	5.24	4.36	7.76	16.90	26.19

Source: NBER-DOL EBS1 Subsample (1977)

Table 4.3.8
Number of Participants by Vesting Formulae and Union Status, 1977

	Full and Immediate	Full at 3 Years	Full at 5 Years	Full at 10 Years	Rule of 45	25-5-10 Rule	40-5-10 Rule	5 Year Graded	10 Year Graded	Not Classified
<u>Union Plans</u>										
Number	298,477	164,631	424,345	12,020,255	43,608	392,905	595,263	48,546	345,930	3,729,827
Percent	1.65	.91	2.35	66.54	.24	2.18	3.30	.27	1.92	20.65
<u>Non-Union Plans</u>										
Number	1,047,110	477,623	582,357	8,972,652	185,406	786,588	174,164	539,657	1,498,940	5,939,064
Percent	5.18	2.36	2.88	44.41	.92	3.89	.86	2.67	7.42	29.40
<u>Not Classified</u>										
Number	32,979	0	0	164,705	0	36,898	16,353	1,986	18,199	21,409
Percent	11.27	.00	.00	56.30	.00	12.61	5.59	.68	6.22	7.32
<u>TOTAL</u>										
Number	1,378,567	642,254	1,006,702	21,157,612	229,014	1,216,392	785,782	590,191	1,863,070	9,690,301
Percent	3.58	1.67	2.61	54.87	.59	3.15	2.04	1.53	4.83	25.13

Source: NBER-DOL EBS1 Subsample (1977)

Table 4.3.9
Number of Plans by Vesting Formulae and Plan Entity, 1977

	Full and Immediate	Full at 3 Years	Full at 5 Years	Full at 10 Years	Rule of 45	25-5-10 Rule	40-5-10 Rule	5 Year Graded	10 Year Graded	Not Classified
<u>Single Employer</u>										
Number	61,382	14,659	11,680	77,516	3,239	21,859	18,768	31,880	70,025	111,478
Percent	14.53	3.47	2.76	18.35	.77	5.17	4.44	7.55	16.57	26.39
<u>Multi Employer</u>										
Number	711	325	123	1,349	0	768	398	2,242	3,064	2,889
Percent	5.99	2.74	1.04	11.37	.00	6.47	3.35	18.89	25.82	24.34
<u>Not Classified</u>										
Number	942	372	0	1,547	0	397	0	0	1,191	744
Percent	18.14	7.16	.00	29.79	.00	7.64	.00	.00	22.93	14.33
<u>TOTAL</u>										
Number	63,035	15,358	11,803	80,413	3,239	23,025	19,166	34,122	74,281	115,112
Percent	14.34	3.49	2.69	18.29	.74	5.24	4.36	7.76	16.90	26.19

Source: NBER-DOL EBS1 Subsample (1977)

Table 4.3.10
Number of Participants by Vesting Formulae and Plan Entity, 1977

	Full and Immediate	Full at 3 Years	Full at 5 Years	Full at 10 Years	Rule of 45	25-5-10 Rule	40-5-10 Rule	5 Year Graded	10 Year Graded	Not Classified
<u>Single Employer</u>										
Number	1,056,845	498,837	759,391	16,597,686	229,014	1,152,957	224,324	563,161	1,732,815	7,324,138
Percent	3.51	1.66	2.52	55.07	.76	3.83	.74	1.87	5.75	24.30
<u>Multi Employer</u>										
Number	267,353	142,298	247,311	4,398,380	0	56,679	561,458	27,029	112,373	1,795,311
Percent	3.51	1.87	3.25	57.81	.00	.74	7.38	.36	1.48	23.60
<u>Not Classified</u>										
Number	54,369	1,118	0	161,545	0	6,755	0	0	17,881	570,852
Percent	6.69	.14	.00	19.88	.00	.83	.00	.00	2.20	70.26
<u>TOTAL</u>										
Number	1,378,567	642,254	1,006,702	21,157,612	229,014	1,216,392	785,782	590,191	1,863,070	9,690,301
Percent	3.58	1.67	2.61	54.87	.59	3.15	2.04	1.53	4.83	25.13

Source: NBER-DOL EBS1 Subsample (1977)

Table 4.3.11
Mean Years until Full Vesting by Plan Type, 1977¹

Plan Weighted		
	Number of Plans	Mean Years
Defined Benefit	144,348	9.06
Defined Contribution	295,211	6.76
TOTAL	439,559	7.46

Source: NBER-DOL EBS1 Subsample File (1977)

1. Calculations based on plans that explicitly indicate vesting rules. For plans which relate vesting status to an employee's age, it was assumed that all employees were hired at age 30.

Table 4.3.12
Mean Years until Full Vesting by Plan Type, 1977¹

Participant Weighted		
	Number of Participants	Mean Years
Defined Benefit	29,533,701	10.01
Defined Contribution	9,026,189	7.14
TOTAL	38,559,890	9.35

Source: NBER-DOL EBS1 Subsample File (1977)

1. Calculations based on plans that explicitly indicate vesting rules. For plans which relate vesting status to an employee's age, it was assumed that all employees were hired at age 30.

TABLE 4.3.13
Mean Years until Full Vesting by Plan Size, 1977¹

Plan Weighted		
	Number of Plans	Mean Years
1-24 Participants	342,658	6.84
25-49 Participants	33,418	9.56
50-99 Participants	36,817	10.24
100-249 Participants	12,558	9.20
250-499 Participants	5,839	9.42
500-999 Participants	3,635	9.90
1,000-4,999 Participants	3,615	9.03
5,000-9,999 Participants	590	9.64
10,000+ Participants	425	9.23
TOTAL	439,559	7.46

Source: NBER-DOL EBS1 Subsample File (1977)

1. Calculations based on plans that explicitly indicate vesting rules. For plans which relate vesting status to an employee's age, it was assumed that all employees were hired at age 30.

TABLE 4.3.14
 Mean Years until Full Vesting by Plan Size, 1977¹
 Participant Weighted

	Number of Participants	Mean Years
1-24 Participants	2,137,005	8.20
25-49 Participants	1,102,653	9.80
50-99 Participants	2,917,905	10.22
100-249 Participants	1,996,217	9.05
250-499 Participants	2,184,957	9.54
500-999 Participants	2,675,560	9.76
1,000-4,999 Participants	6,546,838	8.91
5,000-9,999 Participants	4,117,146	9.69
10,000+ Participants	14,881,605	9.38
TOTAL	38,559,890	9.35

Source: NBER-DOL EBS1 Subsample File (1977)

1. Calculations based on plans that explicitly indicate vesting rules. For plans which relate vesting status to an employee's age, it was assumed that all employees were hired at age 30.

TABLE 4.3.15
 Mean Years until Full Vesting by Industry, 1977¹
 Plan Weighted

	Number of Plans	Mean Years
Agriculture, Forestry, and Fishing	7,570	6.77
Mining	2,433	9.87
Construction	15,052	7.73
Manufacturing	62,150	10.02
Transportation, Communications, and Utilities	8,206	7.76
Wholesale Trade	32,462	8.58
Retail Trade	35,777	7.30
Finance, Insurance, and Real Estate	32,095	7.41
Services	125,739	5.83
Tax-Exempt Organizations	4,572	10.97
Not Classified	113,499	7.16
TOTAL	439,559	7.46

Source: NBER-DOL EBS1 Subsample File (1977)

1. Calculations based on plans that explicitly indicate vesting rules. For plans which relate vesting status to an employee's age, it was assumed that all employees were hired at age 30.

TABLE 4.3.16
Mean Years until Full Vesting by Industry, 1977¹

Participant Weighted		
	Number of Participants	Mean Years
Agriculture, Forestry, and Fishing	139,143	9.69
Mining	379,767	10.94
Construction	2,286,326	9.48
Manufacturing	13,859,012	9.37
Transportation, Communications, and Utilities	2,661,861	8.95
Wholesale Trade	1,052,916	10.04
Retail Trade	2,647,818	10.02
Finance, Insurance, and Real Estate	1,888,188	9.80
Services	2,469,598	8.70
Tax-Exempt Organizations	1,464,965	9.90
Not Classified	9,710,292	9.07
TOTAL	38,559,890	9.35

Source: NBER-DOL EBS1 Subsample File (1977)

1. Calculations based on plans that explicitly indicate vesting rules. For plans which relate vesting status to an employee's age, it was assumed that all employees were hired at age 30.

TABLE 4.3.17
Mean Years until Full Vesting by Union Status, 1977¹

Plan Weighted		
	Number of Plans	Mean Years
Union Plans	23,827	9.85
Non-Union Plans	406,461	7.25
Not Classified	9,271	9.78
TOTAL	439,559	7.46

Source: NBER-DOL EBS1 Subsample File (1977)

1. Calculations based on plans that explicitly indicate vesting rules. For plans which relate vesting status to an employee's age, it was assumed that all employees were hired at age 30.

TABLE 4.3.18
Mean Years until Full Vesting by Union Status, 1977¹

Participant Weighted		
	Number of Participants	Mean Years
Union Plans	18,063,792	9.73
Non-Union Plans	20,203,565	8.97
Not Classified	292,533	9.49
TOTAL	38,559,890	9.35

Source: NBER-DOL EBS1 Subsample File (1977)

1. Calculations based on plans that explicitly indicate vesting rules. For plans which relate vesting status to an employee's age, it was assumed that all employees were hired at age 30.

TABLE 4.3.19
Mean Years until Full Vesting by Plan Entity, 1977¹

Plan Weighted		
	Number of Plans	Mean Years
Single Employer	422,488	7.44
Multi Employer	11,874	8.11
Not Classified	5,196	7.74
TOTAL	439,559	7.46

Source: NBER-DOL EBS1 Subsample File (1977)

1. Calculations based on plans that explicitly indicate vesting rules. For plans which relate vesting status to an employee's age, it was assumed that all employees were hired at age 30.

TABLE 4.3.20
Mean Years until Full Vesting by Plan Entity, 1977¹

Participant Weighted		
	Number of Participants	Mean Years
Single Employer	30,139,172	9.39
Multi Employer	7,608,195	9.28
Not Classified	812,523	7.86
TOTAL	38,559,890	9.35

Source: NBER-DOL EBS1 Subsample File (1977)

1. Calculations based on plans that explicitly indicate vesting rules. For plans which relate vesting status to an employee's age, it was assumed that all employees were hired at age 30.

Table 4.3.21
Number of Plans by Vesting Status of Pension Plan after Various Years of Service and Plan Type, 1977¹

	Not Vested		Vesting Status			Fully Vested	
	Number of Plans	Row Percent	Number of Plans	Row Percent	Mean Amount Vested	Number of Plans	Row Percent
<u>Defined benefit</u>							
After 1 Year Service	70,965	71.40	16,622	16.72	13.48	11,799	11.87
After 3 Years Service	63,596	63.99	22,672	22.81	43.23	13,117	13.20
After 5 Years Service	41,494	41.75	37,270	37.50	40.34	20,621	20.75
After 10 Years Service	0	.00	17,470	17.58	59.41	81,915	82.42
After 15 Years Service	0	.00	0	.00	0	99,386	100.00
<u>Defined Contribution</u>							
After 1 Year Service	111,413	49.50	62,410	27.73	14.48	51,236	22.77
After 3 Years Service	80,982	35.98	78,802	35.01	40.34	65,275	29.00
After 5 Years Service	42,159	18.73	79,203	35.19	45.58	103,698	46.08
After 10 Years Service	0	.00	27,960	12.42	73.86	197,099	87.58
After 15 Years Service	0	.00	0	.00	0	225,060	100.00
<u>Total</u>							
After 1 Year Service	182,378	56.21	79,032	24.36	14.27	63,035	19.43
After 3 Years Service	144,579	44.56	101,474	31.28	39.64	78,393	24.16
After 5 Years Service	83,653	25.78	116,473	35.90	68.30	124,319	38.32
After 10 Years Service	0	.00	45,431	14.00	68.30	279,015	86.00
After 15 Years Service	0	.00	0	.00	0	324,446	100.00

Source: NBER-DOL EBS1 Subsample File (1977)

1. Calculations based on plans that explicitly indicate vesting rules. For plans which relate vesting status to an employee's age, it was assumed that all employees were hired at age 30.

Table 4.3.22

Number of Participants by Vesting Status of Pension Plan after Various Years of Service and Plan Type, 1977¹

	Not Vested		Vesting Status			Fully Vested	
	Number of Participants	Row Percent	Number of Participants	Row Percent	Mean Amount Vested	Number of Participants	Row Percent
Defined Benefit							
After 1 Year Service	21,869,441	98.25	207,285	.93	12.76	182,627	.82
After 3 Years Service	21,498,582	96.58	314,350	1.41	34.25	446,422	2.01
After 5 Years Service	19,366,087	87.00	2,091,758	9.40	37.60	801,508	3.60
After 10 Years Service	0	.00	1,679,595	7.55	66.60	20,579,759	92.45
After 15 Years Service	0	.00	0	.00	0	22,259,354	100.00
Defined Contribution							
After 1 Year Service	4,124,477	62.40	1,289,816	19.51	14.85	1,195,940	18.09
After 3 Years Service	3,449,516	52.18	1,586,317	24.00	39.87	1,574,400	23.82
After 5 Years Service	2,020,539	30.57	1,773,486	26.83	44.34	2,816,208	42.60
After 10 Years Service	0	.00	551,594	8.34	64.75	6,058,640	91.66
After 15 Years Service	0	.00	0	.00	0	6,610,234	100.00
Total							
After 1 Year Service	25,993,918	90.04	1,497,102	5.19	14.56	1,378,567	4.78
After 3 Years Service	24,948,098	86.42	1,900,667	6.58	38.94	2,020,822	7.00
After 5 Years Service	21,386,626	74.08	3,865,245	13.39	40.69	3,617,716	12.53
After 10 Years Service	0	.00	2,231,189	7.73	66.14	26,638,399	92.27
After 15 Years Service	0	.00	0	.00	0	28,869,588	100.00

Source: NBER-DOL EBS1 Subsample File (1977)

1. Calculations based on plans that explicitly indicate vesting rules. For plans which relate vesting status to an employee's age, it was assumed that all employees were hired at age 30.

Table 4.3.23

Number of Plans by Vesting Status of Pension Plan after Various Years of Service and Plan Size, 1977¹

	Not Vested		Vesting Status			Fully Vested	
	Number of Plans	Row Percent	Number of Plans	Row Percent	Mean Amount Vested	Number of Plans	Row Percent
1-24 Participants							
After 1 Year Service	123,474	48.43	72,124	28.29	14.64	59,335	23.27
After 3 Years Service	90,916	35.66	90,463	35.48	40.89	73,565	28.85
After 5 Years Service	41,347	16.22	96,080	37.69	44.51	117,506	46.09
After 10 Years Service	0	.00	37,212	14.60	71.23	217,721	85.40
After 15 Years Service	0	.00	0	.00	0	254,934	100.00
25-49 Participants							
After 1 Year Service	18,344	75.85	4,023	16.63	10.00	1,818	7.52
After 3 Years Service	15,810	65.37	6,342	26.22	28.52	2,034	8.41
After 5 Years Service	10,835	44.80	10,311	42.63	42.54	3,040	12.57
After 10 Years Service	0	.00	2,976	12.30	52.90	21,210	87.70
After 15 Years Service	0	.00	0	.00	0	24,186	100.00
50-99 Participants							
After 1 Year Service	22,709	89.59	2,205	8.70	10.00	435	1.72
After 3 Years Service	20,524	80.97	3,740	14.75	28.60	1,084	4.28
After 5 Years Service	17,027	67.17	7,237	28.55	40.53	1,084	4.28
After 10 Years Service	0	.00	3,304	13.03	54.32	22,046	86.97
After 15 Years Service	0	.00	0	.00	0	25,350	100.00
100-249 Participants							
After 1 Year Service	7,691	85.91	410	4.58	13.82	851	9.51
After 3 Years Service	7,492	83.69	553	6.18	38.50	907	10.13
After 5 Years Service	6,153	68.72	1,514	16.91	39.27	1,287	14.37
After 10 Years Service	0	.00	931	10.40	61.29	8,023	89.60
After 15 Years Service	0	.00	0	.00	0	8,954	100.00
250-499 Participants							
After 1 Year Service	3,938	91.01	75	1.73	10.00	314	7.26
After 3 Years Service	3,736	86.34	162	3.74	30.69	429	9.91
After 5 Years Service	2,999	69.33	741	17.13	35.12	586	13.55
After 10 Years Service	0	.00	584	13.50	62.23	3,743	86.50
After 15 Years Service	0	.00	0	.00	0	4,328	100.00
500-999 Participants							
After 1 Year Service	2,678	94.60	18	.64	10.00	135	4.77
After 3 Years Service	2,660	93.96	36	1.27	40.00	135	4.77
After 5 Years Service	2,093	73.96	441	15.58	29.38	296	10.46
After 10 Years Service	0	.00	382	13.49	50.95	2,449	86.51
After 15 Years Service	0	.00	0	.00	0	2,832	100.00

Table 4.3.23 Continued
 Number of Plans by Vesting Status of Pension Plan after Various Years of Service and Plan Size, 1977¹

	Not Vested		Vesting Status			Fully Vested	
	Number of Plans	Row Percent	Number of Plans	Row Percent	Mean Amount Vested	Number of Plans	Row Percent
<u>1,000-4,999</u>							
<u>Participants</u>							
After 1 Year Service	2,746	91.50	146	4.87	15.00	109	3.63
After 3 Years Service	2,647	88.20	146	4.87	45.00	208	6.93
After 5 Years Service	2,473	82.41	89	2.97	47.76	439	14.63
After 10 Years Service	0	.00	8	.27	50.00	2,993	99.73
After 15 Years Service	0	.00	0	.00	0	3,001	100.00
<u>5,000-9,999</u>							
<u>Participants</u>							
After 1 Year Service	456	92.68	24	4.88	14.19	12	2.44
After 3 Years Service	456	92.68	24	4.88	42.57	12	2.44
After 5 Years Service	426	86.59	32	6.50	42.39	34	6.91
After 10 Years Service	0	.00	17	3.46	67.60	475	96.54
After 15 Years Service	0	.00	0	.00	0	492	100.00
<u>10,000+</u>							
<u>Participants</u>							
After 1 Year Service	339	92.62	5	1.37	31.76	22	6.01
After 3 Years Service	335	91.53	5	1.37	59.02	26	7.10
After 5 Years Service	297	81.37	24	6.58	40.14	44	12.05
After 10 Years Service	0	.00	14	3.84	59.40	351	96.16
After 15 Years Service	0	.00	0	.00	0	366	100.00
<u>TOTAL</u>							
After 1 Year Service	182,378	56.21	79,032	24.36	14.27	63,035	19.43
After 3 Years Service	144,579	44.56	101,474	31.28	39.64	78,393	24.16
After 5 Years Service	83,653	25.78	116,473	35.90	43.90	124,319	38.32
After 10 Years Service	0	.00	45,431	14.00	68.30	279,015	86.00
After 15 Years Service	0	.00	0	.00	0	324,446	100.00

Source: NBER-DOL EBS1 Subsample File (1977)

1. Calculations based on plans that explicitly indicate vesting rules. For plans which relate vesting status to an employee's age, it was assumed that all employees were hired at age 30.

Table 4.3.24
 Number of Participants by Vesting Status of Pension Plan after Various Years of Service and Plan Size, 1977¹

	Not Vested		Vesting Status			Fully Vested	
	Number of Participants	Row Percent	Number of Participants	Row Percent	Mean Amount Vested	Number of Participants	Row Percent
<u>1-24</u>							
<u>Participants</u>							
After 1 Year Service	847,392	54.01	517,402	32.98	13.07	204,275	13.02
After 3 Years Service	635,888	40.53	660,405	42.09	36.79	272,776	17.38
After 5 Years Service	344,995	21.99	736,094	46.91	44.70	487,980	31.10
After 10 Years Service	0	.00	225,603	14.38	65.48	1,343,467	85.62
After 15 Years Service	0	.00	0	.00	0	1,569,070	100.00
<u>25-49</u>							
<u>Participants</u>							
After 1 Year Service	630,086	78.62	125,531	15.66	10.00	45,850	5.72
After 3 Years Service	546,309	68.16	202,405	25.25	28.33	52,752	6.58
After 5 Years Service	382,991	47.79	338,490	42.23	42.11	79,985	9.98
After 10 Years Service	0	.00	103,058	12.86	52.93	698,408	87.14
After 15 Years Service	0	.00	0	.00	0	801,467	100.00
<u>50-99</u>							
<u>Participants</u>							
After 1 Year Service	1,884,557	91.70	136,380	6.64	10.00	34,229	1.67
After 3 Years Service	1,696,264	82.63	265,575	12.92	28.28	91,328	4.44
After 5 Years Service	1,422,527	69.22	541,312	26.34	39.50	91,328	4.44
After 10 Years Service	0	.00	254,827	12.40	53.19	1,800,340	87.60
After 15 Years Service	0	.00	0	.00	0	2,055,167	100.00
<u>100-249</u>							
<u>Participants</u>							
After 1 Year Service	1,226,806	84.11	70,467	4.83	13.86	161,232	11.05
After 3 Years Service	1,201,308	82.37	86,508	5.93	39.44	170,683	11.70
After 5 Years Service	987,234	67.69	248,130	17.01	39.85	223,135	15.30
After 10 Years Service	0	.00	147,095	10.09	62.53	1,311,404	89.91
After 15 Years Service	0	.00	0	.00	0	1,458,500	100.00
<u>250-499</u>							
<u>Participants</u>							
After 1 Year Service	1,508,009	92.21	30,022	1.84	10.00	97,394	5.96
After 3 Years Service	1,437,387	87.89	57,266	3.50	30.79	140,773	8.61
After 5 Years Service	1,150,695	70.36	283,837	17.36	35.48	200,893	12.28
After 10 Years Service	0	.00	228,845	13.99	63.97	1,406,582	86.01
After 15 Years Service	0	.00	0	.00	0	1,635,427	100.00

Table 4.3.24 Continued

Number of Participants by Vesting Status of Pension Plan after Various Years of Service and Plan Size, 1977¹

	Not Vested		Vesting Status			Fully Vested	
	Number of Participants	Row Percent	Number of Participants	Row Percent	Mean Amount Vested	Number of Participants	Row Percent
500-999 Participants							
After 1 Year Service	1,968,737	94.28	18,016	.85	10.00	102,513	4.86
After 3 Years Service	1,957,529	93.69	29,224	1.40	37.67	102,513	4.91
After 5 Years Service	1,560,587	74.70	304,471	14.57	31.32	224,208	10.73
After 10 Years Service	0	.00	243,450	11.65	51.31	1,845,816	88.35
After 15 Years Service	0	.00	0	.00	0	2,089,266	100.00
1,000-4,999 Participants							
After 1 Year Service	5,086,927	90.49	344,181	6.12	17.33	190,384	3.39
After 3 Years Service	4,831,278	85.94	344,181	6.12	51.99	446,033	7.93
After 5 Years Service	4,509,278	80.21	142,570	2.54	44.46	969,644	17.25
After 10 Years Service	0	.00	31,588	.56	50.00	5,589,905	99.44
After 15 Years Service	0	.00	0	.00	0	5,621,493	100.00
5,000-9,999 Participants							
After 1 Year Service	3,163,445	92.92	172,438	5.06	14.81	68,709	2.02
After 3 Years Service	3,163,445	92.92	172,438	5.06	44.42	68,709	2.02
After 5 Years Service	2,944,797	86.49	227,356	6.68	41.43	232,439	6.83
After 10 Years Service	0	.00	134,471	3.95	66.94	3,270,121	96.05
After 15 Years Service	0	.00	0	.00	0	3,404,593	100.00
10,000+ Participants							
After 1 Year Service	9,677,962	94.56	82,661	.81	29.55	473,977	4.63
After 3 Years Service	9,476,687	92.57	82,661	.81	56.07	678,253	6.63
After 5 Years Service	8,083,519	78.98	1,042,981	10.19	41.70	1,108,100	10.83
After 10 Years Service	0	.00	862,249	8.42	77.56	9,372,352	91.58
After 15 Years Service	0	.00	0	.00	0	10,234,601	100.00
TOTAL							
After 1 Year Service	25,993,918	90.04	1,497,102	5.19	14.56	1,378,567	4.78
After 3 Years Service	24,948,098	86.42	1,900,667	6.58	38.94	2,020,822	7.00
After 5 Years Service	21,386,626	74.08	3,865,245	13.39	40.69	3,617,716	12.53
After 10 Years Service	0	.00	2,231,189	7.73	66.14	26,638,399	92.27
After 15 Years Service	0	.00	0	.00	0	28,869,588	100.00

Source: NBER-DOL EBS1 Subsample File (1977)

1. Calculations based on plans that explicitly indicate vesting rules. For plans which relate vesting status to an employee's age, it was assumed that all employees were hired at age 30.

Table 4.3.25

Number of Plans by Vesting Status of Pension Plan after Various Years of Service and Industry, 1977¹

	Not Vested		Vesting Status			Fully Vested	
	Number of Plans	Row Percent	Number of Plans	Row Percent	Mean Amount Vested	Number of Plans	Row Percent
Agriculture, Forestry, and Fishing							
After 1 Year Service	3,217	59.00	372	6.82	10.00	1,864	34.18
After 3 Years Service	2,838	52.04	378	6.93	30.00	2,237	41.02
After 5 Years Service	1,298	23.80	1,845	33.83	39.16	2,311	42.37
After 10 Years Service	0	.00	1,345	24.66	70.27	4,109	75.34
After 15 Years Service	0	.00	0	.00	0	5,454	100.00
Mining							
After 1 Year Service	1,148	90.61	27	2.13	15.00	92	7.26
After 3 Years Service	695	54.90	479	37.84	31.09	92	7.27
After 5 Years Service	552	43.57	595	46.96	44.33	120	9.47
After 10 Years Service	0	.00	208	16.42	57.07	1,059	83.58
After 15 Years Service	0	.00	0	.00	0	1,268	100.00
Construction							
After 1 Year Service	6,456	49.78	4,152	32.01	14.44	2,362	18.21
After 3 Years Service	5,267	40.61	4,942	38.10	41.20	2,761	21.29
After 5 Years Service	2,423	18.68	5,940	45.80	44.73	4,607	35.52
After 10 Years Service	0	.00	2,843	21.92	77.99	10,127	78.08
After 15 Years Service	0	.00	0	.00	0	12,971	100.00
Manufacturing							
After 1 Year Service	38,957	77.94	7,115	14.23	11.49	3,914	7.83
After 3 Years Service	34,345	68.71	11,562	23.13	31.48	4,079	8.16
After 5 Years Service	24,234	48.48	20,383	40.78	39.71	5,368	10.74
After 10 Years Service	0	.00	10,664	21.33	55.33	39,322	78.67
After 15 Years Service	0	.00	0	.00	0	49,980	100.00

Table 4.3.25 Continued
 Number of Plans by Vesting Status of Pension Plan after Various Years of Service and Industry, 1977¹

	Not Vested		Vesting Status			Fully Vested	
	Number of Plans	Row Percent	Number of Plans	Row Percent	Mean Amount Vested	Number of Plans	Row Percent
<u>Transportation, Communications, and Utilities</u>							
After 1 Year Service	4,260	69.44	1,846	30.09	19.99	29	.47
After 3 Years Service	4,234	69.01	1,846	30.09	59.98	55	.90
After 5 Years Service	3,096	50.46	273	4.45	44.86	2,767	45.09
After 10 Years Service	0	.00	56	.91	50.00	6,080	99.09
After 15 Years Service	0	.00	0	.00	0	6,136	100.00
<u>Wholesale Trade</u>							
After 1 Year Service	16,516	58.85	9,306	33.16	11.98	2,242	7.99
After 3 Years Service	12,428	44.28	11,549	41.15	33.20	4,088	14.57
After 5 Years Service	6,037	21.51	14,249	50.77	43.88	7,779	27.72
After 10 Years Service	0	.00	4,601	16.39	69.74	23,464	83.61
After 15 Years Service	0	.00	0	.00	0	28,065	100.00
<u>Retail Trade</u>							
After 1 Year Service	15,060	54.43	7,667	27.71	17.92	4,943	17.86
After 3 Years Service	12,394	44.79	9,910	35.81	49.19	5,367	19.40
After 5 Years Service	5,417	19.58	10,339	37.36	44.92	11,915	43.06
After 10 Years Service	0	.00	5,061	18.29	79.19	22,611	81.71
After 15 Years Service	0	.00	0	.00	0	27,672	100.00
<u>Finance, Insurance, and Real Estate</u>							
After 1 Year Service	13,490	57.07	6,060	25.64	16.10	4,088	17.29
After 3 Years Service	11,172	47.26	6,534	27.64	46.96	5,933	25.10
After 5 Years Service	7,117	30.11	6,850	28.98	42.63	9,672	40.92
After 10 Years Service	0	.00	3,566	15.09	68.17	20,073	84.91
After 15 Years Service	0	.00	0	.00	0	23,639	100.00
<u>Services</u>							
After 1 Year Service	33,993	37.61	29,294	32.41	15.09	27,096	29.98
After 3 Years Service	20,682	22.88	36,420	40.30	42.06	33,281	36.82
After 5 Years Service	6,551	7.25	33,585	37.16	46.46	50,247	55.59
After 10 Years Service	0	.00	11,685	12.93	80.84	78,699	87.07
After 15 Years Service	0	.00	0	.00	0	90,384	100.00
<u>Tax-Exempt Organizations</u>							
After 1 Year Service	2,698	78.02	573	16.57	10.00	187	5.41
After 3 Years Service	2,431	70.30	706	20.42	30.00	321	9.28
After 5 Years Service	1,045	30.22	2,082	60.21	35.08	331	9.57
After 10 Years Service	0	.00	1,242	35.92	50.00	2,216	64.08
After 15 Years Service	0	.00	0	.00	0	3,458	100.00
<u>Not Classified</u>							
After 1 Year Service	46,580	61.77	12,615	16.73	11.92	16,212	21.50
After 3 Years Service	38,088	50.51	17,144	22.74	34.26	20,175	26.75
After 5 Years Service	25,879	34.32	20,329	26.96	44.89	29,199	38.72
After 10 Years Service	0	.00	4,156	5.51	50.62	71,252	94.49
After 15 Years Service	0	.00	0	.00	0	75,408	100.00
<u>TOTAL</u>							
After 1 Year Service	182,378	56.21	79,032	24.36	14.27	63,035	19.43
After 3 Years Service	144,579	44.56	101,474	31.28	39.64	78,393	24.16
After 5 Years Service	83,653	25.78	116,473	35.90	43.90	124,319	38.32
After 10 Years Service	0	.00	45,431	14.00	68.30	279,015	86.00
After 15 Years Service	0	.00	0	.00	0	324,446	100.00

Source: NBER-DOL EBS1 Subsample File (1977)

1. Calculations based on plans that explicitly indicate vesting rules. For plans which relate vesting status to an employee's age, it was assumed that all employees were hired at age 30.

Table 4.3.26
 Number of Participants by Vesting Status of Pension Plan after Various Years of Service and Industry, 1977¹

	Not Vested		Vesting Status			Fully Vested	
	Number of Participants	Row Percent	Number of Participants	Row Percent	Mean Amount Vested	Number of Participants	Row Percent
<u>Agriculture, Forestry, and Fishing</u>							
After 1 Year Service	106,952	90.82	2,983	2.53	10.00	7,832	6.65
After 3 Years Service	104,366	88.62	4,450	3.78	30.00	8,951	7.60
After 5 Years Service	69,961	59.41	38,487	32.68	43.35	9,320	7.91
After 10 Years Service	0	.00	12,867	10.93	60.21	104,901	89.07
After 15 Years Service	0	.00	0	.00	0	117,768	100.00
<u>Mining</u>							
After 1 Year Service	294,403	94.14	4,405	1.41	16.53	13,918	4.45
After 3 Years Service	282,810	90.43	15,999	5.12	38.24	13,918	4.45
After 5 Years Service	177,063	56.62	109,581	35.04	27.47	26,083	8.34
After 10 Years Service	0	.00	99,101	31.69	50.07	213,625	68.31
After 15 Years Service	0	.00	0	.00	0	312,727	100.00

Table 4.3.26 Continued

Number of Participants by Vesting Status of Pension Plan after Various Years of Service and Industry, 1977¹

	Not Vested		Vesting Status			Fully Vested	
	Number of Participants	Row Percent	Number of Participants	Row Percent	Mean Amount Vested	Number of Participants	Row Percent
Construction							
After 1 Year Service	1,850,310	92.54	50,156	2.51	12.21	99,085	4.96
After 3 Years Service	1,706,102	85.32	81,767	4.09	34.06	211,683	10.59
After 5 Years Service	1,070,943	53.56	705,853	35.30	44.39	222,756	11.14
After 10 Years Service	0	.00	635,159	31.77	87.54	1,364,393	68.23
After 15 Years Service	0	.00	0	.00	0	1,999,553	100.00
Manufacturing							
After 1 Year Service	9,790,238	91.89	431,853	4.05	15.91	431,911	4.05
After 3 Years Service	9,440,274	88.61	573,703	5.38	41.95	640,026	6.01
After 5 Years Service	8,094,785	75.98	1,157,649	10.87	38.45	1,401,568	13.16
After 10 Years Service	0	.00	649,452	6.10	56.10	10,004,551	93.90
After 15 Years Service	0	.00	0	.00	0	10,654,003	100.00
Transportation, Communications, and Utilities							
After 1 Year Service	1,521,006	94.34	30,635	1.90	10.60	60,667	3.76
After 3 Years Service	1,392,937	86.39	30,635	1.90	31.81	188,736	11.71
After 5 Years Service	1,332,846	82.67	43,238	2.68	44.76	236,223	14.65
After 10 Years Service	0	.00	9,056	.56	50.00	1,603,251	99.44
After 15 Years Service	0	.00	0	.00	0	1,612,308	100.00
Wholesale Trade							
After 1 Year Service	725,561	82.76	139,126	15.87	10.40	12,009	1.37
After 3 Years Service	682,972	77.90	165,105	18.83	29.55	28,619	3.26
After 5 Years Service	611,986	69.81	226,863	25.88	42.48	37,846	4.32
After 10 Years Service	0	.00	76,576	8.73	58.07	800,119	91.27
After 15 Years Service	0	.00	0	.00	0	876,696	100.00
Retail Trade							
After 1 Year Service	2,031,361	93.99	76,609	3.54	14.81	53,329	2.47
After 3 Years Service	1,941,596	89.83	113,264	5.24	40.03	106,440	4.92
After 5 Years Service	1,645,020	76.11	338,676	15.67	32.19	177,604	8.22
After 10 Years Service	0	.00	286,303	13.25	54.54	1,874,996	86.75
After 15 Years Service	0	.00	0	.00	0	2,161,300	100.00
Finance, Insurance, and Real Estate							
After 1 Year Service	1,207,634	88.23	156,573	11.44	11.93	4,485	.33
After 3 Years Service	1,173,315	85.73	181,665	13.27	34.98	13,713	1.00
After 5 Years Service	946,296	69.14	289,623	21.16	42.90	132,773	9.70
After 10 Years Service	0	.00	112,544	8.22	61.82	1,256,149	91.78
After 15 Years Service	0	.00	0	.00	0	1,368,693	100.00
Services							
After 1 Year Service	1,434,991	81.01	181,880	10.27	13.92	154,471	8.72
After 3 Years Service	1,333,432	75.28	213,422	12.05	39.67	224,488	12.67
After 5 Years Service	1,192,246	67.31	271,177	15.31	48.16	307,919	17.38
After 10 Years Service	0	.00	71,049	4.01	78.16	1,700,294	95.99
After 15 Years Service	0	.00	0	.00	0	1,771,344	100.00
Tax-Exempt Organizations							
After 1 Year Service	470,258	93.82	10,694	2.13	10.00	20,305	4.05
After 3 Years Service	468,793	93.52	10,960	2.19	30.00	21,504	4.29
After 5 Years Service	396,161	79.03	64,229	12.81	29.73	40,867	8.15
After 10 Years Service	0	.00	52,070	10.39	50.00	449,188	89.61
After 15 Years Service	0	.00	0	.00	0	501,258	100.00
Not Classified							
After 1 Year Service	6,561,199	87.55	412,183	5.50	16.51	520,550	6.95
After 3 Years Service	6,421,499	85.69	509,693	6.80	40.94	562,741	7.51
After 5 Years Service	5,849,317	78.05	619,864	8.27	43.38	1,024,752	13.67
After 10 Years Service	0	.00	227,007	3.03	62.43	7,266,927	96.97
After 15 Years Service	0	.00	0	.00	0	7,493,934	100.00
TOTAL							
After 1 Year Service	25,993,918	90.04	1,497,102	5.19	14.56	1,378,567	4.78
After 3 Years Service	24,948,098	86.42	1,900,667	6.58	38.94	2,020,822	7.00
After 5 Years Service	21,386,626	74.08	3,865,245	13.39	40.69	3,617,716	12.53
After 10 Years Service	0	.00	2,231,189	7.73	66.14	26,638,399	92.27
After 15 Years Service	0	.00	0	.00	0	28,869,588	100.00

Source: NBER-DOL EBS1 Subsample File (1977)

1. Calculations based on plans that explicitly indicate vesting rules. For plans which relate vesting status to an employee's age, it was assumed that all employees were hired at age 30.

Table 4.3.27

Number of Plans by Vesting Status of Pension Plan after Various Years of Service and Union Status, 1977¹

	Not Vested		Vesting Status			Fully Vested	
	Number of Plans	Row Percent	Number of Plans	Row Percent	Mean Amount Vested	Number of Plans	Row Percent
<u>Union Plans</u>							
After 1 Year Service	17,454	93.58	371	1.99	10.70	826	4.43
After 3 Years Service	17,275	92.62	377	2.02	32.37	999	5.36
After 5 Years Service	13,648	73.18	3,815	20.45	40.42	1,188	6.37
After 10 Years Service	0	.00	3,087	16.55	75.35	15,565	83.45
After 15 Years Service	0	.00	0	.00	0	18,652	100.00
<u>Non-Union Plans</u>							
After 1 Year Service	161,438	54.23	74,572	25.05	14.46	61,691	20.72
After 3 Years Service	124,213	41.72	96,611	32.45	40.00	76,877	25.82
After 5 Years Service	69,778	23.44	105,707	35.51	43.88	122,217	41.05
After 10 Years Service	0	.00	39,481	13.26	66.80	258,221	86.74
After 15 Years Service	0	.00	0	.00	0	297,702	100.00
<u>Not Classified</u>							
After 1 Year Service	3,486	43.09	4,088	50.53	10.97	516	6.38
After 3 Years Service	3,089	38.18	4,485	55.44	32.66	516	6.38
After 5 Years Service	227	2.81	6,950	85.91	46.16	913	11.29
After 10 Years Service	0	.00	2,862	35.37	81.34	5,229	64.63
After 15 Years Service	0	.00	0	.00	0	8,091	100.00
<u>TOTAL</u>							
After 1 Year Service	182,378	56.21	79,032	24.36	14.27	63,035	19.43
After 3 Years Service	141,579	44.56	101,474	31.28	39.64	78,393	24.16
After 5 Years Service	83,653	25.78	116,473	35.90	43.90	124,319	38.32
After 10 Years Service	0	.00	45,431	14.00	68.30	279,015	86.00
After 15 Years Service	0	.00	0	.00	0	324,446	100.00

Source: NBER-DOL EBS1 Subsample File (1977)

1. Calculations based on plans that explicitly indicate vesting rules. For plans which relate vesting status to an employee's age, it was assumed that all employees were hired at age 30.

Table 4.3.28

Number of Participants by Vesting Status of Pension Plan after Various Years of Service and Union Status, 1977¹

	Not Vested		Vesting Status			Fully Vested	
	Number of Participants	Row Percent	Number of Participants	Row Percent	Mean Amount Vested	Number of Participants	Row Percent
<u>Union Plans</u>							
After 1 Year Service	13,869,504	96.76	165,982	1.16	12.79	298,477	2.08
After 3 Years Service	13,702,599	95.60	168,256	1.17	38.52	463,109	3.23
After 5 Years Service	12,063,863	84.16	1,334,099	9.31	40.41	936,001	6.53
After 10 Years Service	0	.00	1,031,777	7.20	73.92	13,302,187	92.80
After 15 Years Service	0	.00	0	.00	0	14,333,964	100.00
<u>Non-Union Plans</u>							
After 1 Year Service	11,904,867	83.46	1,312,523	9.20	14.83	1,047,110	7.34
After 3 Years Service	11,027,542	77.31	1,712,224	12.00	39.05	1,524,733	10.69
After 5 Years Service	9,158,058	64.20	2,459,693	17.24	40.98	2,646,748	18.55
After 10 Years Service	0	.00	1,146,159	8.04	59.31	13,118,341	91.96
After 15 Years Service	0	.00	0	.00	0	14,264,500	100.00
<u>Not Classified</u>							
After 1 Year Service	219,546	80.98	18,596	6.86	11.07	32,979	12.16
After 3 Years Service	217,957	80.39	20,186	7.45	32.95	32,979	12.16
After 5 Years Service	164,705	60.75	71,451	26.35	35.95	34,966	12.90
After 10 Years Service	0	.00	53,252	19.64	62.28	217,871	80.36
After 15 Years Service	0	.00	0	.00	0	271,123	100.00
<u>TOTAL</u>							
After 1 Year Service	25,993,918	90.04	1,497,102	5.19	14.56	1,378,567	4.78
After 3 Years Service	24,948,098	86.42	1,900,667	6.58	38.94	2,020,822	7.00
After 5 Years Service	21,386,626	74.08	3,865,245	13.39	40.69	3,617,716	12.53
After 10 Years Service	0	.00	2,231,189	7.73	66.14	26,638,399	92.27
After 15 Years Service	0	.00	0	.00	0	28,869,588	100.00

Source: NBER-DOL EBS1 Subsample File (1977)

1. Calculations based on plans that explicitly indicate vesting rules. For plans which relate vesting status to an employee's age, it was assumed that all employees were hired at age 30.

Table 4.3.29

Number of Plans by Vesting Status of Pension Plan after Various Years of Service and Plan Entity, 1977¹

	Not Vested		Vesting Status			Fully Vested	
	Number of Plans	Row Percent	Number of Plans	Row Percent	Mean Amount Vested	Number of Plans	Row Percent
Single Employer							
After 1 Year Service	176.010	56.59	73.618	23.67	14.27	61.382	19.74
After 3 Years Service	139.991	45.01	94.977	30.54	39.59	76.041	24.45
After 5 Years Service	80.756	25.97	110.652	35.58	43.87	119.601	38.46
After 10 Years Service	0	.00	43,867	14.10	68.59	267,142	85.90
After 15 Years Service	0	.00	0	.00	0	311,010	100.00
Multi Employer							
After 1 Year Service	4.050	45.09	4.222	47.00	15.31	711	7.91
After 3 Years Service	2.642	29.41	5.304	59.05	42.68	1,036	11.53
After 5 Years Service	1.349	15.02	4.231	47.10	44.99	3,403	37.88
After 10 Years Service	0	.00	1,166	12.98	63.67	7,817	87.02
After 15 Years Service	0	.00	0	.00	0	8,984	100.00
Not Classified							
After 1 Year Service	2.318	52.08	1,191	26.76	10.00	942	21.16
After 3 Years Service	1,945	43.70	1,191	26.76	30.00	1,315	29.54
After 5 Years Service	1,547	34.76	1,589	35.70	43.75	1,315	29.54
After 10 Years Service	0	.00	397	8.92	50.00	4,054	91.08
After 15 Years Service	0	.00	0	.00	0	4,452	100.00
TOTAL							
After 1 Year Service	182.378	56.21	79,032	24.36	14.27	63,035	19.43
After 3 Years Service	144,579	44.56	101,474	31.28	39.64	78,393	24.16
After 5 Years Service	83,653	25.78	116,473	35.90	43.90	124,319	38.32
After 10 Years Service	0	.00	45,431	14.00	68.30	279,015	86.00
After 15 Years Service	0	.00	0	.00	0	324,446	100.00

Source: NBER-DOL EBS1 Subsample File (1977)

1. Calculations based on plans that explicitly indicate vesting rules. For plans which relate vesting status to an employee's age, it was assumed that all employees were hired at age 30.

Table 4.3.30

Number of Participants by Vesting Status of Pension Plan after Various Years of Service and Plan Entity, 1977¹

	Not Vested		Vesting Status			Fully Vested	
	Number of Participants	Row Percent	Number of Participants	Row Percent	Mean Amount Vested	Number of Participants	Row Percent
Single Employer							
After 1 Year Service	20,346,526	89.18	1,411,662	6.19	14.65	1,056,845	4.63
After 3 Years Service	19,499,651	85.47	1,759,699	7.71	39.19	1,555,682	6.82
After 5 Years Service	16,826,701	73.75	3,110,096	13.63	39.84	2,878,235	12.62
After 10 Years Service	0	.00	1,606,296	7.04	58.44	21,208,738	92.96
After 15 Years Service	0	.00	0	.00	0	22,815,034	100.00
Multi Employer							
After 1 Year Service	5,477,972	94.24	67,558	1.16	14.00	267,353	4.60
After 3 Years Service	5,280,146	90.84	123,085	2.12	36.59	409,651	7.05
After 5 Years Service	4,398,380	75.67	730,511	12.57	44.22	683,992	11.77
After 10 Years Service	0	.00	618,137	10.63	86.33	5,194,746	89.37
After 15 Years Service	0	.00	0	.00	0	5,812,884	100.00
Not Classified							
After 1 Year Service	169,419	70.10	17,881	7.40	10.00	54,369	22.50
After 3 Years Service	168,300	69.64	17,881	7.40	30.00	55,488	22.96
After 5 Years Service	161,545	66.85	24,636	10.19	43.15	55,488	22.96
After 10 Years Service	0	.00	6,755	2.80	50.00	234,915	97.20
After 15 Years Service	0	.00	0	.00	0	241,670	100.00
TOTAL							
After 1 Year Service	25,993,918	90.04	1,497,102	5.19	14.56	1,378,567	4.78
After 3 Years Service	24,948,098	86.42	1,900,667	6.58	38.94	2,020,822	7.00
After 5 Years Service	21,386,626	74.08	3,865,245	13.39	40.69	3,617,716	12.53
After 10 Years Service	0	.00	2,231,189	7.73	66.14	26,638,399	92.27
After 15 Years Service	0	.00	0	.00	0	28,869,588	100.00

Source: NBER-DOL EBS1 Subsample File (1977)

1. Calculations based on plans that explicitly indicate vesting rules. For plans which relate vesting status to an employee's age, it was assumed that all employees were hired at age 30.

Table 4.3.31

Number of Plans with Age 22 Vesting Exclusion by Plan Type, 1977

	Years of Service Prior to Age 22 Not Counted for Vesting Purposes		All Years of Service Counted for Vesting Purposes	
	Number	Row Percent	Number	Row Percent
Defined Benefit	21,663	15.00	122,793	85.00
Defined Contribution	30,929	10.39	266,627	89.61
Other	823	5.73	13,535	94.27
TOTAL	53,417	11.70	402,956	88.30

Source: NBER-DOL EBS1 File (1977)

Table 4.3.32

Number of Participants with Age 22 Vesting Exclusion by Plan Type, 1977

	Years of Service Prior to Age 22 Not Counted for Vesting Purposes		All Years of Service Counted for Vesting Purposes	
	Number	Row Percent	Number	Row Percent
Defined Benefit	2,875,824	9.50	27,400,354	90.50
Defined Contribution	614,021	6.04	9,553,009	93.96
Other	32,506	4.43	701,211	95.57
TOTAL	3,522,351	8.55	37,654,575	91.45

Source: NBER-DOL EBS1 File (1977)

Table 4.3.33

Number of Plans with Age 22 Vesting Exclusion by Plan Size, 1977

	Years of Service Prior to Age 22 Not Counted for Vesting Purposes		All Years of Service Counted for Vesting Purposes	
	Number	Row Percent	Number	Row Percent
1-24 Participants	42,752	11.98	314,002	88.02
25-49 Participants	3,395	9.78	31,307	90.22
50-99 Participants	4,357	11.62	33,145	88.38
100-249 Participants	1,307	10.15	11,569	89.85
250-499 Participants	611	10.18	5,391	89.82
500-999 Participants	425	11.23	3,360	88.77
1,000-4,999 Participants	470	12.68	3,238	87.32
5,000-9,999 Participants	58	9.59	547	90.41
10,000+ Participants	37	8.58	394	91.42
TOTAL	53,417	11.70	402,956	88.30

Source: NBER-DOL EBS1 File (1977)

Table 4.3.34

Number of Participants with Age 22 Vesting Exclusion by Plan Size, 1977

	Years of Service Prior to Age 22 Not Counted for Vesting Purposes		All Years of Service Counted for Vesting Purposes	
	Number	Row Percent	Number	Row Percent
1-24 Participants	279,632	12.45	1,967,140	87.55
25-49 Participants	116,480	9.72	1,081,797	90.28
50-99 Participants	343,875	11.76	2,580,217	88.24
100-249 Participants	203,721	10.09	1,814,940	89.91
250-499 Participants	216,024	10.26	1,890,049	89.74
500-999 Participants	301,868	11.36	2,356,428	88.64
1,000-4,999 Participants	1,010,595	13.00	6,762,462	87.00
5,000-9,999 Participants	418,485	10.20	3,684,626	89.80
10,000+ Participants	631,670	3.91	15,516,914	96.09
TOTAL	3,522,351	8.55	37,654,575	91.45

Source: NBER-DOL EBS1 File (1977)

Table 4.3.35

Number of Plans with Age 22 Vesting Exclusion by Industry, 1977

	Years of Service Prior to Age 22 Not Counted for Vesting Purposes		All Years of Service Counted for Vesting Purposes	
	Number	Row Percent	Number	Row Percent
Agriculture, Forestry, and Fishing	976	12.43	6,877	87.57
Mining	214	8.57	2,284	91.43
Construction	3,159	15.31	17,477	84.69
Manufacturing	7,088	11.22	56,108	88.78
Transportation, Communications, and Utilities	1,303	15.24	7,246	84.76
Wholesale Trade	4,404	14.03	26,985	85.97
Retail Trade	4,987	13.84	31,053	86.16
Finance, Insurance, and Real Estate	3,717	13.89	23,046	86.11
Services	14,152	10.55	119,939	89.45
Tax-Exempt Organizations	716	8.72	7,494	91.28
Not Classified	12,695	10.84	104,443	89.16
TOTAL	53,417	11.70	402,956	88.30

Source: NBER-DOL EBS1 File (1977)

Table 4.3.36

Number of Participants with Age 22 Vesting Exclusion by Industry, 1977

	Years of Service Prior to Age 22 Not Counted for Vesting Purposes		All Years of Service Counted for Vesting Purposes	
	Number	Row Percent	Number	Row Percent
Agriculture, Forestry, and Fishing	13,349	8.18	149,814	91.82
Mining	45,002	12.45	316,557	87.55
Construction	42,683	1.76	2,379,140	98.24
Manufacturing	888,750	6.03	13,839,654	93.97
Transportation, Communications, and Utilities	367,670	14.61	2,149,440	85.39
Wholesale Trade	131,695	10.87	1,079,303	89.13
Retail Trade	328,507	12.11	2,384,484	87.89
Finance, Insurance, and Real Estate	516,370	23.02	1,726,584	76.98
Services	319,980	11.99	2,348,722	88.01
Tax-Exempt Organizations	69,416	4.23	1,570,781	95.77
Not Classified	798,925	7.60	9,710,091	92.40
TOTAL	3,522,351	8.56	37,644,575	91.44

Source: NBER-DOL EBS1 File (1977)

Table 4.3.37

Number of Plans with Age 22 Vesting Exclusion by Union Status, 1977

	Years of Service Prior to Age 22 Not Counted for Vesting Purposes		All Years of Service Counted for Vesting Purposes	
	Number	Row Percent	Number	Row Percent
Union Plans	1,329	5.54	22,642	94.46
Nonunion Plans	50,888	12.13	368,494	87.87
Not Classified	1,199	9.21	11,819	90.79
TOTAL	53,417	11.70	402,956	88.30

Source: NBER-DOL EBS1 File (1977)

Table 4.3.38

Number of Participants with Age 22 Vesting Exclusion by Union Status, 1977

	Years of Service Prior to Age 22 Not Counted for Vesting Purposes		All Years of Service Counted for Vesting Purposes	
	Number	Row Percent	Number	Row Percent
Union Plans	825,609	4.32	18,272,538	95.68
Nonunion Plans	2,655,095	12.27	18,992,411	87.73
Not Classified	41,646	9.66	389,625	90.34
TOTAL	3,522,351	8.55	37,654,575	91.45

Source: NBER-DOL EBS1 File (1977)

Table 4.3.39

Number of Plans with Age 22 Vesting Exclusion by Plan Entity, 1977

	Years of Service Prior to Age 22 Not Counted for Vesting Purposes		All Years of Service Counted for Vesting Purposes	
	Number	Row Percent	Number	Row Percent
Single Employer	51,463	11.79	384,882	88.21
Multi Employer	790	8.86	8,131	91.14
Not Classified	1,163	10.47	9,942	89.53
TOTAL	53,417	11.70	402,956	88.30

Source: NBER-DOL EBS1 File (1977)

Table 4.3.40

Number of Participants with Age 22 Vesting Exclusion by Plan Entity, 1977

	Years of Service Prior to Age 22 Not Counted for Vesting Purposes		All Years of Service Counted for Vesting Purposes	
	Number	Row Percent	Number	Row Percent
Single Employer	3,313,895	10.19	29,207,021	89.81
Multi Employer	146,384	1.91	7,518,681	98.09
Not Classified	62,071	6.26	928,872	93.74
TOTAL	3,522,351	8.55	37,654,575	91.45

Source: NBER-DOL EBS1 File (1977)

4.4 Portability Provisions of Private Pension Plans

Pension portability permits covered vested and nonvested workers who change employers to carry their accumulated service credits to the new employer. While only 21 percent of U.S. private plans reported portable pensions on the Department of Labor's EBS1 forms, these plans cover more than half of all pension participants (tables 4.4.1 and 4.4.2). These data must, however, be viewed with extreme caution. It appears quite likely that many plan sponsors misinterpreted the EBS1 portability question to be a question about pension vesting rather than pension portability. An additional possibility is that plan sponsors considered the employee's potential use of an IRA as a form of portability. While the absolute numbers of plans and participants reported to have portability are likely to be biased, their relative magnitudes of portability by pension plan characteristics may provide more reliable information.

Taking the EBS1 portability responses at their face value, pension portability is slightly more prevalent among defined benefit plans than defined contribution plans; 24 percent of the former as opposed to 20 percent of the latter type of plans have portability provisions. On the other hand 51 percent of both defined benefit and defined contribution participants are covered by portability provisions.

As one might expect, large plans, many of which are multiemployer plans, are much more likely to report pension portability. Tables 4.4.3 and 4.4.4 show how portability varies with plan size. Workers covered in large plans with 10,000 or more participants are more than 2 times as likely to have portable pensions than workers covered by plans with fewer than 25 participants.

Pension portability differs markedly across industries (tables 4.4.5 and 4.4.6). The industry whose covered workers are most likely to have portable pensions is construction; 82 percent of covered construction workers are reported to have portable pensions. The corresponding figures in retail trade, in transportation, communications, and utilities, and in

mining are 67.51, 64.85, and 64.78 percent, respectively. Agriculture, forestry, and fishing; manufacturing; and services are the industries with the smallest extent of portability. For each of these industries about 50 percent of covered workers have portable pensions.

Union status appears to be another major determinant of pension portability (tables 4.4.7 and 4.4.8). Although union pension plans are only slightly more likely to provide portability than are nonunion plans, 60 percent of covered workers but only 42 of covered nonunion workers have portable pensions.

One might expect that portability is much more widespread among multiemployer plans than among single employer plans. However, while "multiemployer" plans clearly refer to plans covering workers employed by more than one employer, it appears that some single employer plans have this feature as well. One example of this is a parent firm with a number of subsidiaries. A single pension plan that covers numerous subsidiary companies may be provided by the parent firm or holding company. A pension plan covering such a conglomerate could well be designated as a "single employer" plan on the EBS1 form.

"Multiemployer" plans are indeed more likely than "single employer" plans to report pension portability. Almost half of these plans but only 21 percent of "single employer" plans report portability. Although the fraction of covered "single employer" workers with portability is less than half the fraction for "multiemployer" covered workers, this fraction is still large, namely 42 percent (tables 4.4.9 and 4.4.10).

Table 4.4.1
Number of Plans by Portability Provisions and Plan Type, 1977

	Portability with Other Employers Participating In the Plan	Portability with Other Employers Not Participating In the Plan	Portability with Both Participating and Non-Participating Employers	No Portability	Not Classified
Defined Benefit					
Number	21,983	2,118	9,904	98,145	12,304
Percent	15.22	1.47	6.86	67.94	8.52
Defined Contribution					
Number	28,981	4,723	25,393	207,316	31,201
Percent	9.72	1.59	8.53	69.67	10.49
Other					
Number	1,904	245	1,099	7,990	3,119
Percent	13.26	1.71	7.65	55.64	21.73
Total					
Number	52,809	7,088	36,397	313,452	46,626
Percent	11.57	1.55	7.98	68.68	10.22

Source: NBER-DOL EBS1 File (1977)

Table 4.4.2
Number of Participants by Portability Provisions and Plan Type, 1977

	Portability with Other Employers Participating In the Plan	Portability with Other Employers Not Participating In the Plan	Portability with Both Participating and Non-Participating Employers	No Portability	Not Classified
Defined Benefit					
Number	7,622,214	550,246	7,249,786	13,309,782	1,544,148
Percent	25.18	1.82	23.95	43.96	5.10
Defined Contribution					
Number	3,230,049	188,909	1,520,050	4,532,085	695,935
Percent	31.76	1.86	14.95	44.58	6.85
Other					
Number	159,955	31,055	117,987	312,776	111,942
Percent	21.80	4.23	16.08	42.63	15.26
Total					
Number	11,012,220	770,211	8,887,825	18,154,644	2,352,025
Percent	26.74	1.87	21.58	44.09	5.71

Source: NBER-DOL EBS1 File (1977)

Table 4.4.3
Number of Plans by Portability Provisions and Plan Size, 1977

	Portability with Other Employers Participating In the Plan	Portability with Other Employers Not Participating In the Plan	Portability with Both Participating and Non-Participating Employers	No Portability	Not Classified
<u>1-24</u>					
<u>Participants</u>					
Number	35,297	4,795	29,277	250,827	36,557
Percent	9.89	1.34	8.21	70.31	10.25
<u>25-49</u>					
<u>Participants</u>					
Number	4,847	542	2,100	23,065	4,147
Percent	13.97	1.56	6.05	66.46	11.95
<u>50-99</u>					
<u>Participants</u>					
Number	6,160	927	2,152	24,780	3,482
Percent	16.43	2.47	5.74	66.08	9.29
<u>100-249</u>					
<u>Participants</u>					
Number	2,542	399	835	7,788	1,311
Percent	19.74	3.10	6.49	60.48	10.19
<u>250-499</u>					
<u>Participants</u>					
Number	1,386	179	522	3,385	530
Percent	23.09	2.99	8.70	56.39	8.84
<u>500-999</u>					
<u>Participants</u>					
Number	1,019	120	501	1,842	302
Percent	26.92	3.18	13.24	48.67	7.99
<u>1,000-4,999</u>					
<u>Participants</u>					
Number	1,218	109	704	1,426	250
Percent	32.84	2.94	18.99	38.47	6.76
<u>5,000-9,999</u>					
<u>Participants</u>					
Number	194	7	148	226	29
Percent	32.10	1.15	24.48	37.41	4.85
<u>10,000+</u>					
<u>Participants</u>					
Number	144	8	155	110	14
Percent	33.33	1.94	35.92	25.57	3.24
<u>TOTAL</u>					
Number	52,809	7,088	36,397	313,452	46,626
Percent	11.57	1.55	7.98	68.68	10.22

Source: NBER-DOL EBS1 File (1977)

Table 4.4.4
Number of Participants by Portability Provisions and Plan Size, 1977

	Portability with Other Employers Participating In the Plan	Portability with Other Employers Not Participating In the Plan	Portability with Both Participating and Non-Participating Employers	No Portability	Not Classified
<u>1-24</u>					
<u>Participants</u>					
Number	245,927	32,007	160,317	1,574,317	234,202
Percent	10.95	1.42	7.14	70.07	10.42
<u>25-49</u>					
<u>Participants</u>					
Number	169,207	19,705	71,925	794,080	143,360
Percent	14.12	1.64	6.00	66.27	11.96
<u>50-99</u>					
<u>Participants</u>					
Number	480,742	71,662	168,385	1,932,052	271,250
Percent	16.44	2.45	5.76	66.07	9.28
<u>100-249</u>					
<u>Participants</u>					
Number	405,252	63,442	133,280	1,212,099	204,587
Percent	20.08	3.14	6.60	60.04	10.13
<u>250-499</u>					
<u>Participants</u>					
Number	488,261	63,548	184,664	1,179,091	190,507
Percent	23.18	3.02	8.77	55.99	9.05

Table 4.4.4 Continued
 Number of Participants by Portability Provisions and Plan Size, 1977

	Portability with Other Employers Participating In the Plan	Portability with Other Employers Not Participating In the Plan	Portability with Both Participating and Non-Participating Employers	No Portability	Not Classified
<u>500-999 Participants</u>					
Number	717,339	86,994	357,298	1,290,534	206,130
Percent	26.98	3.27	13.44	48.55	7.75
<u>1,000-4,999 Participants</u>					
Number	2,683,021	216,057	1,549,795	2,809,622	514,560
Percent	34.52	2.78	19.94	36.15	6.62
<u>5,000-9,999 Participants</u>					
Number	1,359,082	48,287	1,059,536	1,435,560	200,645
Percent	33.12	1.18	25.82	34.99	4.89
<u>10,000+ Participants</u>					
Number	4,463,386	168,505	5,202,622	5,927,287	386,782
Percent	27.64	1.04	32.22	36.70	2.40
<u>TOTAL</u>					
Number	11,012,220	770,211	8,887,825	18,154,644	2,352,025
Percent	26.76	1.87	21.58	44.09	5.71

Source: NBER-DOL EBS1 File (1977)

Table 4.4.5
 Number of Plans by Portability Provisions and Industry, 1977

	Portability with Other Employers Participating In the Plan	Portability with Other Employers Not Participating In the Plan	Portability with Both Participating and Non-Participating Employers	No Portability	Not Classified
<u>Agriculture, Forestry, and Fishing</u>					
Number	887	142	725	5,359	739
Percent	11.30	1.82	9.23	68.24	9.41
<u>Mining</u>					
Number	343	63	256	1,467	368
Percent	13.72	2.55	10.28	58.72	14.73
<u>Construction</u>					
Number	2,550	292	1,887	13,897	2,008
Percent	12.36	1.42	9.15	67.34	9.73
<u>Manufacturing</u>					
Number	8,719	1,175	4,365	42,807	6,130
Percent	13.80	1.86	6.91	67.74	9.70
<u>Transportation, Communications, and Utilities</u>					
Number	1,387	242	961	5,174	784
Percent	16.23	2.84	11.24	60.52	9.17
<u>Wholesale Trade</u>					
Number	3,798	402	2,283	21,604	3,300
Percent	12.10	1.28	7.27	68.83	10.51
<u>Retail Trade</u>					
Number	4,155	391	3,107	24,830	3,556
Percent	11.53	1.09	8.62	68.90	9.87
<u>Finance, Insurance, and Real Estate</u>					
Number	3,947	406	2,156	17,520	2,732
Percent	14.75	1.52	8.06	65.46	10.21
<u>Services</u>					
Number	13,127	2,471	11,773	94,287	12,431
Percent	9.79	1.84	8.78	70.32	9.27
<u>Tax-Exempt Organizations</u>					
Number	1,157	210	982	5,422	436
Percent	14.09	2.57	11.97	66.05	5.32

Table 4.4.5 Continued
 Number of Plans by Portability Provisions and Industry, 1977

	Portability with Other Employers Participating In the Plan	Portability with Other Employers Not Participating In the Plan	Portability with Both Participating and Non-Participating Employers	No Portability	Not Classified
<u>Not Classified</u>					
Number	12,735	1,288	7,897	81,080	14,138
Percent	10.87	1.10	6.74	69.22	12.07
<u>TOTAL</u>					
Number	52,809	7,088	36,397	313,452	46,626
Percent	11.57	1.55	7.98	68.68	10.22

Source: NBER-DOL EBS1 File (1977)

Table 4.4.6
 Number of Participants by Portability Provisions and Industry, 1977

	Portability with Other Employers Participating In the Plan	Portability with Other Employers Not Participating In the Plan	Portability with Both Participating and Non-Participating Employers	No Portability	Not Classified
<u>Agriculture, Forestry, and Fishing</u>					
Number	37,902	3,060	28,443	80,272	13,485
Percent	23.23	1.88	17.43	49.20	8.27
<u>Mining</u>					
Number	117,327	9,151	107,735	115,065	12,284
Percent	32.45	2.53	29.80	31.82	3.40
<u>Construction</u>					
Number	412,106	8,312	1,558,914	369,357	73,133
Percent	17.02	0.34	64.37	15.25	3.02
<u>Manufacturing</u>					
Number	3,562,806	288,939	2,436,011	7,714,844	725,803
Percent	24.19	1.96	16.54	52.38	4.93
<u>Transportation, Communications, and Utilities</u>					
Number	488,701	66,210	1,077,363	779,133	105,702
Percent	19.42	2.63	42.80	30.95	4.20
<u>Wholesale Trade</u>					
Number	238,359	20,217	365,313	511,863	75,245
Percent	19.68	1.67	30.17	42.27	6.21
<u>Retail Trade</u>					
Number	1,073,506	66,987	690,878	681,203	200,415
Percent	39.57	2.47	25.47	25.11	7.39
<u>Finance, Insurance, and Real Estate</u>					
Number	794,678	87,995	354,288	826,837	179,154
Percent	35.43	3.92	15.80	36.86	7.99
<u>Services</u>					
Number	693,826	59,493	367,820	1,347,049	200,512
Percent	26.00	2.23	13.78	50.48	7.51
<u>Tax-Exempt Organizations</u>					
Number	303,298	30,946	99,150	1,154,053	52,749
Percent	18.49	1.89	6.05	70.36	3.22
<u>Not Classified</u>					
Number	3,289,711	128,896	1,801,906	4,574,962	713,540
Percent	31.30	1.23	17.15	43.53	6.79
<u>TOTAL</u>					
Number	11,012,220	770,211	8,887,825	18,154,644	2,352,025
Percent	26.74	1.87	21.58	44.09	5.71

Source: NBER-DOL EBS1 File (1977)

Table 4.4.7

Number of Plans by Portability Provisions and Union Status, 1977

	Portability with Other Employers Participating In the Plan	Portability with Other Employers Not Participating In the Plan	Portability with Both Participating and Non-Participating Employers	No Portability	Not Classified
<u>Union Plans</u>					
Number	3,829	592	2,095	15,116	2,336
Percent	15.98	2.47	8.74	63.06	9.75
<u>Non-Union Plans</u>					
Number	47,871	6,395	33,541	290,194	41,379
Percent	11.41	1.52	8.00	69.20	9.87
<u>Not Classified</u>					
Number	1,108	100	759	8,141	2,909
Percent	8.51	0.77	5.83	62.53	22.35
<u>TOTAL</u>					
Number	52,809	7,088	36,397	313,452	46,626
Percent	11.57	1.55	7.98	68.68	10.22

Source: NBER-DOL EBS1 File (1977)

Table 4.4.8

Number of Participants by Portability Provisions and Union Status, 1977

	Portability with Other Employers Participating In the Plan	Portability with Other Employers Not Participating In the Plan	Portability with Both Participating and Non-Participating Employers	No Portability	Not Classified
<u>Union Plans</u>					
Number	5,303,726	336,971	5,841,019	6,772,549	843,880
Percent	27.77	1.76	30.58	35.46	4.42
<u>Non-Union Plans</u>					
Number	5,611,981	427,091	2,962,866	11,216,816	1,428,751
Percent	25.92	1.97	13.69	51.82	6.60
<u>Not Classified</u>					
Number	96,512	6,148	83,938	165,278	79,394
Percent	22.38	1.43	19.46	38.32	18.41
<u>TOTAL</u>					
Number	11,012,220	770,211	8,887,825	18,154,644	2,352,025
Percent	26.74	1.87	21.58	44.09	5.71

Source: NBER-DOL EBS1 File (1977)

Table 4.4.9

Number of Plans by Portability Provisions and Plan Entity, 1977

	Portability with Other Employers Participating In the Plan	Portability with Other Employers Not Participating In the Plan	Portability with Both Participating and Non-Participating Employers	No Portability	Not Classified
<u>Single Employer</u>					
Number	48,454	6,958	34,439	302,386	44,107
Percent	11.10	1.59	7.89	69.30	10.11
<u>Multi Employer</u>					
Number	3,222	16	1,383	3,531	766
Percent	36.12	0.19	15.51	39.58	8.59
<u>Not Classified</u>					
Number	1,132	113	574	7,534	1,752
Percent	10.20	1.02	5.17	67.84	15.78
<u>TOTAL</u>					
Number	52,809	7,088	36,397	313,452	46,626
Percent	11.57	1.55	7.98	68.68	10.22

Source: NBER-DOL EBS1 File (1977)

Table 4.4.10
Number of Participants by Portability Provisions and Plan Entity, 1977

	Portability with Other Employers Participating In the Plan	Portability with Other Employers Not Participating In the Plan	Portability with Both Participating and Non-Participating Employers	No Portability	Not Classified
<u>Single Employer</u>					
Number	8,247,820	755,584	4,669,689	16,744,352	2,103,469
Percent	25.36	2.12	14.36	51.49	6.47
<u>Multi Employer</u>					
Number	2,528,320	11,144	4,153,648	757,336	214,615
Percent	32.98	0.15	54.19	9.88	2.80
<u>Not Classified</u>					
Number	236,078	3,483	64,486	652,955	33,940
Percent	23.82	0.35	6.51	65.89	3.43
<u>TOTAL</u>					
Number	11,012,220	770,211	8,887,825	18,154,644	2,352,025
Percent	26.74	1.87	21.58	44.09	5.71

Source: NBER-DOL EBS1 File (1977)

4.5 Benefit Formulae and Benefit Levels of Private Defined Benefit Plans

Private defined benefit plans use a wide variety of formulae to determine pension benefits. However, over 85 percent of these plans covering an equally large fraction of participants use one of six general types of formulae. These formulae, listed in the Department of Labor's 1977 EBS1 survey of private pension plans, can be divided into earnings related and non-earnings related formulae. Almost equal fractions of defined benefit participants, .435 and .427, respectively, are enrolled in plans with earnings related and non-earnings related formulae (table 4.5.1).

The large fraction of defined participants in plans with non-earnings related formulae is quite surprising. Many students of the U.S. private pension system commend defined benefit plans for insuring the worker's initial real retirement benefit against inflation occurring prior to retirement through the use of earnings related formulae. Since an increase in the rate of inflation is generally associated with an increase in the rate of nominal wage growth, earnings related formulae provide greater initial retirement benefits the greater the pre-retirement inflation rate. This hedge against inflation is greatest for formulae relating benefits to nominal earnings in years just prior to retirement.

In contrast to the general presumption about inflation risk-mitigating features of defined benefit plans, real benefits based on the two principal non-earnings related formulae, "flat benefit related to service only" and "flat benefit not based on earnings or service," appear highly sensitive to inflation. The former formula applies to 35.61 percent of participants, while the latter applies to 7.14 percent (table 4.5.1).

One response to this finding that 43 percent of defined benefit participants are covered by highly inflation sensitive benefit formulae is that workers may effectively be insured against this type of unexpected real benefit erosion by subsequent amendments to pension plan benefit formulae; i.e. in the case of the flat benefit related to service only formula, the flat benefit amount can be raised periodically when inflation is unexpectedly high. Such plan amendments can and do occur. This is particularly true of plans covered by collective bargaining agreements. According to table 4.5.6 close to 80 percent of participants in plans with non-earnings related benefit formulae are union participants. However, union as well as nonunion workers may still be adversely affected by greater than expected inflation if the new, higher negotiated pension benefit is associated with a smaller increase in nonpension compensation than would otherwise have been the case. In short, it is difficult, if not impossible, to discern the terms of possible implicit understandings (implicit contracts) between workers and firms; but to the extent that the explicit provisions agreed to by the parties involved are indicative of unwritten as well as written understandings and commitments, these flat benefit formulae leave both workers and firms gambling over the worker's

real pension benefits; the outcome of this gamble depends on the rate of inflation, a variable largely determined by government policy.

The flat benefit per month in the "flat benefit related to service only" formula averaged \$5.96 per month in 1977 with a standard deviation of \$3.19. These calculations treat plans equally regardless of number of participants. If one weights the flat benefit amounts by participants, the average flat benefit is \$8.06 per month with a standard deviation of \$5.44. For a worker with 30 years of service, this \$8.06 monthly figure translates into an annual nominal pension benefit of \$2,901.60. The sample's minimum flat benefit per month of services is \$1; the maximum is \$30.

In 1977 the "flat benefit not based on earnings or service" formula promised, on average, \$43.31 per month, or \$519.72 per year, on a plan-weighted basis and \$24.96 per month, or \$299.52 per year, on a participant-weighted basis. The standard deviations for these monthly benefits are \$18.94 and \$15.61, respectively. Over all plans in the sample with this formula, the minimum flat benefit was \$10 per month while the maximum was \$80 per month.

The four remaining formulae specified in table 4.5.1 base pension benefits on the worker's earnings history. Two of the four also consider the worker's length of service in computing her (his) retirement benefit. "The unit formula based on earnings and service" computes the retirement benefit as a percentage of the employee's earnings base multiplied by the number of years of service. Hence, if the specified percentage is 1, a worker retiring with 30 years of service receives an annual pension benefit equal to 30 percent of her (his) earnings base. About 10 percent of defined benefit plans, accounting for 10 percent of defined benefit participants, provide benefits based on this formula. On a plan-weighted basis the percentage of the employee's earnings base used in this formula is 1.02 percent with a standard deviation of .15. The mean percentage weighting by participants rather than plans is 1.10 with a standard deviation of .27. Minimum and maximum values are .6 percent and 2.0 percent.

The "social security step rate" formula, covering 16.19 percent of participants, is quite similar to the unit formula. Here the pension plan promises to pay a percentage of the earnings base for each year of service or earnings up to a specified ceiling, and another percentage, usually higher, on the excess of the earnings base above this ceiling. This formula is called "social security step rate" because the pension plan's specified ceiling cannot exceed social security's taxable earnings ceiling.

The average benefit payment rate on earnings below the ceiling in the 1977 EBS1 file is .81 percent weighting by plans and .99 percent weighting by participants. The standard deviations associated with these numbers are .30 and .24, respectively. Minimum and maximum sample values for this percentage are .5 percent and 2 percent. The payment rate on earnings above the ceiling average is 1.52 weighting by plans and 1.65 weighting by participants. Standard deviations are .52 and .42, respectively. The minimum and maximum values here are .8 percent and 2.5 percent. The earnings ceiling itself has a plan-weighted mean of \$7,362 with a standard deviation of \$2,700 and a participant-weighted mean of \$10,344 with a standard deviation of \$4,330. The minimum ceiling in the sample is \$3,600, and the maximum is \$15,300.

Another benefit formula that is "integrated" with features of the Social Security System is the "social security offset" formula. This formula, which determines benefits for 15.70 percent of participants, provides, on average, 55.34 percent (60.59 percent when participant weighted) of a worker's earnings base for each year of service less, on average, 65.22 percent (53.25 percent when participant weighted) of social security's primary insurance amount. The social security primary insurance amount is the basic retirement benefit provided to covered workers based on their social security earnings history. The standard deviations of these percentages are, respectively, 14.54 and 11.43 on a plan-weighted basis and 10.75 and 10.02 on a participant-weighted basis. The minimum sample value for percent of earnings is 30 percent, while the minimum reduction rate with respect to the social security primary insurance amount is 37.5 percent. Maximum values for these numbers are 89 and 99 percent, respectively.

The remaining formula not yet discussed in table 4.5.1 is entitled "flat percentage related to earnings only." This formula was chosen by 8.30 percent of defined benefit plans in 1977, but these plans account for only 1.39 percent of all participants. Weighting by plans the typical fraction of the earnings base specified was 32.44 percent with a standard deviation of 12.46 percent. With participant weighting the average percentage is 30.60 percent with a standard deviation of 10.04 percent. This percentage ranged in one sample from a low of 20 percent to a high of 45 percent.

Table 4.5.2 indicates the relation of a plan's choice of benefit formula to its size. Significant differences are observed for plans with fewer than and plans with more than fifty participants. Very small plans are much less likely to use the "flat benefit related to service only" formula than are other plans. On the other hand the "flat percentage related to earnings only" is used by close to 13 percent of plans with fewer than twenty-five participants, while large plans rarely adopt this formula. For medium size plans with fifty to ninety-nine participants almost 35 percent of those enrolled are covered by the "flat benefit related to service only" formula (table 4.5.3).

Variation in the choice of benefit formula across industries is also considerable. Tables 4.5.4 and 4.5.5 document this point. Take, for example, the "unit formula based on earnings and service" formula. In manufacturing 15.70 percent of participants are covered by this formula; in construction the data source suggests essentially no use of this formula. In manufacturing 46.16 percent of participants are covered by the inflation risky flat benefit formulae; in finance, insurance, and real estate only .62 percent of pension plan participants are covered under these two formulae.

Much of the variation in choice of benefit formulae is related to the union status of the plan. Table 4.5.6 makes this clear; 67.47 percent of union plans but only 5.68 percent of nonunion plans use the flat benefit formulae; these differences are only a bit less striking when one examines the fraction of union participants versus nonunion participants affected. Close to 60 percent of union participants can project receipt of benefits based on the flat benefit formulae, while only 19.83 percent of nonunion participants face these benefit formulae (table 4.5.7). Union plans are also much less likely to utilize either of the two social security benefit integration schemes. These differences are obvious for virtually all sizes of pension plans as well as virtually all industries (tables 4.5.2 through 4.5.5).

Multiemployer plans, 39.61 percent of which are union plans, are much more likely to use the flat benefit formulae and much less likely to use either the unit benefit or the social security integration formulae than are single employer plans (tables 4.5.8 and 4.5.9). Multiemployer union plans account for 96.83 percent of all multiemployer participants subject to these benefit formulae; they account for 30.73 percent of all participants with flat benefit formulae.

The IRS 5500 File provides a second source of data concerning integration of pension benefit formulae with social security. Tables 4.5.10–4.5.15 contain estimates from this file of the number of plans integrated with social security. The IRS 5500 data in these tables pertain only to plans with 100 or more participants. One-third of these plans indicated that their benefit formulae were integrated with social security. These plans account for 37.57 percent of participants in plans with more than 100 participants.

Both the fraction of integrated plans and the fraction of affected participants rise slightly with plan size. For plans with 100 to 249 participants the affected participants account for 31.77 percent of all participants; this number rises to 38.53 percent for plans with 10,000 or more participants.

In certain industries the fraction of large plans with integrated formulae is quite high. In table 4.5.12 the reported fraction of plans with integrated formulae is almost two-thirds in finance, insurance, and real estate. The fraction exceeds 40 percent of all industries except mining, construction, and manufacturing. In construction only 8.11 percent of defined benefit plans reported integrated benefit formulae.

For some industries, such as finance, insurance, and real estate, the fraction of defined benefit participants covered by integrated plans is similar to the fraction of plans with integrated formulae. In manufacturing, on the other hand, two-fifths of covered workers

participate in integrated plans, although such plans represent only one-quarter of all manufacturing plans (with more than 100 participants). In construction 5.36 percent of defined benefit participants are covered by integrated plans.

The IRS data also permit investigation of the relation between plan entity and social security integration. Surprisingly, only 7.24 percent of plans covering 3.86 percent of participants in multiemployer plans report integration. In contrast, 36.91 percent of single employer plans covering 49.79 percent of single employer participants are integrated with social security.

4.5.1 *Pension Benefit Earnings Bases*

Tables 4.5.16 through 4.5.23 provide information about the earnings bases of those plans whose benefits are based in part on earnings. The four earnings bases listed in these tables, career average, final or highest 3 years, final or highest 5 years, and final or highest 10 years, indicate the years over which nominal earnings are averaged to compute the earnings base. For example, in the case of the "final or highest 3 years" earnings base, the plan averages either the final 3 years of earnings or the highest 3 years of earnings over the worker's career. Typically plans included in this category will specify either final 3 years or highest 3 years. Some plans use whichever formula provides the largest earnings base. The "career average" earnings base means that the pension plan participant's nominal earnings over her (his) entire tenure with the firm are averaged to compute the earnings base.

Benefit formulae that use the career average base provide benefits that are considerably more risky with respect to inflation over the participant's working period than are formulae that base benefits on the average of earnings in years just prior to retirement. Under a career average earnings base formula and in the presence of inflation, low nominal earnings early in life are weighted equally with higher nominal earnings at older ages; this pulls down the computed average and lowers both the nominal and real pension benefit. Table 4.5.1 indicates that 42.11 percent of pension plan participants use earnings based formulae. Table 4.5.17 reveals that 26.90 percent of these participants, or 11.33 percent of all defined benefit participants, are subject to the inflation risks associated with career average formulae. It should be noted, however, that some plans with career earnings based formulae amend the formulae periodically to halt some of the inflation erosion of benefits. These amendments typically take the form of an "earnings step-up," where earnings in early years are stepped up to their value in a later year in the computation of the career average.

The 11.33 percent figure when added to the 42.75 percent figure reflecting participants covered by flat benefit formulae that are not based on earnings brings to 54.08 percent the minimum fraction of defined benefit participants facing a substantial risk of loss of real benefits due to inflation over their working years.

Variations across industries in choice of earnings base are reported in tables 4.5.18 and 4.5.19. While each of the industries specify the career average and the final 5 year bases more often than either final 3 years or final 10 years, the industries vary considerably in their choice of the career average versus the final 5 year earnings bases. In finance, for example, 7.50 percent of participants with earnings based benefit formulae have career average bases. In retail trade the figure is 28.35 percent.

The evidence found in tables 4.5.6 and 4.5.7 that union real pension benefits are especially at risk with respect to inflation over the working period is reinforced by the numbers in tables 4.5.20 and 4.5.21. Over 40 percent of union participants with one of the four EBS1-designated earnings related formulae have the career average wage base. For nonunion plans, fewer than 25 percent of the relevant participant population are faced with career average benefit formulae. In combination, tables 4.5.7 and 4.5.22 indicate that well over half of union defined benefit participants are exposed to the risk of a significant erosion of their real retirement benefits from inflation occurring during their working careers.

Tables 4.5.16 through 4.5.19 indicate marked variations with both plan size and industry in union and nonunion choices of earnings base.

Tables 4.5.9, 4.5.22, and 4.5.23 show that while very few multiemployer participants are covered by the four designated earnings related benefit formulae, close to a third of such

workers face a career average earnings base. In contrast, for single employer plans, plans that are much less likely to be union plans, the percentage is about 7 points lower.

4.5.2 *Benefits and Replacement Rates for Hypothetical Retirees*

The next set of tables, 4.5.24 through 4.5.35, present estimated average (plan- and participant-weighted) annual benefit payments as well as benefit replacement rates for hypothetical workers retiring in 1977. Values of these variables were computed for each of the pension plans in the NBER-DOL EBS1 Subsample File (1977). The tables report numbers for four hypothetical workers earning \$10,000, \$20,000, \$30,000, and \$40,000 in 1976, the year prior to retirement. Earnings in previous years are estimated as the pre-retirement earnings level times an annual nominal wage deflator. The annual deflator equals the ratio of the Bureau of the Census's annual measure of average full-time equivalent earnings to the value of this variable in 1977. The hypothetical workers are assumed to have 35 years of service and retire at age 65. The tables are based only on those defined benefit plans that describe their benefit formulae on the EBS1 form.

Tables 4.5.24 and 4.5.25 summarize the implications of the various benefit formulae and their associated earnings bases for benefit level and replacement rates. On a participant-weighted basis benefits averaged across all types of benefit formulae range from \$2,725 for the \$10,000 worker to \$8,040 for the \$40,000 worker. These numbers may be compared with the 1977 average annual social security retirement benefit payment of \$2,970 to retired workers.⁵

Average pension plan replacement rates decline with the level of pre-retirement labor earnings from 27.25 percent to 20.10 percent. One reason for the apparent decline in average replacement rates at higher levels of earnings is the existence of large flat benefit plans in the sample. These plans, typically union, are usually designed for a specific group of workers whose earnings fall within a narrow range. Hence, while these plans may have low replacement rates for highly paid workers, such workers are not likely to be covered under these plans. Hence the replacement rates for plans with flat benefit formulae may be misleading. For this reason, the tables in this section contain separate calculations of average replacement rates for earnings related formulae and flat benefit formulae to permit potentially more meaningful comparisons.

Average benefit levels and replacement rates are lowest for plans using the "flat benefit not based on earnings or service" formula. For plans with this formula, \$367 is the participant-weighted mean benefit, and the average replacement rate for the \$10,000 worker is 7.25 percent of pre-retirement earnings. For low earners the formula providing the largest benefits for hypothetical retirees in 1977 is the "flat benefit related to service only" formula. This formula provides the \$10,000 retiree, on average, with \$3,385 in benefits. The 33.85 replacement rate reported in table 4.5.25 for this flat benefit formula is almost 25 percent greater than overall average replacement rate of 27.25 for retirees with \$10,000 in pre-retirement earnings. For retirees with \$40,000 in pre-retirement earnings the "social security offset" formula provides, on average, \$17,649 in annual pension benefits; this is the most generous formula for high earners and replaces close to 45 percent of pre-retirement earnings.

The choice of earnings base for plans with earnings related formulae has a dramatic effect on both benefit levels and replacement rates (tables 4.5.26 and 4.5.27). Plans with the shortest terminal earnings base have the highest benefit levels, while plans with the longest earnings base have by far the lowest benefits. The replacement rates of career average plans are less than half those of the terminal average plans.

Table 4.5.28 examines the correlation between pension benefit replacement rates and pension plan size. With the exception of the smallest plans, benefit levels and replacement rates tend to rise with size of plan. This is true for both earnings related and flat benefit formulae. Among plans with 5,000–9,999 participants, the average low earner replacement rate for earnings related formula is 30.75 percent on a participant-weighted basis. The corresponding figure for plans with 50–99 participants is only 19.56 percent. Among plans in

these strata with flat benefit formulae, the low earner replacement rates are 35.76 percent and 22.17 percent, respectively.

The most striking feature of table 4.5.28 is the generosity of benefits of pension plans with fewer than twenty-five participants relative to other plans; the relative generosity is most substantial at large pre-retirement earnings levels. The large benefits provided to high earners by these small plans may reflect the use of pension plans by small corporations more as a tax shelter than as savings vehicles per se. Many high income professionals such as doctors, lawyers, and accountants find incorporating for the purposes of setting up a pension plan an attractive way to save taxes. Current law permits corporations to make larger pension fund contributions on behalf of the professional than they could make using the self-employed professional Keogh plan and/or an individual retirement account. Pension fund contributions are deductible from corporate income under the corporate income tax; in addition, the contributions are not taxable as current income to the corporate employee under the federal income tax. Thus the corporate employee, in many cases a single individual, is permitted to defer her (his) own personal income tax liability on labor earnings and incur no corporate tax liability as a result of this personal income tax avoidance. Distributions by the corporate pension fund are taxable upon receipt by the employee, but these distributions are typically much larger when the employee is out of the labor force and therefore in a lower tax bracket. Two additional tax advantages involve deferring tax payments on labor compensation and receiving tax-free capital income on corporate pension investments.

Differences in pension benefits across industries are considerable (tables 4.5.30 and 4.5.31). Among plans with flat benefit formulae, those in agriculture and manufacturing pay the lowest benefits with mean annual benefit levels of \$1,680 and \$2,138, respectively. Flat benefit plans in the mining and construction industries pay the highest benefits with mean annual benefits of \$5,258 and \$4,321 on a participant-weighted basis. Among plans with earnings related formulae, those in the retail trade and construction industries have the lowest replacement rates for a hypothetical \$10,000 worker while those in transportation and finance, insurance, and real estate have the highest replacement rates at this low earnings level. These two industries also report the highest replacement rates at the \$40,000 level, 38.39 and 45.63 percent, respectively.

The relations between benefit levels, replacement rates, and union status are examined in tables 4.5.32 and 4.5.33. On a participant-weighted basis flat benefit union plans provide \$1,426 more in annual pension benefits than similar nonunion plans. Among plans with earnings related formulae, nonunion plans provide slightly higher benefits at the \$10,000 level. At the \$40,000 level, nonunion plans with earnings related formulae provide a replacement rate that is more than 6 percentage points greater than the corresponding union rate (table 4.5.33).

The pattern of differential benefit levels and replacement rates with respect to union status carries over to classifications based on plan entity, since plan entity is highly correlated with union status. Multiemployer plans with flat benefit formulae provide low earners with almost twice the benefits provided by comparable single employer plans (tables 4.5.34 and 4.5.35). For high earners (\$40,000) retiring in 1977, pension benefits provided by single employer plans are over 50 percent greater than for multiemployer plans (table 4.5.35).

Table 4.5.1
Number of Defined Benefit Plans and Participants in Defined Benefit Plans by Benefit Formulae, 1977

	Unit Formula Based on Earnings and Service ¹	Social Security Step Rate	Social Security Offset	Flat Percentage Related to Earnings Only	Flat Benefit Related to Service Only	Flat Benefit Not Based on Earnings or Service	Other	Not Classified
<u>Number of Plans</u>								
Number	14,247	56,494	22,554	11,984	18,932	1,459	13,577	5,097
Row Percent	9.87	39.14	15.63	8.30	13.12	1.01	9.41	3.53
<u>Number of Participants</u>								
Number	3,018,473	4,780,514	4,636,661	410,266	10,518,280	2,108,942	3,008,388	1,052,173
Row Percent	10.22	16.19	15.70	1.39	35.61	7.14	10.19	3.56

Source: NBER-DOL EBS1 Subsample File (1977)

1. Includes plans with service step rate formulae.

Table 4.5.2
Number of Defined Benefit Plans by Benefit Formulae, Plan Size, and Union Status, 1977

	Unit Formula Based on Earnings and Service ¹	Social Security Step Rate	Social Security Offset	Flat Percentage Related to Earnings Only	Flat Benefit Related to Service Only	Flat Benefit Not Based on Earnings or Service	Other	Not Classified
<u>1-24 Participants</u>								
Total								
Number	7,422	39,776	12,996	11,008	2,708	794	9,525	2,252
Row Percent	8.58	45.99	15.03	12.73	3.13	.92	11.01	2.60
Union								
Number	0	0	0	0	1,303	0	0	0
Row Percent	.00	.00	.00	.00	100.00	.00	.00	.00
Nonunion								
Number	7,422	38,007	12,599	10,611	1,405	794	9,127	2,252
Row Percent	9.03	46.23	15.32	12.91	1.71	.97	11.10	2.74
Not Classified								
Number	0	1,769	397	397	0	0	397	0
Row Percent	.00	59.76	13.41	13.41	.00	.00	13.41	.00
<u>25-49 Participants</u>								
Total								
Number	2,182	6,792	2,538	215	509	0	1,407	646
Row Percent	15.27	47.53	17.76	1.50	3.56	.00	9.85	4.52
Union								
Number	738	562	0	0	254	0	431	0
Row Percent	37.18	28.31	.00	.00	12.80	.00	21.71	.00
Nonunion								
Number	1,228	6,190	2,538	215	254	0	976	646
Row Percent	10.19	51.38	21.07	1.78	2.11	.00	8.10	5.36
Not Classified								
Number	215	39	0	0	0	0	0	0
Row Percent	84.65	15.35	.00	.00	.00	.00	.00	.00
<u>50-99 Participants</u>								
Total								
Number	2,952	5,452	3,568	627	8,492	422	1,273	1,691
Row Percent	12.06	22.27	14.58	2.56	34.69	1.72	5.20	6.91
Union								
Number	0	111	422	627	5,458	422	422	422
Row Percent	.00	1.41	5.35	7.95	69.23	5.35	5.35	5.35
Nonunion								
Number	2,952	5,341	3,145	0	3,034	0	850	1,268
Row Percent	17.79	32.19	18.96	.00	18.29	.00	5.12	7.64
Not Classified								
Number	0	0	0	0	0	0	0	0
Row Percent	.00	.00	.00	.00	.00	.00	.00	.00
<u>100-249 Participants</u>								
Total								
Number	547	2,268	1,592	56	2,729	56	677	308
Row Percent	6.64	27.55	19.34	.68	33.15	.68	8.22	3.74
Union								
Number	112	310	211	0	2,220	0	267	40
Row Percent	3.54	9.81	6.68	.00	70.25	.00	8.45	1.27
Nonunion								
Number	435	1,901	1,268	56	509	0	410	267
Row Percent	8.98	39.23	26.17	1.16	10.50	.00	8.46	5.51
Not Classified								
Number	0	56	112	0	0	56	0	0
Row Percent	.00	25.00	50.00	.00	.00	25.00	.00	.00

Table 4.5.2 Continued
 Number of Defined Benefit Plans by Benefit Formulae, Plan Size, and Union Status, 1977

	Unit Formula Based on Earnings and Service ¹	Social Security Step Rate	Social Security Offset	Flat Percentage Related to Earnings Only	Flat Benefit Related to Service Only	Flat Benefit Not Based on Earnings or Service	Other	Not Classified
<u>250-499</u>								
<u>Participants</u>								
Total								
Number	468	1,026	646	0	1,736	119	293	59
Row Percent	10.77	23.60	14.86	.00	39.94	2.74	6.74	1.36
Union								
Number	115	178	0	0	1,621	59	174	59
Row Percent	5.21	8.07	.00	.00	73.48	2.67	7.89	2.67
Nonunion								
Number	353	847	587	0	115	59	119	0
Row Percent	16.97	40.72	28.22	.00	5.53	2.84	5.72	.00
Not Classified								
Number	0	0	59	0	0	0	0	0
Row Percent	.00	.00	100.00	.00	.00	.00	.00	.00
<u>500-999</u>								
<u>Participants</u>								
Total								
Number	281	636	468	0	1,223	0	177	59
Row Percent	9.88	22.36	16.46	.00	43.00	.00	6.22	2.07
Union								
Number	81	140	0	0	813	0	59	59
Row Percent	7.03	12.15	.00	.00	70.57	.00	5.12	5.12
Nonunion								
Number	199	495	468	0	409	0	118	0
Row Percent	11.78	29.31	27.71	.00	24.22	.00	6.99	.00
Not Classified								
Number	0	0	0	0	0	0	0	0
Row Percent	.00	.00	.00	.00	.00	.00	.00	.00
<u>1,000-4,999</u>								
<u>Participants</u>								
Total								
Number	331	419	601	61	1,253	61	122	0
Row Percent	11.62	14.71	21.10	2.14	44.00	2.14	4.28	.00
Union								
Number	270	235	8	61	905	61	61	0
Row Percent	16.86	14.68	.50	3.81	56.53	3.81	3.81	.00
Nonunion								
Number	61	184	593	0	243	0	61	0
Row Percent	5.34	16.11	51.93	.00	21.28	.00	5.34	.00
Not Classified								
Number	0	0	0	0	104	0	0	0
Row Percent	.00	.00	.00	.00	100.00	.00	.00	.00
<u>5,000-9,999</u>								
<u>Participants</u>								
Total								
Number	32	73	85	12	161	0	54	58
Row Percent	6.74	15.37	17.89	2.53	33.89	.00	11.37	12.21
Union								
Number	19	12	18	3	145	0	38	52
Row Percent	6.62	4.18	6.27	1.05	50.52	.00	13.24	18.12
Nonunion								
Number	10	60	67	8	15	0	15	6
Row Percent	5.52	33.15	37.02	4.42	8.29	.00	8.29	3.31
Not Classified								
Number	3	0	0	0	0	0	0	0
Row Percent	100.00	.00	.00	.00	.00	.00	.00	.00
<u>10,000+</u>								
<u>Participants</u>								
Total								
Number	29	49	57	2	119	5	44	21
Row Percent	8.90	15.03	17.48	.61	36.50	1.53	13.50	6.44
Union								
Number	15	22	21	2	98	4	37	15
Row Percent	7.01	10.28	9.81	.93	45.79	1.87	17.29	7.01
Nonunion								
Number	14	25	36	0	21	1	7	5
Row Percent	12.84	22.94	33.03	.00	19.27	.92	6.42	4.59
Not Classified								
Number	0	1	0	0	0	0	0	0
Row Percent	.00	100.00	.00	.00	.00	.00	.00	.00
<u>Total</u>								
<u>Participants</u>								
Total								
Number	14,247	56,494	22,554	11,984	18,932	1,459	13,577	5,097
Row Percent	9.87	39.14	15.63	8.30	13.12	1.01	9.41	3.53
Union								
Number	1,352	1,574	681	695	12,819	547	1,493	649
Row Percent	6.82	7.95	3.44	3.51	64.71	2.76	7.54	3.28
Nonunion								
Number	12,676	53,054	21,304	10,892	6,008	855	11,686	4,447
Row Percent	10.48	43.87	17.62	9.01	4.97	.71	9.66	3.68
Not Classified								
Number	218	1,866	569	397	104	56	397	0
Row Percent	6.04	51.73	15.77	11.01	2.88	1.55	11.01	.00

Source: NBER-DOL EBS1 Subsample File (1977)

1. Includes plans with service step rate formulae.

Table 4.5.4 Continued

Number of Defined Benefits Plans by Benefit Formulae, Industry, and Union Status, 1977

	Unit Formulae Based on Earnings and Service	Social Security Step Rate	Social Security Offset	Flat Percentage Related to Earnings Only	Flat Benefit Related to Service Only	Flat Benefit Not Based on Earnings or Service	Other	Not Classified
<u>Mining</u>								
Total								
Number	16	538	200	147	543	0	39	0
Row Percent	1.08	36.28	13.49	9.91	36.61	.00	2.63	.00
Union								
Number	0	1	8	0	375	0	0	0
Row Percent	.00	.26	2.08	.00	97.66	.00	.00	.00
Nonunion								
Number	16	498	192	147	168	0	39	0
Row Percent	1.51	46.98	18.11	13.87	15.85	.00	3.68	.00
Not Classified								
Number	0	39	0	0	0	0	0	0
Row Percent	.00	100.00	.00	.00	.00	.00	.00	.00
<u>Construction</u>								
Total								
Number	0	4,270	215	1,191	472	0	585	57
Row Percent	.00	62.89	3.17	17.54	6.95	.00	8.62	.84
Union								
Number	0	0	0	0	472	0	187	1
Row Percent	.00	.00	.00	.00	71.52	.00	28.33	.15
Nonunion								
Number	0	3,873	215	1,191	0	0	397	56
Row Percent	.00	67.57	3.75	20.78	.00	.00	6.93	.98
Not Classified								
Number	0	397	0	0	0	0	0	0
Row Percent	.00	100.00	.00	.00	.00	.00	.00	.00
<u>Manufacturing</u>								
Total								
Number	3,635	10,039	5,527	2,652	11,083	2	1,674	159
Row Percent	10.45	28.87	15.90	7.63	31.87	.01	4.81	.46
Union								
Number	941	927	121	633	7,752	2	237	53
Row Percent	8.82	8.69	1.13	5.93	72.68	.02	2.22	.50
Nonunion								
Number	2,690	8,606	5,405	2,018	3,226	0	1,436	105
Row Percent	11.45	36.64	23.01	8.59	13.74	.00	6.11	.45
Not Classified								
Number	3	505	0	0	104	0	0	0
Row Percent	.49	82.52	.00	.00	16.99	.00	.00	.00
<u>Transportation, Communications and Utilities</u>								
Total								
Number	471	1,344	1,356	400	190	422	342	8
Row Percent	10.39	29.65	29.91	8.82	4.19	9.31	7.54	.18
Union								
Number	69	67	56	0	190	422	339	7
Row Percent	6.00	5.83	4.87	.00	16.52	36.70	29.48	.61
Nonunion								
Number	401	1,276	1,300	400	0	0	2	1
Row Percent	11.86	37.75	38.46	11.83	.00	.00	.06	.03
Not Classified								
Number	0	0	0	0	0	0	0	0
Row Percent	.00	.00	.00	.00	.00	.00	.00	.00
<u>Wholesale Trade</u>								
Total								
Number	731	5,121	909	0	297	0	397	1
Row Percent	9.80	68.68	12.19	.00	3.98	.00	5.32	.01
Union								
Number	274	0	0	0	179	0	0	1
Row Percent	60.35	.00	.00	.00	39.43	.00	.00	.22
Nonunion								
Number	456	5,121	853	0	117	0	397	0
Row Percent	6.57	73.75	12.28	.00	1.68	.00	5.72	.00
Not Classified								
Number	0	0	56	0	0	0	0	0
Row Percent	.00	.00	100.00	.00	.00	.00	.00	.00
<u>Retail Trade</u>								
Total								
Number	1,013	5,015	1,590	1,191	495	397	2,392	398
Row Percent	8.11	40.15	12.73	9.53	3.96	3.18	19.15	3.19
Union								
Number	0	1	4	0	209	0	8	1
Row Percent	.00	.45	1.79	.00	93.72	.00	3.59	.45
Nonunion								
Number	1,013	5,014	1,586	1,191	285	397	1,986	397
Row Percent	8.53	42.24	13.36	10.03	2.40	3.34	16.73	3.34
Not Classified								
Number	0	0	0	0	0	0	397	0
Row Percent	.00	.00	.00	.00	.00	.00	100.00	.00

Table 4.5.4 CONTINUED

Number of Defined Benefits Plans by Benefit Formulae, Industry, and Union Status, 1977

	Unit Formula Based on Earnings and Service ¹	Social Security Step Rate	Social Security Offset	Flat Percentage Related to Earnings Only	Flat Benefit Related to Service Only	Flat Benefit Not Based on Earnings or Service	Other	Not Classified
<u>Finance, Insurance, and Real Estate</u>								
Total								
Number	1,434	4,974	2,394	453	0	397	730	642
Row Percent	13.01	45.12	21.72	4.11	.00	3.60	6.62	5.82
Union								
Number	1	1	0	0	0	0	0	0
Row Percent	50.00	50.00	.00	.00	.00	.00	.00	.00
Nonunion								
Number	1,433	4,519	2,394	453	0	397	730	642
Row Percent	13.56	42.76	22.65	4.29	.00	3.76	6.91	6.07
Not Classified								
Number	0	453	0	0	0	0	0	0
Row Percent	.00	100.00	.00	.00	.00	.00	.00	.00
<u>Services</u>								
Total								
Number	1,025	9,867	4,822	1,986	969	56	2,726	1,037
Row Percent	4.56	43.88	21.44	8.83	4.31	.25	12.12	4.61
Union								
Number	56	115	0	0	568	0	7	1
Row Percent	7.50	15.39	.00	.00	76.04	.00	.94	.13
Nonunion								
Number	969	9,354	4,424	1,589	400	0	2,719	1,035
Row Percent	4.73	45.65	21.59	7.76	1.95	.00	13.27	5.05
Not Classified								
Number	0	397	397	397	0	56	0	0
Row Percent	.00	31.84	31.84	31.84	.00	4.49	.00	.00
<u>Tax-Exempt Organizations</u>								
Total								
Number	685	2,288	187	133	94	2	433	306
Row Percent	16.59	55.43	4.53	3.22	2.28	.05	10.49	7.41
Union								
Number	1	111	0	0	94	1	2	40
Row Percent	.40	44.58	.00	.00	37.75	.40	.80	16.06
Nonunion								
Number	684	2,177	187	133	0	1	431	266
Row Percent	17.63	56.12	4.82	3.43	.00	.03	11.11	6.86
Not Classified								
Number	0	0	0	0	0	0	0	0
Row Percent	.00	.00	.00	.00	.00	.00	.00	.00
<u>Not Classified</u>								
Total								
Number	4,939	12,013	5,253	3,458	4,748	180	4,106	2,485
Row Percent	13.28	32.31	14.13	9.30	12.77	.48	11.04	6.68
Union								
Number	7	300	491	61	2,937	120	710	542
Row Percent	.14	5.80	9.50	1.18	56.83	2.32	13.74	10.49
Nonunion								
Number	4,716	11,713	4,645	3,396	1,810	59	3,396	1,942
Row Percent	14.89	36.98	14.66	10.72	5.71	.19	10.72	6.13
Not Classified								
Number	215	0	115	0	0	0	0	0
Row Percent	65.15	.00	34.85	.00	.00	.00	.00	.00
<u>TOTAL</u>								
Total								
Number	14,247	56,494	22,554	11,984	18,932	1,459	13,577	5,097
Row Percent	9.87	39.14	15.63	8.30	13.12	1.01	9.41	3.53
Union								
Number	1,352	1,574	681	695	12,819	547	1,493	649
Row Percent	6.82	7.95	3.44	3.51	64.71	2.76	7.54	3.28
Nonunion								
Number	12,676	53,054	21,304	10,892	6,008	855	11,686	4,447
Row Percent	10.48	43.87	17.62	9.01	4.97	.71	9.66	3.68
Not Classified								
Number	218	1,866	569	397	104	56	397	0
Row Percent	6.04	51.73	15.77	11.01	2.88	1.55	11.01	.00

Source: NBER-DOL EBS1 Subsample File (1977)

1. Includes plans with service step rate formulae.

Table 4.5.5

Number of Participants in Defined Benefit Plans by Benefit Formulae, Industry, and Union Status, 1977

	Unit Formula Based on Earnings and Service ¹	Social Security Step Rate	Social Security Offset	Flat Percentage Related to Earnings Only	Flat Benefit Related to Service Only	Flat Benefit Not Based on Earnings or Service	Other	Not Classified
<u>Agriculture, Forestry, and Fishing</u>								
Total								
Number	3,838	44,351	12,547	1,919	14,552	0	8,851	0
Row Percent	4.46	51.54	14.58	2.23	16.91	.00	10.28	.00
Union								
Number	0	20,873	0	0	14,552	0	0	0
Row Percent	.00	58.92	.00	.00	41.08	.00	.00	.00
Nonunion								
Number	3,838	23,109	12,547	1,919	0	0	8,851	0
Row Percent	7.64	45.98	24.96	3.82	.00	.00	17.61	.00
Not Classified								
Number	0	369	0	0	0	0	0	0
Row Percent	.00	100.00	.00	.00	.00	.00	.00	.00
<u>Mining</u>								
Total								
Number	9,448	64,656	88,327	516	110,161	0	1,456	0
Row Percent	3.44	23.55	32.17	.19	40.12	.00	.53	.00
Union								
Number	0	15,043	30,936	0	41,268	0	0	0
Row Percent	.00	17.24	35.46	.00	47.30	.00	.00	.00
Nonunion								
Number	9,448	47,959	57,391	516	68,892	0	1,456	0
Row Percent	5.09	25.83	30.91	.28	37.11	.00	.78	.00
Not Classified								
Number	0	1,653	0	0	0	0	0	0
Row Percent	.00	100.00	.00	.00	.00	.00	.00	.00
<u>Construction</u>								
Total								
Number	0	69,385	7,549	2,781	1,498,598	873,216	438,752	24,803
Row Percent	.00	2.38	.26	.10	51.41	29.96	15.05	.85
Union								
Number	0	0	0	0	1,498,598	873,216	436,765	18,278
Row Percent	.00	.00	.00	.00	53.01	30.89	15.45	.65
Nonunion								
Number	0	68,988	7,549	2,781	0	0	1,986	6,525
Row Percent	.00	78.55	8.60	3.17	.00	.00	2.26	7.43
Not Classified								
Number	0	397	0	0	0	0	0	0
Row Percent	.00	100.00	.00	.00	.00	.00	.00	.00
<u>Manufacturing</u>								
Total								
Number	1,753,598	1,472,142	1,669,386	219,224	4,125,216	1,031,497	510,277	388,188
Row Percent	15.70	13.18	14.95	1.96	36.93	9.23	4.57	3.48
Union								
Number	544,912	615,676	395,034	177,447	2,772,725	1,031,497	315,126	317,699
Row Percent	8.83	9.98	6.40	2.88	44.94	16.72	5.11	5.15
Nonunion								
Number	1,179,684	835,154	1,274,351	41,776	1,246,483	0	195,151	70,489
Row Percent	24.36	17.24	26.31	.86	25.74	.00	4.03	1.46
Not Classified								
Number	29,001	21,312	0	0	106,006	0	0	0
Row Percent	18.55	13.63	.00	.00	67.81	.00	.00	.00
<u>Transportation, Communications, and Utilities</u>								
Total								
Number	286,332	347,119	310,944	28,512	251,408	36,785	742,210	140,643
Row Percent	13.36	16.19	14.50	1.33	11.73	1.72	34.62	6.56
Union								
Number	206,778	112,713	6,975	0	251,408	36,785	724,613	106,166
Row Percent	14.31	7.80	.48	.00	17.39	2.54	50.13	7.34
Nonunion								
Number	79,553	234,405	303,969	28,512	0	0	17,596	34,476
Row Percent	11.39	33.56	43.52	4.08	.00	.00	2.52	4.94
Not Classified								
Number	0	0	0	0	0	0	0	0
Row Percent	.00	.00	.00	.00	.00	.00	.00	.00
<u>Wholesale Trade</u>								
Total								
Number	191,985	92,784	38,645	0	239,110	0	5,960	126,462
Row Percent	27.63	13.35	5.56	.00	34.41	.00	.86	18.20
Union								
Number	173,354	0	0	0	111,418	0	0	126,462
Row Percent	42.15	.00	.00	.00	27.09	.00	.00	30.75
Nonunion								
Number	18,630	92,784	30,320	0	127,692	0	5,960	0
Row Percent	6.77	33.69	11.01	.00	46.37	.00	2.16	.00
Not Classified								
Number	0	0	8,325	0	0	0	0	0
Row Percent	.00	.00	100.00	.00	.00	.00	.00	.00

Table 4.5.5 Continued

Number of Participants in Defined Benefit Plans by Benefit Formulae, Industry, and Union Status, 1977

	Unit Formula Based on Earnings and Service ¹	Social Security Step Rate	Social Security Offset	Flat Percentage Related to Earnings Only	Flat Benefit Related to Service Only	Flat Benefit Not Based on Earnings or Service	Other	Not Classified
<u>Retail Trade</u>								
Total								
Number	97,910	322,907	236,048	13,907	892,083	794	86,510	25,080
Row Percent	5.84	19.28	14.09	.83	53.25	.05	5.16	1.50
Union								
Number	0	16,739	99,065	0	646,417	0	76,576	19,517
Row Percent	.00	1.95	11.54	.00	75.31	.00	8.92	2.27
Nonunion								
Number	97,910	306,167	136,983	13,907	245,666	794	9,536	5,563
Row Percent	11.99	37.50	16.78	1.70	30.09	.10	1.17	.68
Not Classified								
Number	0	0	0	0	0	0	397	0
Row Percent	.00	.00	.00	.00	.00	.00	100.00	.00
<u>Finance, Insurance and Real Estate</u>								
Total								
Number	64,065	326,554	587,535	8,793	0	7,152	96,068	67,914
Row Percent	5.53	28.20	50.73	.76	.00	.62	8.30	5.86
Union								
Number	31,375	17,876	0	0	0	0	0	0
Row Percent	63.70	36.30	.00	.00	.00	.00	.00	.00
Nonunion								
Number	32,689	301,406	587,535	8,793	0	7,152	96,068	67,914
Row Percent	2.97	27.36	53.34	.80	.00	.65	8.72	6.17
Not Classified								
Number	0	7,271	0	0	0	0	0	0
Row Percent	.00	100.00	.00	.00	.00	.00	.00	.00
<u>Services</u>								
Total								
Number	77,396	464,749	362,471	6,755	397,420	7,875	263,248	66,306
Row Percent	4.70	28.23	22.02	.41	24.14	.48	15.99	4.03
Union								
Number	6,525	36,531	0	0	379,852	0	147,981	17,862
Row Percent	1.11	6.20	.00	.00	64.52	.00	25.13	3.03
Nonunion								
Number	70,870	427,026	360,882	4,768	17,567	0	115,266	48,444
Row Percent	6.78	40.87	34.54	.46	1.68	.00	11.03	4.64
Not Classified								
Number	0	1,192	1,589	1,986	0	7,875	0	0
Row Percent	.00	9.43	12.57	15.71	.00	62.29	.00	.00
<u>Tax-Exempt Organizations</u>								
Total								
Number	78,128	78,685	17,242	266	66,347	22,025	89,244	8,529
Row Percent	21.67	21.83	4.78	.07	18.41	6.11	24.76	2.37
Union								
Number	7,536	11,044	0	0	66,347	22,024	69,207	7,064
Row Percent	4.11	6.03	.00	.00	36.21	12.02	37.77	3.86
Nonunion								
Number	70,591	67,641	17,242	266	0	0	20,036	1,465
Row Percent	39.83	38.16	9.73	.15	.00	.00	11.30	.83
Not Classified								
Number	0	0	0	0	0	0	0	0
Row Percent	.00	.00	.00	.00	.00	.00	.00	.00
<u>Not Classified</u>								
Total								
Number	455,770	1,497,177	1,305,962	127,589	2,923,382	129,595	765,808	204,245
Row Percent	6.15	20.21	17.63	1.72	39.45	1.75	10.34	2.76
Union								
Number	77,412	735,633	408,260	84,495	2,214,978	110,490	568,034	138,837
Row Percent	1.78	16.96	9.41	1.95	51.06	2.55	13.09	3.20
Nonunion								
Number	368,435	761,543	867,859	43,093	708,403	19,105	197,773	65,408
Row Percent	12.15	25.12	28.63	1.42	23.37	.63	6.52	2.16
Not Classified								
Number	9,922	0	29,842	0	0	0	0	0
Row Percent	24.95	.00	75.05	.00	.00	.00	.00	.00
<u>TOTAL</u>								
Total								
Number	3,018,473	4,780,514	4,636,661	410,266	10,518,280	2,108,942	3,008,388	1,052,173
Row Percent	10.22	16.19	15.70	1.39	35.61	7.14	10.19	3.56
Union								
Number	1,047,895	1,582,132	940,272	261,943	7,997,567	2,074,014	2,338,304	751,887
Row Percent	6.17	9.31	5.53	1.54	47.06	12.20	13.76	4.42
Nonunion								
Number	1,931,654	3,166,186	3,656,631	146,336	2,414,706	27,052	669,685	300,285
Row Percent	15.69	25.72	29.70	1.19	19.61	.22	5.44	2.44
Not Classified								
Number	38,923	32,195	39,757	1,986	106,006	7,875	397	0
Row Percent	17.14	14.17	17.50	.87	46.67	3.47	.17	.00

Source: NBER-DOL EBSI Subsample File (1977)

1. Includes plans with service step rate formulae.

Table 4.5.8 Continued

Number of Defined Benefit Plans by Benefit Formulae, Plan Entity, and Union Status, 1977

	Unit Formula Based on Earnings and Service ¹	Social Security Step Rate	Social Security Offset	Flat Percentage Related to Earnings Only	Flat Benefit Related to Service Only	Flat Benefit Not Based on Earnings or Service	Other	Not Classified
<u>Not Classified</u>								
Total								
Number	505	2,016	511	73	933	2	597	7
Row Percent	10.87	43.41	11.00	1.57	20.09	.04	12.86	.15
Union								
Number	1	0	0	0	509	0	1	0
Row Percent	.20	.00	.00	.00	99.61	.00	.20	.00
Nonunion								
Number	503	2,016	511	73	424	0	198	2
Row Percent	13.50	54.09	13.71	1.96	11.38	.00	5.31	.05
Not Classified								
Number	0	0	0	0	0	0	397	0
Row Percent	.00	.00	.00	.00	.00	.00	100.00	.00
<u>TOTAL</u>								
Total								
Number	14,247	56,494	22,554	11,984	18,932	1,459	13,577	5,097
Row Percent	9.87	39.14	15.63	8.30	13.12	1.01	9.41	3.53
Union								
Number	1,352	1,574	681	695	12,819	547	1,493	649
Row Percent	6.82	7.95	3.44	3.51	64.71	2.76	7.54	3.28
Nonunion								
Number	12,676	53,054	21,304	10,892	6,008	855	11,686	4,447
Row Percent	10.48	43.87	17.62	9.01	4.97	.71	9.66	3.68
Not Classified								
Number	218	1,866	569	397	104	56	397	0
Row Percent	6.04	51.73	15.77	11.01	2.88	1.55	11.01	.00

Source: NBER-DOL EBS1 Subsample File (1977)

1. Includes plans with service step rate formulae.

Table 4.5.9

Number of Participants in Defined Benefit Plans by Benefit Formulae, Plan Entity, and Union Status, 1977

	Unit Formula Based on Earnings and Service ¹	Social Security Step Rate	Social Security Offset	Flat Percentage Related to Earnings Only	Flat Benefit Related to Service Only	Flat Benefit Not Based on Earnings or Service	Other	Not Classified
<u>Single Employer</u>								
Total								
Number	2,527,801	4,601,422	4,496,641	408,512	6,269,169	1,888,190	1,117,859	715,125
Row Percent	11.48	20.89	20.42	1.85	28.46	8.57	5.08	3.25
Union								
Number	718,858	1,582,132	896,238	261,943	4,300,226	1,853,262	533,674	435,367
Row Percent	6.79	14.95	8.47	2.48	40.64	17.51	5.04	4.11
Nonunion								
Number	1,770,020	2,987,093	3,560,645	144,581	1,862,936	27,052	584,185	279,758
Row Percent	15.78	26.63	31.75	1.29	16.61	.24	5.21	2.49
Not Classified								
Number	38,923	32,195	39,757	1,986	106,006	7,875	0	0
Row Percent	17.17	14.20	17.53	88	46.75	3.47	.00	.00
<u>Multi-Employer</u>								
Total								
Number	449,780	98,135	112,327	794	3,786,163	220,752	1,767,902	316,519
Row Percent	6.66	1.45	1.66	.01	56.07	3.27	26.18	4.69
Union								
Number	295,706	0	44,034	0	3,659,227	220,752	1,714,470	316,519
Row Percent	4.73	.00	.70	.00	58.54	3.53	27.43	5.06
Nonunion								
Number	154,074	98,135	68,303	794	126,935	0	53,432	0
Row Percent	30.71	19.56	13.62	.16	25.30	.00	10.65	.00
Not Classified								
Number	0	0	0	0	0	0	0	0
Row Percent	.00	.00	.00	.00	.00	.00	.00	.00
<u>Not Classified</u>								
Total								
Number	40,891	80,957	27,683	959	462,947	0	122,625	20,527
Row Percent	5.40	10.70	3.66	.13	61.19	.00	16.21	2.71
Union								
Number	33,331	0	0	0	38,113	0	90,160	0
Row Percent	20.63	.00	.00	.00	23.58	.00	55.79	.00
Nonunion								
Number	7,559	80,957	27,683	959	424,834	0	32,068	20,527
Row Percent	1.27	13.62	4.66	.16	71.45	.00	5.39	3.45
Not Classified								
Number	0	0	0	0	0	0	397	0
Row Percent	.00	.00	.00	.00	.00	.00	100.00	.00

Table 4.5.9 Continued

Number of Participants in Defined Benefit Plans by Benefit Formulae, Plan Entity, and Union Status, 1977

	Unit Formula Based on Earnings and Service ¹	Social Security Step Rate	Social Security Offset	Flat Percentage Related to Earnings Only	Flat Benefit Related to Service Only	Flat Benefit Not Based on Earnings or Service	Other	Not Classified
TOTAL								
Total								
Number	3,018,473	4,780,514	4,636,661	410,266	10,518,280	2,108,942	3,008,388	1,052,173
Row Percent	10.22	16.19	15.70	1.39	35.61	7.14	10.19	3.56
Union								
Number	1,047,895	1,582,132	940,272	261,943	7,997,567	2,074,014	2,338,304	751,887
Row Percent	6.17	9.31	5.53	1.54	47.06	12.20	13.76	4.42
NonUnion								
Number	1,931,654	3,166,186	3,656,631	146,336	2,414,706	27,052	669,685	300,285
Row Percent	15.69	25.72	29.70	1.19	19.61	.22	5.44	2.44
Not Classified								
Number	38,923	32,195	39,757	1,986	106,006	7,875	397	0
Row Percent	17.14	14.17	17.50	.87	46.67	3.47	.17	.00

Source: NBER-DOL EBS1 Subsample File (1977)

1. Includes plans with service step rate formulae.

Table 4.5.10

Number of Defined Benefit Plans Integrated with Social Security by Plan Size, 1977¹

	Integrated with Social Security Number of Plans	Row Percent	Not Integrated with Social Security Number of Plans	Row Percent
100-249 Participants	2,932	31.96	6,241	68.04
250-499 Participants	1,580	30.82	3,546	69.18
500-999 Participants	1,214	35.30	2,225	64.70
1,000-4,999 Participants	1,241	37.70	2,051	62.30
5,000-9,999 Participants	188	39.66	286	60.34
10,000+ Participants	178	43.84	228	56.16
TOTAL	7,335	33.47	14,579	66.53

Source: IRS 5500 File (1977)

1. Table includes only plans with 100 or more active participants. These plans cover 89.8 percent of all defined benefit plan participants.

Table 4.5.11

Number of Participants in Defined Benefit Plans Integrated with Social Security by Plan Size, 1977¹

	Integrated with Social Security Number of Participants	Row Percent	Not Integrated with Social Security Number of Participants	Row Percent
100-249 Participants	432,657	31.77	929,053	68.23
250-499 Participants	517,251	31.06	1,148,318	68.94
500-999 Participants	792,122	35.47	1,440,816	64.53
1,000-4,999 Participants	2,417,694	38.56	3,852,313	61.44
5,000-9,999 Participants	1,208,371	39.41	1,857,734	60.59
10,000+ Participants	4,600,340	38.53	7,338,189	61.47
TOTAL	9,968,437	37.57	16,566,424	62.43

Source: IRS 5500 File (1977)

1. Table includes only plans with 100 or more active participants. These plans cover 89.8 percent of all defined benefit plan participants.

Table 4.5.12
Number of Defined Benefit Plans Integrated with Social Security by Industry, 1977¹

	Integrated with Social Security		Not Integrated with Social Security	
	Number of Plans	Row Percent	Number of Plans	Row Percent
Agriculture, Forestry and Fishing	49	41.18	70	58.82
Mining	104	29.46	249	70.54
Construction	88	8.11	997	91.89
Manufacturing	2,927	26.89	7,958	73.11
Transportation, Communications, and Utilities	539	42.64	725	57.36
Wholesale Trade	301	41.69	421	58.31
Retail Trade	330	43.88	422	56.12
Finance, Insurance, and Real Estate	1,199	62.87	708	37.13
Services	1,202	49.12	1,245	50.88
Tax-Exempt Organizations	587	24.85	1,775	75.15
Not Classified	5	50.00	5	50.00
TOTAL	7,335	33.47	14,579	66.53

Source: IRS 5500 File (1977)

1. Table includes only plans with 100 or more active participants. These plans cover 89.8 percent of all defined benefit plan participants.

Table 4.5.13
Number of Participants in Defined Benefit Plans Integrated with Social Security by Industry, 1977¹

	Integrated with Social Security		Not Integrated with Social Security	
	Number of Participants	Row Percent	Number of Participants	Row Percent
Agriculture, Forestry and Fishing	22,129	27.35	58,796	72.65
Mining	85,800	31.03	190,713	68.97
Construction	92,464	5.36	1,632,794	94.64
Manufacturing	4,595,610	39.82	6,944,590	60.18
Transportation, Communications, and Utilities	1,592,995	42.90	2,120,326	57.10
Wholesale Trade	155,584	26.82	424,545	73.18
Retail Trade	816,872	46.07	956,257	53.93
Finance, Insurance, and Real Estate	1,382,344	68.75	628,297	31.25
Services	792,608	42.71	1,062,968	57.29
Tax-Exempt Organizations	431,138	14.48	2,546,064	85.52
Not Classified	889	45.38	1,070	54.62
TOTAL	9,968,437	37.57	16,566,424	62.43

Source: IRS 5500 File (1977)

1. Table includes only plans with 100 or more active participants. These plans cover 89.8 percent of all defined benefit plan participants.

Table 4.5.14

Number of Defined Benefit Plans Integrated with Social Security by Plan Entity, 1977¹

	Integrated with Social Security		Not Integrated with Social Security	
	Number of Plans	Row Percent	Number of Plans	Row Percent
Single Employer	7,152	36.91	12,225	63.09
Multi Employer	183	7.24	2,345	92.76
Not Classified	0	.00	9	100.00
TOTAL	7,335	33.47	14,579	66.53

Source: IRS 5500 File (1977)

1. Table includes only plans with 100 or more active participants. These plans cover 89.8 percent of all defined benefit plan participants.

Table 4.5.15

Number of Participants in Defined Benefit Plans Integrated with Social Security by Plan Entity, 1977¹

	Integrated with Social Security		Not Integrated with Social Security	
	Number of Participants	Row Percent	Number of Participants	Row Percent
Single Employer	9,695,824	49.79	9,776,478	50.21
Multi Employer	272,612	3.86	6,787,706	96.14
Not Classified	0	.00	2,240	100.00
TOTAL	9,968,437	37.57	16,566,424	62.43

Source: IRS 5500 File (1977)

1. Table includes only plans with 100 or more active participants. These plans cover 89.8 percent of all defined benefit plan participants.

Table 4.5.16

Number of Defined Benefit Plans by Earnings Base, Plan Size, and Union Status, 1977

	Final or Highest 3 Years	Final or Highest 5 Years	Final or Highest 10 Years	Career Average	Other	Not Classified
<u>1-24</u>						
<u>Participants</u>						
Total						
Number	4,831	50,291	2,166	6,279	3,912	3,723
Row Percent	6.78	70.63	3.04	8.82	5.49	5.23
Union						
Number	0	0	0	0	0	0
Row Percent	.00	.00	.00	.00	.00	.00
Nonunion						
Number	4,434	48,702	2,166	5,701	3,912	3,723
Row Percent	6.46	70.95	3.16	8.31	5.70	5.42
Not Classified						
Number	397	1,589	0	577	0	0
Row Percent	15.49	62.00	.00	22.51	.00	.00
<u>25-49</u>						
<u>Participants</u>						
Total						
Number	215	7,484	431	1,904	0	1,692
Row Percent	1.83	63.82	3.68	16.24	.00	14.43
Union						
Number	0	522	0	254	0	522
Row Percent	.00	40.22	.00	19.57	.00	40.22
Nonunion						
Number	215	6,706	431	1,649	0	1,169
Row Percent	2.11	65.94	4.24	16.21	.00	11.49
Not Classified						
Number	0	254	0	0	0	0
Row Percent	.00	100.00	.00	.00	.00	.00
<u>50-99</u>						
<u>Participants</u>						
Total						
Number	87	6,508	1,896	3,686	422	0
Row Percent	.69	51.65	15.05	29.26	3.35	.00
Union						
Number	0	739	422	0	0	0
Row Percent	.00	63.65	36.35	.00	.00	.00
Nonunion						
Number	87	5,769	1,473	3,686	422	0
Row Percent	.76	50.44	12.88	32.23	3.69	.00
Not Classified						
Number	0	0	0	0	0	0
Row Percent	.00	.00	.00	.00	.00	.00

Table 4.5.16 Continued
 Number of Defined Benefit Plans by Earnings Base, Plan Size, and Union Status, 1977

	Final or Highest 3 Years	Final or Highest 5 Years	Final or Highest 10 Years	Career Average	Other	Not Classified
<u>100-249</u>						
<u>Participants</u>						
Total						
Number	0	2,550	380	1,098	211	224
Row Percent	.00	57.14	8.51	24.60	4.73	5.02
Union						
Number	0	410	0	224	0	0
Row Percent	.00	64.67	.00	35.33	.00	.00
Nonunion						
Number	0	2,028	324	873	211	224
Row Percent	.00	55.41	8.85	23.85	5.77	6.12
Not Classified						
Number	0	112	56	0	0	0
Row Percent	.00	66.67	33.33	.00	.00	.00
<u>250-499</u>						
<u>Participants</u>						
Total						
Number	119	1,201	85	616	119	0
Row Percent	5.56	56.12	3.97	28.79	5.56	.00
Union						
Number	0	174	0	119	0	0
Row Percent	.00	59.39	.00	40.61	.00	.00
Nonunion						
Number	119	967	85	497	119	0
Row Percent	6.66	54.11	4.76	27.81	6.66	.00
Not Classified						
Number	0	59	0	0	0	0
Row Percent	.00	100.00	.00	.00	.00	.00
<u>500-999</u>						
<u>Participants</u>						
Total						
Number	59	905	81	281	0	59
Row Percent	4.26	65.34	5.85	20.29	.00	4.26
Union						
Number	0	0	81	140	0	0
Row Percent	.00	.00	36.65	63.35	.00	.00
Nonunion						
Number	59	905	0	140	0	59
Row Percent	5.07	77.82	.00	12.04	.00	5.07
Not Classified						
Number	0	0	0	0	0	0
Row Percent	.00	.00	.00	.00	.00	.00
<u>1,000-4,999</u>						
<u>Participants</u>						
Total						
Number	16	804	0	593	0	0
Row Percent	1.13	56.90	.00	41.97	.00	.00
Union						
Number	8	227	0	339	0	0
Row Percent	1.39	39.55	.00	59.06	.00	.00
Nonunion						
Number	8	577	0	253	0	0
Row Percent	.95	68.85	.00	30.19	.00	.00
Not Classified						
Number	0	0	0	0	0	0
Row Percent	.00	.00	.00	.00	.00	.00
<u>5,000-9,999</u>						
<u>Participants</u>						
Total						
Number	2	140	5	36	0	18
Row Percent	1.00	69.65	2.49	17.91	.00	8.96
Union						
Number	0	34	2	9	0	6
Row Percent	.00	66.67	3.92	17.65	.00	11.76
Nonunion						
Number	2	106	2	26	0	8
Row Percent	1.39	73.61	1.39	18.06	.00	5.56
Not Classified						
Number	0	0	0	0	0	3
Row Percent	.00	.00	.00	.00	.00	100.00
<u>10,000+</u>						
<u>Participants</u>						
Total						
Number	15	74	5	35	0	8
Row Percent	10.95	54.01	3.65	25.55	.00	5.84
Union						
Number	11	29	0	15	0	5
Row Percent	18.33	48.33	.00	25.00	.00	8.33
Nonunion						
Number	4	43	5	19	0	2
Row Percent	5.48	58.90	6.85	26.03	.00	2.74
Not Classified						
Number	0	1	0	0	0	0
Row Percent	.00	100.00	.00	.00	.00	.00

Table 4.5.16 Continued
 Number of Defined Benefit Plans by Earnings Base, Plan Size, and Union Status, 1977

	Final or Highest 3 Years	Final or Highest 5 Years	Final or Highest 10 Years	Career Average	Other	Not Classified
Total						
Total						
Number	5,346	69,960	5,052	14,530	4,665	5,726
Row Percent	5.08	66.45	4.80	13.80	4.43	5.44
Union						
Number	19	2,137	507	1,104	0	535
Row Percent	.44	49.67	11.79	25.66	.00	12.44
Nonunion						
Number	4,930	65,805	4,488	12,848	4,665	5,188
Row Percent	5.03	67.20	4.58	13.12	4.76	5.30
Not Classified						
Number	397	2,017	56	577	0	3
Row Percent	13.02	66.13	1.84	18.92	.00	.10

Source: NBER-DOL EBS1 Subsample File (1977)
 Note: Sample includes only plans that explicitly specify earnings based benefit formulas.

Table 4.5.17
 Number of Participants in Defined Benefit Plans by Earnings Base, Plan Size, and Union Status, 1977

	Final or Highest 3 Years	Final or Highest 5 Years	Final or Highest 10 Years	Career Average	Other	Not Classified
1-24 Participants						
Total						
Number	12,921	362,819	11,902	41,665	46,712	20,187
Row Percent	2.60	73.12	2.40	8.40	9.41	4.07
Union						
Number	0	0	0	0	0	0
Row Percent	.00	.00	.00	.00	.00	.00
Nonunion						
Number	11,729	357,256	11,902	34,240	46,712	20,187
Row Percent	2.43	74.12	2.47	7.10	9.63	4.19
Not Classified						
Number	1,192	5,562	0	7,425	0	0
Row Percent	8.41	39.23	.00	52.37	.00	.00
25-49 Participants						
Total						
Number	7,549	259,640	13,157	72,239	0	65,760
Row Percent	1.80	62.06	3.15	17.27	.00	15.72
Union						
Number	0	24,049	0	10,654	0	20,389
Row Percent	.00	43.65	.00	19.34	.00	37.01
Nonunion						
Number	7,549	224,015	13,157	61,584	0	45,370
Row Percent	2.15	63.70	3.74	17.51	.00	12.90
Not Classified						
Number	0	11,575	0	0	0	0
Row Percent	.00	100.00	.00	.00	.00	.00
50-99 Participants						
Total						
Number	8,050	544,911	144,245	328,141	41,436	0
Row Percent	.75	51.08	13.52	30.76	3.88	.00
Union						
Number	0	70,686	32,980	0	0	0
Row Percent	.00	68.19	31.81	.00	.00	.00
Nonunion						
Number	8,050	474,225	111,264	328,141	41,436	0
Row Percent	.84	49.24	11.55	34.07	4.30	.00
Not Classified						
Number	0	0	0	0	0	0
Row Percent	.00	.00	.00	.00	.00	.00
100-249 Participants						
Total						
Number	0	382,990	60,785	178,451	37,441	35,327
Row Percent	.00	55.11	8.75	25.68	5.39	5.08
Union						
Number	0	57,684	0	30,714	0	0
Row Percent	.00	65.25	.00	34.75	.00	.00
Nonunion						
Number	0	311,298	50,941	147,736	37,441	35,327
Row Percent	.00	53.42	8.74	25.35	6.42	6.06
Not Classified						
Number	0	14,007	9,844	0	0	0
Row Percent	.00	58.73	41.27	.00	.00	.00

Table 4.5.17 Continued
 Number of Participants in Defined Benefit Plans by Earnings Base, Plan Size, and Union Status, 1977

	Final or Highest 3 Years	Final or Highest 5 Years	Final or Highest 10 Years	Career Average	Other	Not Classified
250-499						
<u>Participants</u>						
Total						
Number	41,245	466,578	30,145	232,027	35,175	0
Row Percent	5.12	57.95	3.74	28.82	4.37	.00
Union						
Number	0	73,252	0	53,566	0	0
Row Percent	.00	57.76	.00	42.24	.00	.00
Nonunion						
Number	41,245	373,328	30,145	178,461	35,175	0
Row Percent	6.26	56.71	4.58	27.11	5.34	.00
Not Classified						
Number	0	19,998	0	0	0	0
Row Percent	.00	100.00	.00	.00	.00	.00
500-999						
<u>Participants</u>						
Total						
Number	58,311	634,130	46,380	209,335	0	41,972
Row Percent	5.89	64.05	4.68	21.14	.00	4.24
Union						
Number	0	0	46,380	91,998	0	0
Row Percent	.00	.00	33.52	66.48	.00	.00
Nonunion						
Number	58,311	634,130	0	117,337	0	41,972
Row Percent	6.85	74.45	.00	13.78	.00	4.93
Not Classified						
Number	0	0	0	0	0	0
Row Percent	.00	.00	.00	.00	.00	.00
1,000-4,999						
<u>Participants</u>						
Total						
Number	45,128	1,564,390	0	1,007,899	0	0
Row Percent	1.72	59.77	.00	38.51	.00	.00
Union						
Number	30,936	324,944	0	570,804	0	0
Row Percent	3.34	35.07	.00	61.60	.00	.00
Nonunion						
Number	14,192	1,239,445	0	437,094	0	0
Row Percent	.84	73.31	.00	25.85	.00	.00
Not Classified						
Number	0	0	0	0	0	0
Row Percent	.00	.00	.00	.00	.00	.00
5,000-9,999						
<u>Participants</u>						
Total						
Number	28,135	1,002,089	46,018	252,652	0	128,276
Row Percent	1.93	68.77	3.16	17.34	.00	8.80
Union						
Number	0	275,962	20,287	63,988	0	42,345
Row Percent	.00	68.55	5.04	15.89	.00	10.52
Nonunion						
Number	28,135	726,126	25,731	188,664	0	56,929
Row Percent	2.74	70.80	2.51	18.40	.00	5.55
Not Classified						
Number	0	0	0	0	0	29,001
Row Percent	.00	.00	.00	.00	.00	100.00
10,000+						
<u>Participants</u>						
Total						
Number	523,888	1,534,920	894,863	1,133,535	0	212,479
Row Percent	12.18	35.70	20.81	26.36	.00	4.94
Union						
Number	375,884	715,108	0	719,590	0	180,035
Row Percent	18.88	35.92	.00	36.15	.00	9.04
Nonunion						
Number	148,003	805,555	894,863	413,945	0	32,443
Row Percent	6.45	35.10	39.00	18.04	.00	1.41
Not Classified						
Number	0	14,256	0	0	0	0
Row Percent	.00	100.00	.00	.00	.00	.00
Total						
Total						
Number	725,230	6,752,471	1,247,498	3,455,946	160,765	504,003
Row Percent	5.65	52.57	9.71	26.90	1.25	3.92
Union						
Number	406,820	1,541,688	99,648	1,541,316	0	242,771
Row Percent	10.62	40.23	2.60	40.22	.00	6.33
Nonunion						
Number	317,218	5,145,383	1,138,005	1,907,205	160,765	232,231
Row Percent	3.56	57.81	12.79	21.43	1.81	2.61
Not Classified						
Number	1,192	65,400	9,844	7,425	0	29,001
Row Percent	1.06	57.95	8.72	6.58	.00	25.70

Source: NBER-DOL EBSI Subsample File (1977)

Note: Sample includes only plans that explicitly specify earnings based benefit formulas.

Table 4.5.18
 Number of Defined Benefit Plans by Earnings Base, Industry, and Union Status, 1977¹

	Final or Highest 3 Years	Final or Highest 5 Years	Final or Highest 10 Years	Career Average	Other	Not Classified
<u>Agriculture</u>						
Total						
Number	221	957	0	381	147	73
Row Percent	12.42	53.79	.00	21.42	8.26	4.10
Union						
Number	0	0	0	47	0	0
Row Percent	.00	.00	.00	100.00	.00	.00
Nonunion						
Number	221	957	0	260	147	73
Row Percent	13.33	57.72	.00	15.68	8.87	4.40
Not Classified						
Number	0	0	0	73	0	0
Row Percent	.00	.00	.00	100.00	.00	.00
<u>Mining</u>						
Total						
Number	104	553	73	96	0	73
Row Percent	11.57	61.51	8.12	10.68	.00	8.12
Union						
Number	9	0	0	0	0	0
Row Percent	100.00	.00	.00	.00	.00	.00
Nonunion						
Number	95	514	73	96	0	73
Row Percent	11.16	60.40	8.58	11.28	.00	8.58
Not Classified						
Number	0	39	0	0	0	0
Row Percent	.00	100.00	.00	.00	.00	.00
<u>Construction</u>						
Total						
Number	397	3,847	0	1,035	397	0
Row Percent	6.99	67.78	.00	18.23	6.99	.00
Union						
Number	0	0	0	0	0	0
Row Percent	.00	.00	.00	.00	.00	.00
Nonunion						
Number	397	3,450	0	1,035	397	0
Row Percent	7.52	65.35	.00	19.61	7.52	.00
Not Classified						
Number	0	397	0	0	0	0
Row Percent	.00	100.00	.00	.00	.00	.00
<u>Manufacturing</u>						
Total						
Number	515	12,915	1,314	4,441	1,610	1,058
Row Percent	2.36	59.10	6.01	20.32	7.37	4.84
Union						
Number	8	1,693	81	310	0	530
Row Percent	.31	64.57	3.09	11.82	.00	20.21
Nonunion						
Number	506	11,220	1,232	3,627	1,610	524
Row Percent	2.70	59.94	6.58	19.38	8.60	2.80
Not Classified						
Number	0	1	0	503	0	3
Row Percent	.00	.20	.00	99.21	.00	.59
<u>Transportation</u>						
Total						
Number	575	1,934	820	239	0	2
Row Percent	16.11	54.17	22.97	6.69	.00	.06
Union						
Number	0	130	0	60	0	2
Row Percent	.00	67.71	.00	31.25	.00	1.04
Nonunion						
Number	575	1,803	820	179	0	0
Row Percent	17.03	53.39	24.28	5.30	.00	.00
Not Classified						
Number	0	0	0	0	0	0
Row Percent	.00	.00	.00	.00	.00	.00
<u>Wholesale Trade</u>						
Total						
Number	0	4,898	0	1,069	397	397
Row Percent	.00	72.44	.00	15.81	5.87	5.87
Union						
Number	0	59	0	215	0	0
Row Percent	.00	21.53	.00	78.47	.00	.00
Nonunion						
Number	0	4,782	0	854	397	397
Row Percent	.00	74.37	.00	13.28	6.17	6.17
Not Classified						
Number	0	56	0	0	0	0
Row Percent	.00	100.00	.00	.00	.00	.00

Table 4.5.18 Continued
 Number of Defined Benefit Plans by Earnings Base, Industry, and Union Status, 1977¹

	Final or Highest 3 Years	Final or Highest 5 Years	Final or Highest 10 Years	Career Average	Other	Not Classified
<u>Retail Trade</u>						
Total						
Number	397	6,422	2	803	513	671
Row Percent	4.51	72.91	.02	9.12	5.82	7.62
Union						
Number	0	1	2	1	0	0
Row Percent	.00	25.00	50.00	25.00	.00	.00
Nonunion						
Number	397	6,421	0	801	513	671
Row Percent	4.51	72.94	.00	9.10	5.83	7.62
Not Classified						
Number	0	0	0	0	0	0
Row Percent	.00	.00	.00	.00	.00	.00
<u>Finance</u>						
Total						
Number	1,011	7,551	397	117	59	119
Row Percent	10.93	81.60	4.29	1.26	.64	1.29
Union						
Number	0	2	0	0	0	0
Row Percent	.00	100.00	.00	.00	.00	.00
Nonunion						
Number	1,011	7,095	397	117	59	119
Row Percent	11.49	80.64	4.51	1.33	.67	1.35
Not Classified						
Number	0	453	0	0	0	0
Row Percent	.00	100.00	.00	.00	.00	.00
<u>Services</u>						
Total						
Number	1,191	12,029	118	2,043	397	1,920
Row Percent	6.73	67.97	.67	11.54	2.24	10.85
Union						
Number	0	0	0	171	0	0
Row Percent	.00	.00	.00	100.00	.00	.00
Nonunion						
Number	794	11,235	118	1,871	397	1,920
Row Percent	4.86	68.78	.72	11.45	2.43	11.75
Not Classified						
Number	397	794	0	0	0	0
Row Percent	33.33	66.67	.00	.00	.00	.00
<u>Tax Exempt Organizations</u>						
Total						
Number	133	1,892	25	978	266	0
Row Percent	4.04	57.44	.76	29.69	8.08	.00
Union						
Number	0	112	0	0	0	0
Row Percent	.00	100.00	.00	.00	.00	.00
Nonunion						
Number	133	1,779	25	978	266	0
Row Percent	4.18	55.93	.79	30.75	8.36	.00
Not Classified						
Number	0	0	0	0	0	0
Row Percent	.00	.00	.00	.00	.00	.00
<u>Not Classified</u>						
Total						
Number	798	16,957	2,300	3,322	876	1,408
Row Percent	3.11	66.08	8.96	12.95	3.41	5.49
Union						
Number	1	137	422	297	0	1
Row Percent	.12	15.97	49.18	34.62	.00	.12
Nonunion						
Number	797	16,544	1,821	3,025	876	1,407
Row Percent	3.26	67.61	7.44	12.36	3.58	5.75
Not Classified						
Number	0	275	56	0	0	0
Row Percent	.00	83.08	16.92	.00	.00	.00
<u>Total</u>						
Total						
Number	5,346	69,960	5,052	14,530	4,665	5,726
Row Percent	5.08	66.45	4.80	13.80	4.43	5.44
Union						
Number	19	2,137	507	1,104	0	535
Row Percent	.44	49.67	11.79	25.66	.00	12.44
Nonunion						
Number	4,930	65,805	4,488	12,848	4,665	5,188
Row Percent	5.03	67.20	4.58	13.12	4.76	5.30
Not Classified						
Number	397	2,017	56	577	0	3
Row Percent	13.02	66.13	1.84	18.92	.00	.10

Source: NBER-DOL EBS1 Subsample File (1977)

Note: Sample includes only plans that explicitly specify earnings based benefit formulas.

Table 4.5.19

Number of Participants in Defined Benefit Plans by Earnings Base, Industry, and Union Status, 1977

	Final or Highest 3 Years	Final or Highest 5 Years	Final or Highest 10 Years	Career Average	Other	Not Classified
<u>Agriculture</u>						
Total						
Number	812	35,518	0	23,152	1,697	1,476
Row Percent	1.30	56.69	.00	36.95	2.71	2.36
Union						
Number	0	0	0	20,873	0	0
Row Percent	.00	.00	.00	100.00	.00	.00
Nonunion						
Number	812	35,518	0	1,909	1,697	1,476
Row Percent	1.96	85.77	.00	4.61	4.10	3.56
Not Classified						
Number	0	0	0	369	0	0
Row Percent	.00	.00	.00	100.00	.00	.00
<u>Mining</u>						
Total						
Number	68,221	58,113	369	34,621	0	1,624
Row Percent	41.87	35.66	.23	21.25	.00	1.00
Union						
Number	45,979	0	0	0	0	0
Row Percent	100.00	.00	.00	.00	.00	.00
Nonunion						
Number	22,242	56,459	369	34,621	0	1,624
Row Percent	19.29	48.96	.32	30.02	.00	1.41
Not Classified						
Number	0	1,653	0	0	0	0
Row Percent	.00	100.00	.00	.00	.00	.00
<u>Construction</u>						
Total						
Number	794	33,823	0	42,317	2,781	0
Row Percent	1.00	42.43	.00	53.09	3.49	.00
Union						
Number	0	0	0	0	0	0
Row Percent	.00	.00	.00	.00	.00	.00
Nonunion						
Number	794	33,426	0	42,317	2,781	0
Row Percent	1.00	42.14	.00	53.35	3.51	.00
Not Classified						
Number	0	397	0	0	0	0
Row Percent	.00	100.00	.00	.00	.00	.00
<u>Manufacturing</u>						
Total						
Number	352,487	2,230,226	947,828	1,361,182	47,164	175,462
Row Percent	6.89	43.61	18.53	26.61	.92	3.43
Union						
Number	217,420	687,275	46,380	677,448	0	104,547
Row Percent	12.55	39.66	2.68	39.09	.00	6.03
Nonunion						
Number	135,067	1,528,695	901,448	676,678	47,164	41,913
Row Percent	4.05	45.89	27.06	20.31	1.42	1.26
Not Classified						
Number	0	14,256	0	7,055	0	29,001
Row Percent	.00	28.34	.00	14.02	.00	57.64
<u>Transportation</u>						
Total						
Number	100,352	521,525	21,986	278,986	0	50,057
Row Percent	10.31	53.60	2.26	28.68	.00	5.15
Union						
Number	0	233,181	0	43,229	0	50,057
Row Percent	.00	71.43	.00	13.24	.00	15.33
Nonunion						
Number	100,352	288,344	21,986	235,757	0	0
Row Percent	15.52	44.60	3.40	36.47	.00	.00
Not Classified						
Number	0	0	0	0	0	0
Row Percent	.00	.00	.00	.00	.00	.00
<u>Wholesale Trade</u>						
Total						
Number	0	283,224	0	35,024	3,973	1,192
Row Percent	.00	87.57	.00	10.83	1.23	.37
Union						
Number	0	164,510	0	8,843	0	0
Row Percent	.00	94.90	.00	5.10	.00	.00
Nonunion						
Number	0	110,388	0	26,180	3,973	1,192
Row Percent	.00	77.88	.00	18.47	2.80	.84
Not Classified						
Number	0	8,325	0	0	0	0
Row Percent	.00	100.00	.00	.00	.00	.00

Table 4.5.19 Continued
 Number of Participants in Defined Benefit Plans by Earnings Base, Industry, and Union Status, 1977

	Final or Highest 3 Years	Final or Highest 5 Years	Final or Highest 10 Years	Career Average	Other	Not Classified
<u>Retail Trade</u>						
Total						
Number	1,589	385,517	20,287	190,176	25,829	37,373
Row Percent	.24	58.96	3.02	28.35	3.85	5.57
Union						
Number	0	78,778	20,287	16,739	0	0
Row Percent	.00	68.03	17.52	14.45	.00	.00
Nonunion						
Number	1,589	316,739	0	173,437	25,829	37,373
Row Percent	.29	57.07	.00	31.25	4.65	6.73
Not Classified						
Number	0	0	0	0	0	0
Row Percent	.00	.00	.00	.00	.00	.00
<u>Finance</u>						
Total						
Number	23,984	797,155	1,986	74,069	17,974	71,777
Row Percent	2.43	80.77	.20	7.50	1.82	7.27
Union						
Number	0	49,252	0	0	0	0
Row Percent	.00	100.00	.00	.00	.00	.00
Nonunion						
Number	23,984	740,632	1,986	74,069	17,974	71,777
Row Percent	2.58	79.60	.21	7.96	1.93	7.71
Not Classified						
Number	0	7,271	0	0	0	0
Row Percent	.00	100.00	.00	.00	.00	.00
<u>Services</u>						
Total						
Number	3,178	586,820	61,246	191,131	3,576	65,419
Row Percent	.35	64.39	6.72	20.97	.39	7.18
Union						
Number	0	0	0	43,056	0	0
Row Percent	.00	.00	.00	100.00	.00	.00
Nonunion						
Number	1,986	583,244	61,246	148,074	3,576	65,419
Row Percent	.23	67.54	7.09	17.15	.41	7.58
Not Classified						
Number	1,192	3,576	0	0	0	0
Row Percent	25.00	75.00	.00	.00	.00	.00
<u>Tax Exempt Organizations</u>						
Total						
Number	266	92,849	7,230	69,580	4,395	0
Row Percent	.15	53.26	4.15	39.97	2.52	.00
Union						
Number	0	18,580	0	0	0	0
Row Percent	.00	100.00	.00	.00	.00	.00
Nonunion						
Number	266	74,269	7,230	69,580	4,395	0
Row Percent	.17	47.69	4.64	44.68	2.82	.00
Not Classified						
Number	0	0	0	0	0	0
Row Percent	.00	.00	.00	.00	.00	.00
<u>Not Classified</u>						
Total						
Number	173,543	1,717,694	186,561	1,155,704	53,373	99,621
Row Percent	5.12	50.72	5.51	34.13	1.58	2.94
Union						
Number	143,421	310,110	32,880	731,124	0	88,166
Row Percent	10.98	23.75	2.53	55.99	.00	6.75
Nonunion						
Number	30,122	1,377,664	143,737	424,579	53,373	11,455
Row Percent	1.48	67.50	7.04	20.80	2.62	.56
Not Classified						
Number	0	29,920	9,844	0	0	0
Row Percent	.00	75.24	24.76	.00	.00	.00
<u>Total</u>						
Total						
Number	725,230	6,752,471	1,247,498	3,455,946	160,765	504,003
Row Percent	5.65	52.57	9.71	26.90	1.25	3.92
Union						
Number	406,820	1,541,688	99,648	1,541,316	0	242,771
Row Percent	10.62	40.23	2.60	40.22	.00	6.33
Nonunion						
Number	317,218	5,145,383	1,138,005	1,907,205	160,765	232,231
Row Percent	3.56	57.81	12.79	21.43	1.81	2.61
Not Classified						
Number	1,192	65,400	9,844	7,425	0	29,001
Row Percent	1.06	57.95	8.72	6.58	.00	25.70

Source: NBER-DOL EBS1 Subsample File (1977)

1. Sample includes only plans that explicitly specify earnings-based benefit formulae.

Table 4.5.20

Number of Defined Benefit Plans by Earnings Base and Union Status, 1977¹

	Final or Highest 3 Years	Final or Highest 5 Years	Final or Highest 10 Years	Career Average	Other	Not Classified
<u>Union Plans</u>						
Number	19	2,137	507	1,104	0	535
Row Percent	.44	49.67	11.79	25.66	.00	12.44
<u>Non-Union Plans</u>						
Number	4,930	65,805	4,488	12,848	4,665	5,188
Row Percent	5.03	67.20	4.58	13.12	4.76	5.30
<u>Not Classified</u>						
Number	397	2,017	56	577	0	3
Row Percent	13.02	66.13	1.84	18.92	.00	.10
<u>TOTAL</u>						
Number	5,346	69,960	5,052	14,530	4,665	5,726
Row Percent	5.08	66.45	4.80	13.80	4.43	5.44

Source: NBER-DOL EBS1 Subsample File (1977)

1. Sample includes only plans that explicitly specify earnings-based benefit formulae.

Table 4.5.21

Number of Participants in Defined Benefit Plans by Earnings Base and Union Status, 1977¹

	Final or Highest 3 Years	Final or Highest 5 Years	Final or Highest 10 Years	Career Average	Other	Not Classified
<u>Union Plans</u>						
Number	406,820	1,541,688	99,648	1,541,316	0	242,771
Row Percent	10.62	40.23	2.60	40.22	.00	6.33
<u>Non-Union Plans</u>						
Number	317,218	5,145,383	1,138,005	1,907,205	160,765	232,231
Row Percent	3.56	57.81	12.79	21.43	1.81	2.61
<u>Not Classified</u>						
Number	1,192	65,400	9,844	7,425	0	29,001
Row Percent	1.06	57.95	8.72	6.58	.00	25.70
<u>TOTAL</u>						
Number	725,230	6,752,471	1,247,498	3,455,946	160,765	504,003
Row Percent	5.65	52.57	9.71	26.90	1.25	3.92

Source: NBER-DOL EBS1 Subsample File (1977)

1. Sample includes only plans that explicitly specify earnings-based benefit formulae.

Table 4.5.22

Number of Defined Benefit Plans by Earnings Base, Plan Entity, and Union Status, 1977¹

	Final or Highest 3 Years	Final or Highest 5 Years	Final or Highest 10 Years	Career Average	Other	Not Classified
<u>Single Employer</u>						
Total						
Number	5,344	66,441	4,145	12,760	4,566	5,293
Row Percent	5.42	67.42	4.21	12.95	4.63	5.37
Union						
Number	17	2,071	507	1,046	0	533
Row Percent	.41	49.62	12.15	25.06	.00	12.77
Nonunion						
Number	4,928	62,351	3,562	11,136	4,566	4,756
Row Percent	5.40	68.29	3.90	12.20	5.00	5.21
Not Classified						
Number	397	2,017	56	577	0	3
Row Percent	13.02	66.13	1.84	18.92	.00	.10
<u>Multi-Employer</u>						
Total						
Number	2	1,316	422	1,370	99	431
Row Percent	.05	36.15	11.59	37.64	2.72	11.84
Union						
Number	1	65	0	57	0	0
Row Percent	.81	52.85	.00	46.34	.00	.00
Nonunion						
Number	1	1,250	422	1,313	99	431
Row Percent	.03	35.55	12.00	37.34	2.82	12.26
Not Classified						
Number	0	0	0	0	0	0
Row Percent	.00	.00	.00	.00	.00	.00

Table 4.5.22 Continued
 Number of Defined Benefit Plans by Earnings Base, Plan Entity, and Union Status, 1977¹

	Final or Highest 3 Years	Final or Highest 5 Years	Final or Highest 10 Years	Career Average	Other	Not Classified
<u>Not Classified</u>						
Total						
Number	0	2,203	503	398	0	1
Row Percent	.00	70.95	16.20	12.82	.00	.03
Union						
Number	0	0	0	0	0	1
Row Percent	.00	.00	.00	.00	.00	100.00
Nonunion						
Number	0	2,203	503	398	0	0
Row Percent	.00	70.97	16.20	12.82	.00	.00
Not Classified						
Number	0	0	0	0	0	0
Row Percent	.00	.00	.00	.00	.00	.00
<u>TOTAL</u>						
Total						
Number	5,346	69,960	5,052	14,530	4,665	5,726
Row Percent	5.08	66.45	4.80	13.80	4.43	5.44
Union						
Number	19	2,137	507	1,104	0	535
Row Percent	.44	49.67	11.79	25.66	.00	12.44
Nonunion						
Number	4,930	65,805	4,488	12,848	4,665	5,188
Row Percent	5.02	67.20	4.58	13.12	4.76	5.30
Not Classified						
Number	397	2,017	56	577	0	3
Row Percent	13.02	66.13	1.84	18.92	.00	.10

Source: NBER-DOL EBS1 Subsample File (1977)

1. Sample includes only plans that explicitly specify earnings-based benefit formulae.

Table 4.5.23
 Number of Participants in Defined Benefit Plans by Earnings Base, Plan Entity, and Union Status, 1977¹

	Final or Highest 3 Years	Final or Highest 5 Years	Final or Highest 10 Years	Career Average	Other	Not Classified
<u>Single Employer</u>						
Total						
Number	666,748	6,347,882	1,206,535	3,215,814	140,313	457,083
Row Percent	5.54	52.75	10.03	26.72	1.17	3.80
Union						
Number	362,786	1,282,530	99,648	1,504,767	0	209,440
Row Percent	10.49	37.08	2.88	43.50	.00	6.05
Nonunion						
Number	302,770	4,999,951	1,097,042	1,703,621	140,313	218,642
Row Percent	3.58	59.08	12.96	20.13	1.66	2.58
Not Classified						
Number	1,192	65,400	9,844	7,425	0	29,001
Row Percent	1.06	57.95	8.72	6.58	.00	25.70
<u>Multi Employer</u>						
Total						
Number	58,482	316,866	33,402	218,255	20,452	13,588
Row Percent	8.85	47.93	5.05	33.02	3.09	2.06
Union						
Number	44,034	259,157	0	36,548	0	0
Row Percent	12.96	76.28	.00	10.76	.00	.00
Nonunion						
Number	14,448	57,709	33,402	181,706	20,452	13,588
Row Percent	4.50	17.96	10.40	56.55	6.37	4.23
Not Classified						
Number	0	0	0	0	0	0
Row Percent	.00	.00	.00	.00	.00	.00
<u>Not Classified</u>						
Total						
Number	0	87,722	7,559	21,877	0	33,331
Row Percent	.00	58.29	5.02	14.54	.00	22.15
Union						
Number	0	0	0	0	0	33,331
Row Percent	.00	.00	.00	.00	.00	100.00
Nonunion						
Number	0	87,722	7,559	21,877	0	0
Row Percent	.00	74.87	6.45	18.67	.00	.00
Not Classified						
Number	0	0	0	0	0	0
Row Percent	.00	.00	.00	.00	.00	.00
<u>TOTAL</u>						
Total						
Number	725,230	6,752,471	1,247,498	3,455,946	160,765	504,003
Row Percent	5.65	52.57	9.71	26.90	1.25	3.92
Union						
Number	406,820	1,541,688	99,648	1,541,316	0	242,771
Row Percent	10.62	40.23	2.60	40.22	.00	6.33
Nonunion						
Number	317,218	5,145,383	1,138,005	1,907,205	160,765	232,231
Row Percent	3.56	57.81	12.79	21.43	1.81	2.61
Not Classified						
Number	1,192	65,400	9,844	7,425	0	29,001
Row Percent	1.06	57.95	8.72	6.58	.00	25.70

Source: NBER-DOL EBS1 Subsample File (1977)

1. Sample includes only plans that explicitly specify earnings-based benefit formulae.

Table 4.5.24

Mean Benefits and Replacement Rates for Hypothetical Workers Retiring in 1977 by Type of Defined Benefit Formulae
Plan Weighted, 1977¹

	Level of Earnings at Age 65, 1977							
	\$10,000		\$20,000		\$30,000		\$40,000	
	Mean Benefit Amount	Mean Percentage Replacement Rate	Mean Benefit Amount	Mean Percentage Replacement Rate	Mean Benefit Amount	Mean Percentage Replacement Rate	Mean Benefit Amount	Mean Percentage Replacement Rate
Unit Formula Based on Earnings and Service	2,179	21.79	4,358	21.79	6,537	21.79	8,716	21.79
Social Security Step Rate	2,322	23.22	5,741	28.70	9,311	31.03	12,921	32.30
Social Security Offset	2,116	21.16	6,323	31.61	10,960	36.53	15,597	38.99
Flat Benefit Related to Service Only	2,503	25.03	2,503	12.51	2,503	8.34	2,503	6.25
Flat Percentage Related to Earnings Only	3,541	35.41	7,082	35.41	10,624	35.41	14,165	35.41
Flat Benefit Not Based on Earnings or Service	389	3.97	389	1.98	389	1.32	389	.99
Total	2,390	23.90	5,264	26.32	8,286	27.62	11,324	28.31

Source: NBER-DOL EBS1 Subsample File (1977)

1. The hypothetical worker retiring in 1977 is assumed to have 35 years of service and to retire at the plan's normal retirement age.

Table 4.5.25

Mean Benefits and Replacement Rates for Hypothetical Workers Retiring in 1977 by Type of Defined Benefit Formulae
Participant Weighted, 1977¹

	Level of Earnings at Age 65, 1977							
	\$10,000		\$20,000		\$30,000		\$40,000	
	Mean Benefit Amount	Mean Percentage Replacement Rate	Mean Benefit Amount	Mean Percentage Replacement Rate	Mean Benefit Amount	Mean Percentage Replacement Rate	Mean Benefit Amount	Mean Percentage Replacement Rate
Unit Formula Based on Earnings and Service	2,254	22.54	4,508	22.54	6,763	22.54	9,017	22.54
Social Security Step Rate	2,306	23.06	5,239	26.19	8,391	27.97	11,636	29.09
Social Security Offset	2,956	29.56	7,620	38.10	12,634	42.11	17,649	44.12
Flat Benefit Related to Service Only	3,385	33.85	3,385	16.92	3,385	11.28	3,385	8.46
Flat Percentage Related to Earnings Only	1,657	18.57	3,715	18.57	5,572	18.57	7,430	18.57
Flat Benefit Not Based on Earnings or Service	367	7.25	367	3.62	367	2.41	367	1.81
Total	2,725	27.25	4,420	22.10	6,222	20.74	8,040	20.10

Source: NBER-DOL EBS1 Subsample File (1977)

1. The hypothetical worker retiring in 1977 is assumed to have 35 years of service and to retire at the plan's normal retirement age.

Table 4.5.26
Mean Benefits and Replacement Rates for Hypothetical Workers Retiring in 1977 by Earnings Base
Plan Weighted, 1977¹

	Level of Earnings at Age 65, 1977							
	\$10,000		\$20,000		\$30,000		\$40,000	
	Mean Benefit Amount	Mean Percentage Replacement Rate	Mean Benefit Amount	Mean Percentage Replacement Rate	Mean Benefit Amount	Mean Percentage Replacement Rate	Mean Benefit Amount	Mean Percentage Replacement Rate
Final or Highest 3 Years	3,415	34.15	7,690	38.45	12,144	40.48	16,597	41.49
Final or Highest 5 Years	2,762	27.62	6,826	34.13	11,022	36.74	15,218	38.04
Final or Highest 10 Years	2,719	27.19	6,469	32.34	10,406	34.68	14,342	35.85
Career Average	1,300	13.00	3,004	15.02	4,984	16.61	7,043	17.60
Total	2,398	23.98	5,831	29.15	9,438	31.46	13,066	32.66

Source: NBER-DOL EBS1 Subsample File (1977)

1. The hypothetical worker retiring in 1977 is assumed to have 35 years of service and to retire at the plan's normal retirement age.

Table 4.5.27
Mean Benefits and Replacement Rates for Hypothetical Workers Retiring in 1977 by Earnings Base
Participant Weighted, 1977¹

	Level of Earnings at Age 65, 1977							
	\$10,000		\$20,000		\$30,000		\$40,000	
	Mean Benefit Amount	Mean Percentage Replacement Rate	Mean Benefit Amount	Mean Percentage Replacement Rate	Mean Benefit Amount	Mean Percentage Replacement Rate	Mean Benefit Amount	Mean Percentage Replacement Rate
Final or Highest 3 Years	3,338	33.38	7,770	38.85	12,597	41.99	17,425	43.56
Final or Highest 5 Years	3,283	32.83	7,780	38.90	12,527	41.75	17,274	43.18
Final or Highest 10 Years	2,042	20.42	5,554	27.77	9,329	31.09	13,105	32.76
Career Average	1,356	13.56	2,958	14.79	4,681	15.60	6,496	16.24
Total	2,514	25.14	5,878	29.39	9,450	31.50	13,056	32.64

Source: NBER-DOL EBS1 Subsample File (1977)

1. The hypothetical worker retiring in 1977 is assumed to have 35 years of service and to retire at the plan's normal retirement age.

Table 4.5.28
Mean Benefits and Replacement Rates for Hypothetical Workers Retiring in 1977 by Plan Size
Plan Weighted, 1977¹

	Level of Earnings at Age 65, 1977							
	\$10,000		\$20,000		\$30,000		\$40,000	
	Mean Benefit Amount	Mean Percentage Replacement Rate	Mean Benefit Amount	Mean Percentage Replacement Rate	Mean Benefit Amount	Mean Percentage Replacement Rate	Mean Benefit Amount	Mean Percentage Replacement Rate
1-24 Participants	2,713	27.13	6,501	32.50	10,440	34.80	14,377	35.94
Earnings Related Formulae	2,736	27.36	6,711	33.55	10,843	36.14	14,974	37.43
Other Formulae	2,240	22.40	2,240	11.20	2,240	7.46	2,240	5.60
25-49 Participants	1,973	19.73	4,753	23.76	7,772	25.90	10,797	26.99
Earnings Related Formulae	1,970	19.70	4,871	24.35	8,021	26.73	11,177	27.94
Other Formulae	2,035	20.35	2,035	10.17	2,035	6.78	2,035	5.08

Table 4.5.28 Continued
 Mean Benefits and Replacement Rates for Hypothetical Workers Retiring in 1977 by Plan Size
 Plan Weighted, 1977¹

	Level of Earnings at Age 65, 1977							
	\$10,000		\$20,000		\$30,000		\$40,000	
	Mean Benefit Amount	Mean Percentage Replacement Rate	Mean Benefit Amount	Mean Percentage Replacement Rate	Mean Benefit Amount	Mean Percentage Replacement Rate	Mean Benefit Amount	Mean Percentage Replacement Rate
50-99 Participants	2,098	20.98	3,791	18.96	5,587	18.62	7,383	18.46
Earnings Related Formulae	2,048	20.48	4,940	24.70	8,006	26.68	11,072	27.68
Other Formulae	2,168	21.68	2,168	10.84	2,168	7.22	2,168	5.42
100-249 Participants	2,333	23.33	4,021	20.10	5,786	19.28	7,666	19.16
Earnings Related Formulae	2,072	20.72	4,814	24.07	7,680	25.60	10,734	26.83
Other Formulae	2,750	27.50	2,750	13.75	2,750	9.16	2,750	6.87
250-499 Participants	2,025	20.25	3,742	18.71	5,573	18.57	7,458	18.64
Earnings Related Formulae	2,198	21.98	5,404	27.02	8,821	29.40	12,341	30.85
Other Formulae	1,825	18.25	1,825	9.12	1,825	6.08	1,825	4.56
500-999 Participants	2,725	27.25	4,585	22.92	6,634	22.11	8,682	21.70
Earnings Related Formulae	2,724	27.24	6,226	31.13	10,084	33.61	13,942	34.85
Other Formulae	2,726	27.26	2,726	13.63	2,726	9.08	2,726	6.81
1,000-4,999 Participants	3,330	33.30	4,813	24.06	6,349	21.16	7,897	19.74
Earnings Related Formulae	2,373	23.73	5,236	26.18	8,201	27.33	11,189	27.97
Other Formulae	4,359	43.59	4,359	21.79	4,359	14.53	4,359	10.89
5,000-9,999 Participants	3,250	32.50	5,407	27.03	7,645	25.48	9,915	24.78
Earnings Related Formulae	3,000	30.00	6,876	34.38	10,899	36.33	14,978	37.44
Other Formulae	3,563	35.63	3,563	17.81	3,563	11.87	3,563	8.90
10,000+ Participants	2,614	26.14	4,132	20.66	5,802	19.33	7,503	18.75
Earnings Related Formulae	2,382	23.82	5,274	26.37	8,455	28.18	11,697	29.24
Other Formulae	2,870	28.70	2,870	14.35	2,870	9.56	2,870	7.17
TOTAL	2,390	23.90	5,266	26.33	8,288	27.63	11,327	28.31
Earnings Related Formulae	2,398	23.98	5,831	29.15	9,438	31.46	13,066	32.66
Other Formulae	2,351	23.51	2,351	11.75	2,351	7.83	2,351	5.87

Source: NBER-DOL EBS1 Subsample File (1977)

1. The hypothetical worker retiring in 1977 is assumed to have 35 years of service and to retire at the plan's normal retirement age.

Table 4.5.29
 Mean Benefits and Replacement Rates for Hypothetical Workers Retiring in 1977 by Plan Size
 Participant Weighted, 1977¹

	Level of Earnings at Age 65, 1977							
	\$10,000		\$20,000		\$30,000		\$40,000	
	Mean Benefit Amount	Mean Percentage Replacement Rate	Mean Benefit Amount	Mean Percentage Replacement Rate	Mean Benefit Amount	Mean Percentage Replacement Rate	Mean Benefit Amount	Mean Percentage Replacement Rate
1-24 Participants	2,465	24.65	6,069	30.34	9,868	32.89	13,669	34.17
Earnings Related Formulae	2,475	24.75	6,252	31.26	10,234	34.11	14,217	35.54
Other Formulae	2,257	22.57	2,257	11.28	2,257	7.52	2,257	5.64
25-49 Participants	2,036	20.36	4,891	24.45	7,971	26.56	11,055	27.63
Earnings Related Formulae	2,036	20.36	5,015	25.07	8,228	27.42	11,446	28.61
Other Formulae	2,032	20.32	2,032	10.16	2,032	6.77	2,032	5.08
50-99 Participants	2,064	20.64	3,545	17.72	5,100	17.00	6,654	16.63
Earnings Related Formulae	1,956	19.56	4,482	22.41	7,135	23.78	9,787	24.46
Other Formulae	2,217	22.17	2,217	11.08	2,217	7.39	2,217	5.54

Table 4.5.29 Continued
 Mean Benefits and Replacement Rates for Hypothetical Workers Retiring in 1977 by Plan Size
 Participant Weighted, 1977¹

	Level of Earnings at Age 65, 1977							
	\$10,000		\$20,000		\$30,000		\$40,000	
	Mean Benefit Amount	Mean Percentage Replacement Rate	Mean Benefit Amount	Mean Percentage Replacement Rate	Mean Benefit Amount	Mean Percentage Replacement Rate	Mean Benefit Amount	Mean Percentage Replacement Rate
<u>100-249 Participants</u>	2,352	23.52	4,085	20.43	5,902	19.67	7,794	19.48
Earnings Related Formulae	2,119	21.19	4,976	24.88	7,971	26.57	11,091	27.72
Other Formulae	2,712	27.12	2,712	13.56	2,712	9.04	2,712	6.78
<u>250-499 Participants</u>	2,524	25.24	4,197	20.98	5,988	19.96	7,823	19.55
Earnings Related Formulae	2,133	21.33	5,413	27.06	8,924	29.74	12,521	31.30
Other Formulae	2,931	29.31	2,931	14.65	2,931	9.77	2,931	7.32
<u>500-999 Participants</u>	2,644	26.44	4,381	21.90	6,296	20.99	8,212	20.52
Earnings Related Formulae	2,521	25.21	5,899	29.49	9,624	32.08	13,350	33.37
Other Formulae	2,775	27.75	2,775	13.87	2,775	9.25	2,775	6.93
<u>1,000-4,999 Participants</u>	3,819	38.19	6,115	30.57	8,524	28.41	10,939	27.34
Earnings Related Formulae	3,216	32.16	7,458	37.29	11,911	39.70	16,373	40.93
Other Formulae	4,531	45.31	4,531	22.65	4,531	15.10	4,531	11.32
<u>5,000-9,999 Participants</u>	3,296	32.96	5,538	27.69	7,866	26.22	10,214	25.53
Earnings Related Formulae	3,075	30.75	7,080	35.40	11,238	37.46	15,433	38.58
Other Formulae	3,576	35.76	3,576	17.88	3,576	11.92	3,576	8.94
<u>10,000+ Participants</u>	2,242	22.42	3,486	17.43	4,829	16.09	6,190	15.47
Earnings Related Formulae	2,349	23.49	5,434	27.17	8,762	29.20	12,135	30.33
Other Formulae	2,169	21.69	2,169	10.84	2,169	7.23	2,169	5.42
<u>TOTAL</u>	2,725	27.25	4,421	22.10	6,222	20.74	8,041	20.10
Earnings Related Formulae	2,514	25.14	5,878	29.39	9,450	31.50	13,056	32.64
Other Formulae	2,939	29.39	2,939	14.69	2,939	9.79	2,939	7.34

Source: NBER-DOL EBS1 Subsample File (1977)

1. The hypothetical worker retiring in 1977 is assumed to have 35 years of service and to retire at the plan's normal retirement age.

Table 4.5.30
 Mean Benefits and Replacement Rates for Hypothetical Workers Retiring in 1977 by Industry
 Plan Weighted, 1977¹

	Level of Earnings at Age 65, 1977							
	\$10,000		\$20,000		\$30,000		\$40,000	
	Mean Benefit Amount	Mean Percentage Replacement Rate	Mean Benefit Amount	Mean Percentage Replacement Rate	Mean Benefit Amount	Mean Percentage Replacement Rate	Mean Benefit Amount	Mean Percentage Replacement Rate
<u>Agriculture, Forestry, and Fishing</u>	1,872	18.72	3,914	19.57	6,189	20.63	8,530	21.32
Earnings Related Formulae	1,876	18.76	3,962	19.81	6,285	20.95	8,676	21.69
Other Formulae	1,680	16.80	1,680	8.40	1,680	5.60	1,680	4.20
<u>Mining</u>	3,486	34.23	6,026	30.13	8,629	28.76	11,233	28.08
Earnings Related Formulae	3,346	32.46	7,418	37.09	11,590	38.63	15,762	39.40
Other Formulae	3,717	37.17	3,717	18.58	3,717	12.39	3,717	9.29
<u>Construction</u>	3,611	36.11	7,220	36.09	10,939	36.46	14,659	36.64
Earnings Related Formulae	3,367	33.67	7,325	36.62	11,405	38.01	15,485	38.70
Other Formulae	6,131	61.31	6,131	30.65	6,131	20.43	6,131	15.32
<u>Manufacturing</u>	2,007	20.07	3,780	18.90	5,598	18.66	7,464	18.65
Earnings Related Formulae	1,891	18.91	4,562	22.81	7,303	24.34	10,115	25.28
Other Formulae	2,237	22.37	2,237	11.18	2,237	7.45	2,237	5.59

Table 4.5.30 Continued
 Mean Benefits and Replacement Rates for Hypothetical Workers Retiring in 1977 by Industry
 Plan Weighted, 1977¹

	Level of Earnings at Age 65, 1977							
	\$10,000		\$20,000		\$30,000		\$40,000	
	Mean Benefit Amount	Mean Percentage Replacement Rate	Mean Benefit Amount	Mean Percentage Replacement Rate	Mean Benefit Amount	Mean Percentage Replacement Rate	Mean Benefit Amount	Mean Percentage Replacement Rate
<u>Transportation, Communications, and Utilities</u>	1,515	15.15	3,993	19.96	6,716	22.38	9,439	23.59
Earnings Related Formulae	1,368	13.68	4,271	21.35	7,460	24.86	10,650	26.62
Other Formulae	2,373	23.73	2,373	11.86	2,373	7.91	2,373	5.93
<u>Wholesale Trade</u>	1,880	18.80	5,242	26.21	8,846	29.48	12,448	31.11
Earnings Related Formulae	1,850	18.50	5,360	26.80	9,122	30.40	12,883	32.20
Other Formulae	2,553	25.53	2,553	12.76	2,553	8.51	2,553	6.38
<u>Retail Trade</u>	2,914	29.14	5,604	28.02	8,295	27.65	10,990	27.47
Earnings Related Formulae	2,963	29.63	5,926	29.63	8,889	29.63	11,857	29.64
Other Formulae	2,429	24.29	2,429	12.14	2,429	8.09	2,429	6.07
<u>Finance, Insurance and Real Estate</u>	3,485	34.85	7,956	39.78	12,534	41.78	17,112	42.78
Earnings Related Formulae	3,485	34.85	7,956	39.78	12,534	41.78	17,112	42.75
Other Formulae	NA	NA	NA	NA	NA	NA	NA	NA
<u>Services</u>	2,673	26.73	6,578	32.89	10,674	35.57	14,791	36.98
Earnings Related Formulae	2,701	27.01	6,832	34.16	11,165	37.21	15,521	38.80
Other Formulae	2,188	21.88	2,188	10.94	2,188	7.29	2,188	5.47
<u>Tax-Exempt Organizations</u>	2,650	26.50	6,004	30.02	9,589	31.96	13,176	32.94
Earnings Related Formulae	2,612	26.12	6,064	30.32	9,754	32.51	13,445	33.61
Other Formulae	3,936	39.36	3,936	19.68	3,936	13.12	3,936	9.87
<u>Not Classified</u>	2,193	21.93	4,938	24.69	7,877	26.26	10,817	27.03
Earnings Related Formulae	2,203	22.03	5,476	27.38	8,979	29.93	12,483	31.20
Other Formulae	2,139	21.39	2,139	10.69	2,139	7.13	2,139	5.34
<u>TOTAL</u>	2,390	23.90	5,266	26.33	8,288	27.63	11,327	28.31
Earnings Related Formulae	2,398	23.98	5,831	29.15	9,438	31.46	13,066	32.66
Other Formulae	2,351	23.51	2,351	11.75	2,351	7.83	2,351	5.87

Source: NBER-DOL EBS1 Subsample File (1977)

1. See note to table 4.5.18.

Table 4.5.31
 Mean Benefits and Replacement Rates for Hypothetical Workers Retiring in 1977 by Industry
 Participant Weighted, 1977¹

	Level of Earnings at Age 65, 1977							
	\$10,000		\$20,000		\$30,000		\$40,000	
	Mean Benefit Amount	Mean Percentage Replacement Rate	Mean Benefit Amount	Mean Percentage Replacement Rate	Mean Benefit Amount	Mean Percentage Replacement Rate	Mean Benefit Amount	Mean Percentage Replacement Rate
<u>Agriculture, Forestry, and Fishing</u>	2,104	21.04	4,028	20.13	6,018	20.06	8,145	20.36
Earnings Related Formulae	2,203	22.03	4,573	22.86	7,026	23.42	9,647	24.11
Other Formulae	1,680	16.80	1,680	8.40	1,680	5.60	1,680	4.20
<u>Mining</u>	3,833	38.33	5,955	29.77	8,077	26.92	10,200	25.50
Earnings Related Formulae	2,869	28.69	6,426	32.13	9,983	33.27	13,541	33.85
Other Formulae	5,258	52.58	5,258	26.29	5,258	17.52	5,258	13.14
<u>Construction</u>	3,037	30.37	4,618	23.08	6,348	21.16	8,079	20.20
Earnings Related Formulae	1,724	17.24	4,921	24.60	8,421	28.07	11,921	29.80
Other Formulae	4,321	43.21	4,321	21.60	4,321	14.40	4,321	10.80

Table 4.5.31 Continued
 Mean Benefits and Replacement Rates for Hypothetical Workers Retiring in 1977 by Industry
 Participant Weighted, 1977¹

	Level of Earnings at Age 65, 1977							
	\$10,000		\$20,000		\$30,000		\$40,000	
	Mean Benefit Amount	Mean Percentage Replacement Rate	Mean Benefit Amount	Mean Percentage Replacement Rate	Mean Benefit Amount	Mean Percentage Replacement Rate	Mean Benefit Amount	Mean Percentage Replacement Rate
<u>Manufacturing</u>	2,194	22.66	3,620	18.46	5,140	17.37	6,675	16.86
Earnings Related Formulae	2,251	22.51	5,115	25.57	8,167	27.22	11,250	28.12
Other Formulae	2,138	22.80	2,138	11.40	2,138	7.60	2,138	5.70
<u>Transportation, Communications, and Utilities</u>	3,417	34.17	6,501	32.50	9,635	32.12	12,769	31.92
Earnings Related Formulae	3,235	32.35	7,233	36.16	11,295	37.65	15,357	38.39
Other Formulae	4,032	40.32	4,032	20.16	4,032	13.44	4,032	10.08
<u>Wholesale Trade</u>	2,656	26.56	4,555	22.77	6,563	21.88	8,571	21.43
Earnings Related Formulae	2,108	21.08	5,411	27.05	8,904	29.68	12,397	30.99
Other Formulae	3,397	33.97	3,397	16.98	3,397	11.32	3,397	8.49
<u>Retail Trade</u>	2,513	25.13	3,325	16.62	4,137	13.79	4,992	12.48
Earnings Related Formulae	1,832	18.92	3,785	18.92	5,677	18.92	7,671	19.17
Other Formulae	2,980	29.80	2,980	14.90	2,980	9.93	2,980	7.45
<u>Finance, Insurance and Real Estate</u>	3,597	35.97	8,382	41.91	13,317	44.39	18,252	45.63
Earnings Related Formulae	3,597	35.97	8,382	41.91	13,317	44.39	18,252	45.63
Other Formulae	NA	NA	NA	NA	NA	NA	NA	NA
<u>Services</u>	2,310	23.10	4,704	23.52	7,339	24.46	10,025	25.06
Earnings Related Formulae	2,485	24.85	5,945	29.72	9,751	32.50	13,632	34.08
Other Formulae	1,915	19.15	1,915	9.57	1,915	6.38	1,915	4.78
<u>Tax-Exempt Organizations</u>	2,939	29.39	4,878	24.39	6,961	23.20	9,042	22.60
Earnings Related Formulae	2,449	24.49	5,371	26.85	8,509	28.36	11,646	29.11
Other Formulae	3,906	39.06	3,906	19.53	3,906	13.02	3,906	9.76
<u>Not Classified</u>	2,853	28.53	4,883	24.41	7,045	23.48	9,221	23.05
Earnings Related Formulae	2,691	26.91	6,551	32.75	10,661	35.53	14,800	37.00
Other Formulae	3,033	30.33	3,033	15.16	3,033	10.11	3,033	7.58
<u>TOTAL</u>	2,705	27.25	4,421	22.10	6,222	20.74	8,041	20.10
Earnings Related Formulae	2,514	25.14	5,878	29.39	9,450	31.50	13,056	32.64
Other Formulae	2,939	29.39	2,939	14.69	2,939	9.79	2,939	7.34

Source: NBER-DOL EBS1 Subsample File (1977)

1. The hypothetical worker retiring in 1977 is assumed to have 35 years of service and to retire at the plan's normal retirement age.

Table 4.5.32
 Mean Benefits and Replacement Rates for Hypothetical Workers Retiring in 1977 by Union Status
 Plan Weighted, 1977¹

	Level of Earnings at Age 65, 1977							
	\$10,000		\$20,000		\$30,000		\$40,000	
	Mean Benefit Amount	Mean Percentage Replacement Rate	Mean Benefit Amount	Mean Percentage Replacement Rate	Mean Benefit Amount	Mean Percentage Replacement Rate	Mean Benefit Amount	Mean Percentage Replacement Rate
<u>Union Plans</u>	2,351	23.81	2,920	14.60	3,460	11.53	4,018	10.05
Earnings Related Formulae	2,000	20.00	4,214	21.07	6,435	21.45	8,726	21.81
Other Formulae	2,503	25.03	2,503	12.52	2,503	8.34	2,503	6.26
<u>Nonunion Plans</u>	2,361	23.61	5,601	28.00	9,011	30.04	12,440	31.09
Earnings Related Formulae	2,393	23.93	5,861	29.30	9,510	31.70	13,179	32.94
Other Formulae	1,898	18.98	1,898	9.49	1,898	6.32	1,898	4.74
<u>Not Classified</u>	3,593	35.93	7,819	39.09	12,182	40.60	16,546	41.36
Earnings Related Formulae	3,593	35.93	7,819	39.09	12,182	40.60	16,546	41.36
Other Formulae	NA	NA	NA	NA	NA	NA	NA	NA
<u>TOTAL</u>	2,390	23.90	5,266	26.33	8,288	27.63	11,327	28.31
Earnings Related Formulae	2,398	23.98	5,831	29.15	9,438	31.46	13,066	32.66
Other Formulae	2,351	23.51	2,351	11.75	2,351	7.83	2,351	5.87

Source: NBER-DOL EBS1 Subsample File (1977)
 NA - Not Available

1. The hypothetical worker retiring in 1977 is assumed to have 35 years of service and to retire at the plan's normal retirement age.

Table 4.5.33
 Mean Benefits and Replacement Rates for Hypothetical Workers Retiring in 1977 by Union Status
 Participant Weighted, 1977¹

	Level of Earnings at Age 65, 1977							
	\$10,000		\$20,000		\$30,000		\$40,000	
	Mean Benefit Amount	Mean Percentage Replacement Rate	Mean Benefit Amount	Mean Percentage Replacement Rate	Mean Benefit Amount	Mean Percentage Replacement Rate	Mean Benefit Amount	Mean Percentage Replacement Rate
<u>Union Plans</u>	2,970	29.70	3,757	18.78	4,577	15.25	5,404	13.51
Earnings Related Formulae	2,325	23.25	5,182	25.91	8,158	27.19	11,157	27.89
Other Formulae	3,215	32.15	3,215	16.07	3,215	10.71	3,215	8.04
<u>Nonunion Plans</u>	2,418	24.18	5,182	25.91	8,125	27.08	11,099	27.74
Earnings Related Formulae	2,590	25.90	6,113	30.56	9,863	32.87	13,653	34.13
Other Formulae	1,789	17.89	1,789	8.94	1,789	5.96	1,789	4.47
<u>Not Classified</u>	2,041	20.41	5,673	28.36	9,904	33.01	14,136	35.35
Earnings Related Formulae	2,041	20.41	5,673	28.36	9,904	33.01	14,136	35.35
Other Formulae	NA	NA	NA	NA	NA	NA	NA	NA
<u>TOTAL</u>	2,725	27.25	4,421	22.10	6,222	20.74	8,041	20.10
Earnings Related Formulae	2,514	25.14	5,878	29.39	9,450	31.50	13,056	32.64
Other Formulae	2,939	29.39	2,939	14.69	2,939	9.79	2,939	7.35

Source: NBER-DOL EBS1 Subsample File (1977)
 NA - Not Available

1. The hypothetical worker retiring in 1977 is assumed to have 35 years of service and to retire at the plan's normal retirement age.

Table 4.5.34
 Mean Benefits and Replacement Rates for Hypothetical Workers Retiring in 1977 by Plan Entity
 Plan Weighted, 1977¹

	Level of Earnings at Age 65, 1977							
	\$10,000		\$20,000		\$30,000		\$40,000	
	Mean Benefit Amount	Mean Percentage Replacement Rate	Mean Benefit Amount	Mean Percentage Replacement Rate	Mean Benefit Amount	Mean Percentage Replacement Rate	Mean Benefit Amount	Mean Percentage Replacement Rate
<u>Single Employer</u>	2,387	23.87	5,311	26.55	8,378	27.92	11,466	28.66
Earnings Related Formulae	2,407	24.07	5,851	29.25	9,463	31.54	13,100	32.75
Other Formulae	2,272	22.72	2,272	11.36	2,272	7.57	2,272	5.68
<u>Multi Employer</u>	2,389	23.89	4,384	21.92	6,580	21.93	8,777	21.94
Earnings Related Formulae	1,919	19.19	4,979	24.89	8,347	27.82	11,716	29.29
Other Formulae	3,270	32.70	3,270	16.35	3,270	10.90	3,270	8.17
<u>Not Classified</u>	2,851	28.51	5,891	29.45	8,935	29.78	11,980	29.94
Earnings Related Formulae	3,137	31.37	7,092	35.46	11,053	36.84	15,014	37.53
Other Formulae	1,903	19.03	1,903	9.51	1,903	6.34	1,903	4.74
<u>TOTAL</u>	2,390	23.90	5,266	26.33	8,288	27.63	11,327	28.31
Earnings Related Formulae	2,398	23.98	5,831	29.15	9,438	31.46	13,066	32.66
Other Formulae	2,351	23.51	2,351	11.75	2,351	7.83	2,351	5.87

Source: NBER-DOL EBS1 Subsample File (1977)

1. The hypothetical worker retiring in 1977 is assumed to have 35 years of service and to retire at the plan's normal retirement age.

Table 4.5.35
 Mean Benefits and Replacement Rates for Hypothetical Workers Retiring in 1977 by Plan Entity
 Participant Weighted, 1977¹

	Level of Earnings at Age 65, 1977							
	\$10,000		\$20,000		\$30,000		\$40,000	
	Mean Benefit Amount	Mean Percentage Replacement Rate	Mean Benefit Amount	Mean Percentage Replacement Rate	Mean Benefit Amount	Mean Percentage Replacement Rate	Mean Benefit Amount	Mean Percentage Replacement Rate
<u>Single Employer</u>	2,371	23.71	4,389	21.94	6,525	21.74	8,683	21.70
Earnings Related Formulae	2,534	25.34	5,919	29.59	9,503	31.67	13,124	32.81
Other Formulae	2,131	21.31	2,131	10.65	2,131	7.10	2,131	5.32
<u>Multi Employer</u>	4,425	44.25	4,780	23.91	5,214	17.37	5,648	14.12
Earnings Related Formulae	1,377	13.77	3,881	19.40	6,947	23.15	10,014	25.03
Other Formulae	4,928	49.28	4,928	24.65	4,928	16.42	4,928	12.32
<u>Not Classified</u>	1,349	13.50	2,164	10.81	3,032	10.11	3,904	9.75
Earnings Related Formulae	2,762	27.62	6,079	30.39	9,620	32.06	13,174	32.93
Other Formulae	890	8.91	891	4.45	891	2.97	891	2.22
<u>TOTAL</u>	2,725	27.25	4,421	22.10	6,222	20.74	8,041	20.10
Earnings Related Formulae	2,514	25.14	5,878	29.39	9,450	31.50	13,056	32.64
Other Formulae	2,939	29.39	2,939	14.69	2,939	9.79	2,939	7.34

Source: NBER-DOL EBS1 Subsample File (1977)

1. The hypothetical worker retiring in 1977 is assumed to have 35 years of service and to retire at the plan's normal retirement age.

4.6 Normal Retirement Provisions of Private Pension Plans

All private pension plans stipulate that an employee must meet certain requirements as a precondition for receipt of her (his) full accrued normal retirement benefits. These requirements typically take one of three forms. The great majority of private plans (62.22 percent) require only that the employee reach a specified age for normal retirement benefits to commence. A small percentage of plans (.82 percent) require only that the employee complete a specified number of years of service. Another 24.35 percent of plans require that the employee both reach a certain age and complete a specified amount of service.

For plans with an age requirement, the mean age is roughly 65. Table 4.6.2 examines the distribution of these plans and their participants across normal retirement ages. The great majority of these plans (89.65 percent) specify a normal retirement age of 65. A much smaller but still significant number of plans specify an age of 62 (3.50 percent) or 60 (2.99 percent).

For plans with a service requirement for normal retirement, the mean service required is roughly 9 years. One interesting finding in table 4.6.1 is the difference in service requirements between plans that specify only a service requirement and those that specify both an age and a service requirement. On a participant-weighted basis, the plans with only a service requirement require roughly 6 more years of service. On a plan-weighted basis, the opposite is true—plans with only a service requirement require roughly 4 fewer years of service. The distribution of plans and participants across service requirements is examined in table 4.6.3. The most common service requirement is 10 years (72.30 percent of plans and 49.56 percent of participants). Service requirements of 5 years and 15 years are also common, for 13.54 and 12.62 percent of participants, respectively.

Tables 4.6.4 and 4.6.5 tabulate normal retirement requirements by plan type. Defined contribution plans are more likely to specify only an age requirement, while defined benefit plans are more likely to specify both an age and a service requirement. Defined contribution plans with service requirements require roughly 2 fewer years of service than do their defined benefit counterparts.

There are also substantial variations in normal retirement requirements by plan size (tables 4.6.6 and 4.6.7). The fraction of participants facing both age and service requirements is an increasing function of plan size. While only 23.84 percent of participants in plans with fewer than 25 participants have both age and service requirements, the corresponding figure for plans with over 10,000 participants is 54.09 percent. The largest plans also tend to have longer service requirements—13.44 years versus 9.56 years for the smallest plans.

Tables 4.6.8 and 4.6.9 show that there is little variation in normal retirement requirements by industry. Mining plans are more likely to specify only an age requirement, but this deviation from the average disappears when requirements are tabulated on a participant-weighted basis.

Union status, on the other hand, does appear to be a key determinant of normal retirement requirements (tables 4.6.10 and 4.6.11). Nonunion plans are much more likely to specify only an age requirement than are union plans (63.77 percent of plans versus 38.73 percent). Union plans, on the other hand, are far more likely to specify both an age and a service requirement (54.41 percent).

Similarly, plan entity is also a strong predictor of normal retirement requirements (tables 4.6.12 and 4.6.13). While 12.62 percent of participants in multiemployer plans have only an age requirement, the corresponding figure for participants in single employer plans is 50.51 percent. Participants in multiemployer plans, however, are much more likely to have both an age and a service requirement (82.84 percent versus 34.76 percent for single employer plan participants).

Table 4.6.1

Number of Plans and Number of Participants by Normal Retirement Requirements, 1977

	Age Requirement Only			Service Requirement Only			Age and Service Requirement				Other	
	Number	Percent	Mean Age	Number	Percent	Mean Service	Number	Percent	Mean Age	Mean Service	Number	Percent
Number of Plans	283,964	62.22	64.71	3,726	.82	5.38	111,115	24.35	64.67	9.58	57,565	12.61
Number of Participants	17,704,279	43.00	64.74	297,865	.72	11.69	18,290,899	44.42	64.29	4.47	4,883,882	11.82

Source: NBER-DOL EBS1 File (1977)

Table 4.6.2

Distribution of Normal Retirement Ages, 1977

Age	Participants		Plans	
	Number	Percent	Number	Percent
45	20,339	.057	39	.010
46	0	.000	0	.000
47	0	.000	0	.000
48	0	.000	0	.000
49	0	.000	0	.000
50	15,438	.043	310	.078
51	35	.000	17	.004
52	1,493	.004	37	.009
53	310	.001	1	.000
54	0	.000	0	.000
55	292,193	.812	4,178	1.058
56	1,316	.004	158	.040
57	626,273	1.740	116	.029
58	8,260	.023	149	.038
59	7,392	.021	1,560	.395
60	1,077,439	2.993	19,039	4.819
61	5,702	.016	53	.013
62	1,260,391	3.502	5,501	1.392
63	22,558	.063	107	.027
64	17,071	.047	81	.021
65	32,576,486	90.502	354,187	89.652
66	6,118	.017	74	.019
67	1,179	.003	21	.005
68	8,627	.024	110	.028
69	17	.000	17	.004
70	25,479	.071	3,206	.812
71	11,970	.033	6,037	1.528
72	332	.001	52	.013
73	0	.000	0	.000
74	0	.000	0	.000
75	918	.003	18	.005
76	0	.000	0	.000
77	0	.000	0	.000
78	0	.000	0	.000
79	0	.000	0	.000
80	7,831	.022	1	.000
Total	35,995,167	100.000	395,069	100.000

Source: NBER-DOL EBS1 File (1977)

Table 4.6.3

Distribution of Service Requirements for Normal Retirement, 1977

Years of Service	Participants		Plans	
	Number	Column Percent	Number	Column Percent
1	1,181,337	6.45	4,106	3.69
2	162,865	.89	1,611	1.45
3	85,828	.47	3,094	2.78
4	46,013	.25	564	.51
5	2,481,915	13.54	9,631	8.66
6	36,993	.20	662	.60
7	25,465	.14	392	.35
8	28,306	.15	395	.36
9	16,912	.09	179	.16
10	9,082,698	49.56	80,435	72.30
11	20,356	.11	861	.77
12	26,032	.14	401	.36
13	23,298	.13	168	.15
14	3,261	.02	75	.07
15	2,312,458	12.62	6,358	5.72
16	2,066	.01	21	.02
17	12,592	.07	18	.02
18	2,480	.01	20	.02
19	0	.00	0	.00
20	1,237,197	6.75	1,046	.94
21	1,694	.01	1	.00
22	403	.00	2	.00
23	0	.00	0	.00
24	0	.00	0	.00
25	484,330	2.64	670	.60
26	1,347	.01	17	.02
27	0	.00	0	.00
28	4,180	.02	1	.00
29	0	.00	0	.00
30	1,030,633	5.62	428	.38
31	0	.00	0	.00
32	355	.00	1	.00
33	0	.00	0	.00
34	0	.00	0	.00
35	5,896	.03	65	.06
36	0	.00	0	.00
37	0	.00	0	.00
38	0	.00	0	.00
39	0	.00	0	.00
40	5,602	.03	8	.01
Total	18,325,028	100.00	111,248	100.00

Source: NBER-DOL EBS1 File (1977)

Table 4.6.4

Number of Plans by Normal Retirement Requirements and Plan Type, 1977

	Age Requirement Only			Service Requirement Only			Age and Service Requirement			Other		
	Number	Row Percent	Mean Age	Number	Row Percent	Mean Service	Number	Row Percent	Mean Age	Mean Service	Number	Row Percent
Defined Benefit	73,871	51.14	64.91	630	.44	9.30	55,910	38.70	64.79	10.28	14,045	9.72
Defined Contribution	202,890	68.19	64.64	2,811	.94	4.68	53,435	17.96	64.54	8.88	38,418	12.91
Other	7,203	50.17	64.62	284	1.98	3.65	1,770	12.33	64.72	8.55	5,101	35.53
Total	283,964	62.22	64.71	3,726	.82	5.38	111,115	24.35	64.67	9.58	57,565	12.61

Source: NBER-DOL EBS1 File (1977)

Table 4.6.5

Number of Participants by Normal Retirement Requirements and Plan Type, 1977

	Age Requirement Only			Service Requirement Only			Age and Service Requirement			Other		
	Number	Row Percent	Mean Age	Number	Row Percent	Mean Service	Number	Row Percent	Mean Age	Mean Service	Number	Row Percent
Defined Benefit	11,566,429	38.20	64.90	134,835	.45	21.08	16,652,229	55.00	64.31	11.72	1,922,683	6.35
Defined Contribution	5,808,744	57.13	64.41	149,344	1.47	4.04	1,537,316	15.12	64.05	8.85	2,671,624	26.28
Other	329,105	44.85	64.89	13,685	1.87	2.56	101,353	13.81	64.61	9.31	289,573	39.47
Total	17,704,279	43.00	64.74	297,865	.72	11.69	18,290,899	44.42	64.29	11.47	4,883,882	11.86

Source: NBER-DOL EBS1 File (1977)

Table 4.6.6
Number of Plans by Normal Retirement Requirements and Plan Size, 1977

	Age Requirement Only			Service Requirement Only			Age and Service Requirement				Other	
	Number	Row Percent	Mean Age	Number	Row Percent	Mean Service	Number	Row Percent	Mean Age	Mean Service	Number	Row Percent
1-24 Participants	225,034	63.08	64.70	2,887	.81	4.93	80,482	22.56	64.68	9.50	48,352	13.55
25-49 Participants	21,805	62.84	64.71	297	.86	5.24	8,417	24.26	64.75	9.44	4,182	12.05
50-99 Participants	21,997	58.66	64.75	245	.65	7.07	12,407	33.08	64.63	9.92	2,852	7.61
100-249 Participants	7,508	58.31	64.73	166	1.29	7.98	4,145	32.19	64.62	10.02	1,057	8.21
250-499 Participants	3,285	54.74	64.74	71	1.18	7.82	2,196	36.59	64.56	10.03	449	7.48
500-999 Participants	1,995	52.72	64.76	30	.79	10.82	1,486	39.27	64.54	9.95	273	7.21
1,000-4,999 Participants	1,913	51.62	64.66	18	.49	10.77	1,479	39.91	64.41	10.19	296	7.99
5,000-9,999 Participants	231	38.18	64.63	4	.66	11.00	313	51.74	64.32	8.25	57	9.42
10,000+ Participants	196	45.48	64.76	5	1.16	9.25	186	43.16	64.23	10.35	44	10.21
Total	283,964	62.22	64.71	3,726	.82	5.38	111,115	24.35	64.67	9.58	57,567	12.61

Source: NBER-DOL EBS1 File (1977)

Table 4.6.7
Number of Participants by Normal Retirement Requirements and Plan Size, 1977

	Age Requirement Only			Service Requirement Only			Age and Service Requirement				Other	
	Number	Row Percent	Mean Age	Number	Row Percent	Mean Service	Number	Row Percent	Mean Age	Mean Service	Number	Row Percent
1-24 Participants	1,411,462	62.82	64.67	17,797	.79	5.43	535,640	23.84	64.71	9.56	281,872	12.55
25-49 Participants	747,267	62.36	64.72	9,870	.82	4.92	296,205	24.72	64.73	9.49	144,935	12.10
50-99 Participants	1,701,595	58.19	64.75	17,377	.59	7.13	985,950	33.72	64.62	10.00	219,170	7.50
100-249 Participants	1,169,686	57.94	64.73	25,888	1.28	7.96	658,512	32.62	64.63	10.05	164,574	8.15
250-499 Participants	1,149,926	54.60	64.74	24,738	1.17	7.65	775,357	36.82	64.54	10.00	156,051	7.41
500-999 Participants	1,399,848	52.66	64.77	20,840	.78	10.89	1,048,247	39.43	64.54	9.94	189,359	7.12
1,000-4,999 Participants	3,903,740	50.22	64.57	34,948	.45	9.31	3,207,712	41.27	64.37	9.99	626,656	8.06
5,000-9,999 Participants	1,625,019	39.60	64.67	28,826	.70	9.35	2,048,352	49.92	64.29	8.62	400,913	9.77
10,000+ Participants	4,595,733	28.46	64.84	117,579	.73	16.96	8,734,922	54.09	64.10	13.44	2,700,349	16.72
Total	17,704,279	43.00	64.74	297,865	.72	11.69	18,290,899	44.42	64.29	11.47	4,883,882	11.86

Source: NBER-DOL EBS1 File (1977)

Table 4.6.8

Number of Plans by Normal Retirement Requirements and Industry, 1977

	Age Requirement Only			Service Requirement Only			Age and Service Requirement				Other	
	Number	Row Percent	Mean Age	Number	Row Percent	Mean Service	Number	Row Percent	Mean Age	Mean Service	Number	Row Percent
Agriculture, Forestry, and Fishing	5,143	65.50	64.98	37	.47	3.89	1,789	22.78	64.74	9.18	883	11.25
Mining	14,357	93.11	64.53	37	.24	3.96	793	5.14	64.76	10.14	233	1.51
Construction	11,890	57.62	64.66	91	.44	3.56	6,085	29.49	64.70	9.71	2,568	12.45
Manufacturing	35,039	55.44	64.76	335	.53	8.39	21,053	33.31	64.72	9.78	6,769	10.71
Transportation, Communications, and Utilities	5,135	60.07	64.69	107	1.25	4.76	2,524	29.53	64.58	10.04	782	9.15
Wholesale Trade	18,916	60.27	64.72	226	.72	7.68	8,370	26.67	64.72	9.62	3,875	12.35
Retail Trade	21,881	60.71	64.73	254	.70	6.00	9,332	25.89	64.77	9.76	4,572	12.69
Finance, Insurance, and Real Estate	17,491	65.36	64.91	197	.74	6.43	5,866	21.92	64.73	9.43	3,208	11.99
Services	76,664	63.27	64.69	1,031	.85	3.93	26,452	21.83	64.62	9.26	17,025	14.05
Tax-Exempt Organizations	4,946	60.25	64.81	154	1.88	3.35	1,501	18.28	63.96	10.04	1,608	19.59
Not Classified	72,502	61.89	64.63	1,252	1.07	5.59	27,346	23.35	64.65	9.63	16,038	13.69
TOTAL	283,964	62.22	64.71	3,726	.82	5.38	111,115	24.35	64.67	9.58	57,565	12.61

Source: NBER-DOL EBS1 File (1977)

Table 4.6.9

Number of Participants by Normal Retirement Requirements and Industry, 1977

	Age Requirement Only			Service Requirement Only			Age and Service Requirement				Other	
	Number	Row Percent	Mean Age	Number	Row Percent	Mean Service	Number	Row Percent	Mean Age	Mean Service	Number	Row Percent
Agriculture, Forestry, and Fishing	100,683	61.71	64.76	1,331	.82	14.37	48,742	29.87	64.65	11.53	12,406	7.60
Mining	237,163	65.59	64.87	3,525	.97	2.38	79,445	21.97	64.52	9.28	41,425	11.46
Construction	391,208	16.15	64.16	4,354	.18	8.43	1,956,814	80.80	64.36	10.95	69,447	2.87
Manufacturing	6,447,966	43.78	64.80	129,605	.88	18.71	5,942,755	40.35	64.80	9.24	2,208,078	14.99
Transportation, Communications, and Utilities	1,014,610	40.31	64.65	19,751	.78	17.45	1,235,856	49.10	59.96	15.24	246,892	9.81
Wholesale Trade	585,250	48.33	64.69	7,207	.60	7.34	507,547	41.91	64.65	9.99	110,992	9.17
Retail Trade	1,268,437	46.75	64.54	7,238	.27	6.61	887,748	32.72	64.24	9.36	549,567	20.26
Finance, Insurance, and Real Estate	1,457,703	64.99	64.82	47,242	2.11	3.00	450,041	20.06	64.44	7.72	287,966	12.84
Services	1,410,928	52.87	64.71	10,788	.40	6.28	1,027,170	38.49	64.74	9.61	219,815	8.24
Tax-Exempt Organizations	307,596	18.75	64.91	9,740	.59	3.05	1,254,127	76.46	64.63	24.88	68,734	4.19
Not Classified	4,482,731	42.66	64.75	57,080	.54	5.38	4,900,649	46.63	64.51	11.36	1,068,554	10.17
TOTAL	17,704,279	43.00	64.74	297,865	.72	11.69	18,290,899	44.42	64.29	11.47	4,883,882	11.86

Source: NBER-DOL EBS1 File (1977)

Table 4.6.10

Number of Plans by Normal Retirement Requirements and Union Status, 1977

	Age Requirement Only			Service Requirement Only			Age and Service Requirement				Other	
	Number	Row Percent	Mean Age	Number	Row Percent	Mean Service	Number	Row Percent	Mean Age	Mean Service	Number	Row Percent
Union Plans	9,284	38.73	64.76	158	.66	13.61	13,042	54.41	64.64	10.59	1,486	6.20
Non-Union Plans	267,436	63.77	64.71	3,406	.81	5.05	95,380	22.74	64.67	9.44	53,159	12.68
Not Classified	7,243	55.65	64.52	161	1.24	4.23	2,692	20.68	64.76	9.74	2,920	22.43
TOTAL	283,964	62.22	64.71	3,726	.82	5.38	111,115	24.35	64.67	9.58	57,565	12.61

Source: NBER-DOL EBS1 File (1977)

Table 4.6.11

Number of Participants by Normal Retirement Requirements and Union Status, 1977

	Age Requirement Only			Service Requirement Only			Age and Service Requirement				Other	
	Number	Row Percent	Mean Age	Number	Row Percent	Mean Service	Number	Row Percent	Mean Age	Mean Service	Number	Row Percent
Union Plans	5,384,049	28.19	64.79	120,925	.63	22.18	11,207,559	58.68	63.99	10.88	2,385,614	12.49
Non-Union Plans	12,129,298	56.03	64.71	174,853	.81	4.51	6,962,344	32.16	64.76	12.45	2,381,010	11.00
Not Classified	190,932	44.27	64.70	2,087	.48	4.65	120,995	28.06	64.73	9.71	117,257	27.19
TOTAL	17,704,279	43.00	64.74	297,865	.72	11.69	18,290,899	44.42	64.29	11.47	4,883,882	11.86

Source: NBER-DOL EBS1 File (1977)

Table 4.6.12

Number of Plans by Normal Retirement Requirements and Plan Entity, 1977

	Age Requirement Only			Service Requirement Only			Age and Service Requirement				Other	
	Number	Row Percent	Mean Age	Number	Row Percent	Mean Service	Number	Row Percent	Mean Age	Mean Service	Number	Row Percent
Single Employer	273,396	62.66	64.72	3,529	.81	5.27	104,783	24.01	64.67	9.55	54,636	12.52
Multi Employer	3,965	44.45	64.45	53	.59	11.79	3,826	42.89	64.52	10.63	1,076	12.06
Not Classified	6,603	59.46	64.52	144	1.30	5.67	2,506	22.57	64.82	9.32	1,852	16.68
TOTAL	283,964	62.22	64.71	3,726	.82	5.38	111,115	24.35	64.67	9.58	57,565	12.61

Source: NBER-DOL EBS1 File (1977)

Table 4.6.13

Number of Participants by Normal Retirement Requirements and Plan Entity, 1977

	Age Requirement Only			Service Requirement Only			Age and Service Requirement				Other	
	Number	Row Percent	Mean Age	Number	Row Percent	Mean Service	Number	Row Percent	Mean Age	Mean Service	Number	Row Percent
Single Employer	16,425,479	50.51	64.77	272,815	.84	11.27	11,304,048	34.76	64.76	10.89	4,518,574	13.89
Multi Employer	967,505	12.62	64.23	22,759	.30	17.48	6,349,679	32.84	63.41	11.98	325,121	4.24
Not Classified	311,294	31.41	64.87	2,290	.23	3.94	637,171	64.30	64.81	16.67	40,187	4.06
TOTAL	17,704,279	43.00	64.74	297,865	.72	11.69	18,290,899	44.42	64.29	11.47	4,883,882	11.86

Source: NBER-DOL EBS1 File (1977)

4.7 Early Retirement Provisions of Private Pension Plans

Early retirement provisions are features of approximately two-thirds of private pension plans, affecting 82 percent of covered workers (tables 4.7.1 and 4.7.2). These provisions are more common among defined benefit plans than defined contribution plans: 80 percent of the former while only 57 percent of the latter have early retirement options (tables 4.7.3 and 4.7.4). Given that defined benefit plans are larger plans on average than defined contribution plans, the positive correlation between early retirement provisions and plan size documented in tables 4.7.4 and 4.7.5 is not surprising.

Receipt of early retirement pension benefits is a widely available option across all industrial sectors of the United States (tables 4.7.6 and 4.7.7). The construction industry provides 93 percent of its covered workers with this pension feature, the largest percentage for any industry. The service sector has the smallest percentage, 77 percent.

Covered union members are somewhat more likely (86 percent, table 4.7.9) to have an early retirement option than are nonunion workers (79 percent, table 4.7.9). A worker's probability of collecting early retirement benefits is also greater for workers covered under a multiemployer plan (table 4.7.11). Tables 4.7.8 and 4.7.10 indicate variations across plans by union status and plan entity in the provision of early retirement.

Of those pension plans with early retirement provisions, three-quarters require that the covered worker reach a certain age prior to becoming eligible for receipt of early retirement benefits. The typical age specified by these plans is 57 on a plan-weighted basis and 56 on a participant-weighted basis. There appears to be no systematic difference between defined benefit and defined contribution plans along this dimension (tables 4.7.12, 4.7.15, and 4.7.16). In addition to age requirements, 79 percent of those covered workers potentially eligible for early retirement must meet a service requirement, averaging over 12 years (table 4.7.12).

Tables 4.7.12 and 4.7.14 present the distribution of early retirement ages and service requirements. Almost two-thirds of participants in plans with early retirement are potentially eligible to collect benefits first at age 55. Over 6 percent have an early retirement age of 50. Another 18 and 7 percent are enrolled in plans with early retirement at ages 60 and 62, respectively. The most striking feature of the service requirement distribution is that 40 percent of participants who are affected have a service requirement of 15 or more years.

Large plans tend to have somewhat easier age standards for early retirement eligibility. Plans with fewer than 25 participants have early retirement ages that average 56.74, .68 years longer than the average for plans with 10,000 or more participants. Service requirements, on the other hand, increase with plan size for plans with only service requirements. For plans with both age and service requirements the simple correlation between plan size and service requirements is quite low (tables 4.7.17 and 4.7.18).

The industrial differences in early retirement ages are interesting (tables 4.7.19 and 4.7.20). The transportation, communications, and utilities industry has the lowest average early retirement age, namely 52.75. Mining is second lowest, with an average early retirement age of 55.00 years. The industry with the largest early retirement age is wholesale trade, 57.85 years. Tables 4.7.21 through 4.7.24 indicate little difference by union status or by plan entity in early retirement ages and rather small differences across these characteristics in service requirements.

Table 4.7.1
Number of Plans and Participants with Early Retirement, 1977

	With Early Retirement Provisions		Without Early Retirement Provisions	
	Number	Percent	Number	Percent
Number of Plans	292,549	64.10	163,823	35.90
Number of Participants	33,848,363	82.20	7,328,563	17.80

Source: NBER-DOL EBS1 File (1977)

Table 4.7.2
Number of Plans with Early Retirement by Plan Type, 1977

	With Early Retirement Provisions		Without Early Retirement Provisions	
	Number	Row Percent	Number	Row Percent
Defined Benefit	114,925	79.56	29,531	20.44
Defined Contribution	168,809	56.73	128,747	43.27
Other	8,815	61.39	5,545	38.61
Total	292,549	64.10	163,823	35.90

Source: NBER-DOL EBS1 File (1977)

Table 4.7.3
Number of Participants Covered by Early Retirement by Plan Type, 1977

	With Early Retirement Provisions		Without Early Retirement Provisions	
	Number	Row Percent	Number	Row Percent
Defined Benefit	26,758,062	88.38	3,518,116	11.62
Defined Contribution	6,617,486	65.09	3,549,545	34.91
Other	472,815	64.44	260,902	35.56
Total	33,848,363	82.20	7,328,563	17.80

Source: NBER-DOL EBS1 File (1977)

Table 4.7.4
Number of Plans with Early Retirement by Plan Size, 1977

	With Early Retirement Provisions		Without Early Retirement Provisions	
	Number	Row Percent	Number	Row Percent
1-24 Participants	217,140	60.87	139,615	39.13
25-49 Participants	22,697	65.41	12,005	34.59
50-99 Participants	29,995	79.98	7,507	20.02
100-249 Participants	10,140	78.75	2,737	21.25
250-499 Participants	5,066	84.39	937	15.61
500-999 Participants	3,262	86.18	523	13.82
1,000-4,999 Participants	3,325	89.67	383	10.33
5,000-9,999 Participants	541	89.27	65	10.73
10,000+ Participants	382	88.43	50	11.57
Total	292,549	64.10	163,823	35.90

Source: NBER-DOL EBS1 File (1977)

Table 4.7.5
Number of Participants Covered by Early Retirement by Plan Size, 1977

	With Early Retirement Provisions		Without Early Retirement Provisions	
	Number	Row Percent	Number	Row Percent
1-24 Participants	1,365,595	60.78	881,177	39.22
25-49 Participants	789,670	65.90	408,607	34.10
50-99 Participants	2,364,355	80.86	559,737	19.14
100-249 Participants	1,600,025	79.26	418,636	20.74
250-499 Participants	1,783,684	84.69	322,389	15.31
500-999 Participants	2,293,013	86.26	365,283	13.74
1,000-4,999 Participants	7,005,894	90.13	767,163	9.87
5,000-9,999 Participants	3,649,748	88.95	453,363	11.05
10,000+ Participants	12,996,379	80.48	3,152,205	19.52
Total	33,848,363	82.20	7,328,563	17.80

Source: NBER-DOL EBS1 File (1977)

Table 4.7.6
Number of Plans with Early Retirement by Industry, 1977

	With Early Retirement Provisions		Without Early Retirement Provisions	
	Number	Row Percent	Number	Row Percent
Agriculture, Forestry, and Fishing	5,231	66.60	2,623	33.40
Mining	1,728	69.15	771	30.85
Construction	13,167	63.81	7,469	36.19
Manufacturing	43,785	69.28	19,412	30.72
Transportation, Communications, and Utilities	5,996	70.14	2,553	29.86
Wholesale Trade	18,870	60.12	12,519	39.88
Retail Trade	22,339	61.98	13,701	38.02
Finance, Insurance, and Real Estate	18,178	67.92	8,585	32.08
Services	82,217	61.31	51,875	38.69
Tax-Exempt Organizations	6,601	80.40	1,609	19.60
Not Classified	74,435	63.54	42,704	36.46
TOTAL	292,549	64.10	163,823	35.90

Source: NBER-DOL EBS1 File (1977)

Table 4.7.7
Number of Participants Covered by Early Retirement by Industry, 1977

	With Early Retirement Provisions		Without Early Retirement Provisions	
	Number	Row Percent	Number	Row Percent
Agriculture, Forestry, and Fishing	127,071	77.88	36,092	22.12
Mining	314,901	87.10	46,658	12.90
Construction	2,247,628	92.81	174,196	7.19
Manufacturing	12,135,855	82.40	2,592,550	17.60
Transportation, Communications, and Utilities	2,170,855	86.24	346,256	13.76
Wholesale Trade	981,103	81.02	229,895	18.98
Retail Trade	2,259,506	83.28	453,485	16.72
Finance, Insurance, and Real Estate	1,862,748	83.05	380,206	16.95
Services	2,058,765	77.14	609,938	22.86
Tax-Exempt Organizations	672,183	40.98	968,015	59.02
Not Classified	9,017,745	85.81	1,491,271	14.19
TOTAL	33,848,363	82.20	7,328,563	17.80

Source: NBER-DOL EBS1 File (1977)

Table 4.7.8
Number of Plans with Early Retirement by Union Status, 1977

	With Early Retirement Provisions		Without Early Retirement Provisions	
	Number	Row Percent	Number	Row Percent
Union Plans	20,674	86.25	3,297	13.75
Non-Union Plans	264,925	63.17	154,458	36.83
Not Classified	6,950	53.39	6,068	46.61
TOTAL	292,549	64.10	163,823	35.90

Source: NBER-DOL EBS1 File (1977)

Table 4.7.9
Number of Participants Covered by Early Retirement by Union Status, 1977

	With Early Retirement Provisions		Without Early Retirement Provisions	
	Number	Row Percent	Number	Row Percent
Union Plans	16,481,271	86.30	2,616,876	13.70
Non-Union Plans	17,110,616	79.04	4,536,891	20.96
Not Classified	256,476	59.47	174,796	40.53
TOTAL	33,848,363	82.20	7,328,563	17.80

Source: NBER-DOL EBS1 File (1977)

Table 4.7.10
Number of Plans with Early Retirement by Plan Entity, 1977

	With Early Retirement Provisions		Without Early Retirement Provisions	
	Number	Row Percent	Number	Row Percent
Single Employer	278,928	63.92	157,417	36.08
Multi Employer	7,009	78.57	1,912	21.43
Not Classified	6,612	59.54	4,494	40.46
TOTAL	292,549	64.10	163,823	35.90

Source: NBER-DOL EBS1 File (1977)

Table 4.7.11
Number of Participants Covered by Early Retirement by Plan Entity, 1977

	With Early Retirement Provisions		Without Early Retirement Provisions	
	Number	Row Percent	Number	Row Percent
Single Employer	25,844,077	79.47	6,676,840	20.53
Multi Employer	7,093,978	92.55	571,087	7.45
Not Classified	910,308	91.86	80,635	8.14
TOTAL	33,848,363	82.20	7,328,563	17.80

Source: NBER-DOL EBS1 File (1977)

Table 4.7.12
Number of Plans and Participants by Early Retirement Requirements, 1977

	Age Requirement Only			Service Requirement Only			Age and Service Requirement				Other	
	Number	Percent	Mean Age	Number	Percent	Mean Service	Number	Row Percent	Mean Age	Mean Service	Number	Percent
Number of Plans	89,697	30.66	57.65	15,630	5.34	7.53	133,199	45.53	56.25	11.32	54,023	18.47
Number of Participants	4,402,318	13.01	56.39	877,191	2.59	13.07	25,888,330	76.48	56.01	12.44	2,680,523	7.92

Source: NBER-DOL EBS1 File (1977)

Table 4.7.13
Distribution of Early Retirement Ages, 1977

Age	Participants		Plans	
	Number	Percent	Number	Percent
45	130,861	.432	613	.275
46	0	.000	0	.000
47	480	.002	1	.000
48	1,155	.004	105	.047
49	490	.002	18	.008
50	2,001,383	6.607	6,339	2.844
51	7,288	.024	167	.075
52	190,671	.629	402	.180
53	3,532	.012	24	.011
54	1,020	.003	53	.024
55	19,867,760	65.990	129,140	57.941
56	13,666	.045	462	.207
57	263,837	.871	527	.236
58	73,582	.243	472	.212
59	54,985	.182	3,824	1.716
60	5,510,486	18.192	72,939	32.725
61	5,421	.018	165	.074
62	2,081,091	6.870	5,510	2.472
63	1,835	.006	88	.039
64	2,165	.007	39	.017
65	64,503	.213	1,797	.806
66	140	.000	17	.008
67	0	.000	0	.000
68	0	.000	0	.000
69	0	.000	0	.000
70	1,321	.004	142	.064
71	35	.000	17	.008
72	0	.000	0	.000
73	0	.000	0	.000
74	0	.000	0	.000
75	140	.000	17	.008
76	0	.000	0	.000
77	0	.000	0	.000
78	0	.000	0	.000
79	0	.000	0	.000
80	12,791	.042	5	.002
Total	30,290,638	100.000	222,883	100.000

Source: NBER-DOL EBS1 File (1977)

Table 4.7.14
Distribution of Service Requirements for Early Retirement, 1977

Years of Service	Participants		Plans	
	Number	Column Percent	Number	Column Percent
0	1,820	.01	40	.03
1	536,470	2.02	2,921	1.99
2	105,695	.40	1,433	.98
3	117,764	.44	3,425	2.33
4	55,583	.21	752	.51
5	1,163,185	4.38	16,446	11.19
6	50,638	.19	1,134	.77
7	28,005	.11	630	.43
8	31,435	.12	511	.35
9	24,404	.09	287	.20
10	13,894,086	52.27	74,400	50.64
11	143,298	.54	1,544	1.05
12	219,163	.82	686	.47
13	42,207	.16	389	.26
14	59,800	.22	105	.07
15	7,081,115	26.64	29,275	19.93
16	18,014	.07	114	.08
17	6,182	.02	27	.02
18	3,584	.01	78	.05
19	1,519	.01	36	.02
20	2,478,541	9.32	10,901	7.42
21	5,104	.02	23	.02
22	350	.00	18	.01
23	1,985	.01	5	.00
24	288	.00	18	.01
25	164,705	.62	1,086	.74
26	193	.00	1	.00
27	0	.00	0	.00
28	0	.00	0	.00
29	0	.00	0	.00
30	340,707	1.28	602	.41
31	35	.00	17	.01
32	0	.00	0	.00
33	0	.00	0	.00
34	0	.00	0	.00
35	3,323	.01	8	.01
36	0	.00	0	.00
37	266	.00	1	.00
38	0	.00	0	.00
39	0	.00	0	.00
40	1,104	.00	1	.00
Total	26,580,568	100.00	146,914	100.00

Source: NBER-DOL EBS1 File (1977)

Table 4.7.15
Number of Plans by Early Retirement Requirements and Plan Type, 1977

	Age Requirement Only			Service Requirement Only			Age and Service Requirement				Other	
	Number	Row Percent	Mean Age	Number	Row Percent	Mean Service	Number	Row Percent	Mean Age	Mean Service	Number	Row Percent
Defined Benefit	23,179	20.17	56.93	3,132	2.73	10.04	75,924	66.07	56.43	11.84	12,688	11.04
Defined Contribution	63,807	37.80	57.89	12,067	7.15	6.97	55,414	32.83	56.00	10.59	37,526	22.23
Other	2,709	30.74	58.20	430	4.88	4.95	1,860	21.11	56.23	11.77	3,814	43.28
Total	89,697	30.66	57.65	15,630	5.34	7.53	133,199	45.53	56.25	11.32	54,023	18.47

Source: NBER-DOL EBS1 File (1977)

Table 4.7.16
Number of Participants by Early Retirement Requirements and Plan Type, 1977

	Age Requirement Only			Service Requirement Only			Age and Service Requirement				Other	
	Number	Row Percent	Mean Age	Number	Row Percent	Mean Service	Number	Row Percent	Mean Age	Mean Service	Number	Row Percent
Defined Benefit	2,810,216	10.50	56.44	377,647	1.41	20.91	22,734,064	84.96	56.08	12.18	636,133	3.12
Defined Contribution	1,509,868	22.82	56.32	483,400	7.30	7.24	2,885,904	43.61	55.49	11.83	1,738,313	26.27
Other	82,233	17.39	56.34	16,144	3.41	4.31	268,361	56.76	55.65	12.05	106,075	22.43
Total	4,402,318	13.01	56.39	877,191	2.59	13.07	25,888,330	76.48	56.01	12.14	2,680,523	7.92

Source: NBER-DOL EBS1 File (1977)

Table 4.7.17
Number of Plans by Early Retirement Requirements and Plan Size, 1977

	Age Requirement Only			Service Requirement Only			Age and Service Requirement				Other	
	Number	Row Percent	Mean Age	Number	Row Percent	Mean Service	Number	Row Percent	Mean Age	Mean Service	Number	Row Percent
1-24 Participants	75,512	34.78	57.83	12,285	5.66	7.20	82,915	38.19	56.14	10.81	46,427	21.38
25-49 Participants	5,372	23.67	56.85	1,400	6.17	7.48	12,337	54.36	56.45	12.13	3,587	15.80
50-99 Participants	5,372	17.91	56.75	1,207	4.02	9.62	20,895	69.66	56.49	12.27	2,520	8.40
100-249 Participants	1,689	16.66	56.60	412	4.07	8.92	7,303	72.01	56.46	12.20	736	7.26
250-499 Participants	765	15.10	56.25	158	3.12	9.01	3,823	75.48	56.46	11.98	319	6.30
500-999 Participants	441	13.53	56.06	79	2.42	12.00	2,563	78.62	56.30	11.98	177	5.43
1,000-4,999 Participants	442	13.30	55.61	64	1.93	10.67	2,620	78.84	56.10	12.03	197	5.93
5,000-9,999 Participants	61	11.30	55.34	12	2.22	18.11	441	81.67	55.73	10.21	26	4.81
10,000+ Participants	39	10.26	55.64	12	3.16	14.44	299	78.68	55.38	11.92	30	7.89
Total	89,697	30.66	57.65	15,630	5.34	7.53	133,199	45.53	56.25	11.32	54,023	18.47

Source: NBER-DOL EBS1 File (1977)

Table 4.7.18
Number of Participants by Early Retirement Requirements and Plan Size, 1977

	Age Requirement Only			Service Requirement Only			Age and Service Requirement				Other	
	Number	Row Percent	Mean Age	Number	Row Percent	Mean Service	Number	Row Percent	Mean Age	Mean Service	Number	Row Percent
1-24 Participants	419,982	30.75	57.37	88,305	6.47	7.19	587,090	42.99	56.29	11.16	270,217	19.79
25-49 Participants	184,345	23.34	56.77	49,752	6.30	7.65	431,865	54.69	56.40	12.21	123,707	15.67
50-99 Participants	419,545	17.74	56.72	88,095	3.73	9.72	1,668,607	70.57	56.50	12.31	188,107	7.96
100-249 Participants	260,787	16.30	56.56	64,366	4.02	9.06	1,162,750	72.67	56.46	12.22	112,120	7.01
250-499 Participants	269,032	15.08	56.24	56,984	3.19	9.10	1,347,449	75.54	56.47	11.95	110,217	6.18
500-999 Participants	307,403	13.41	56.05	58,154	2.54	11.80	1,800,842	78.54	56.30	11.96	126,613	5.52
1,000-4,999 Participants	941,848	13.44	55.51	137,482	1.96	10.07	5,499,564	78.50	56.02	12.05	426,998	6.09
5,000-9,999 Participants	432,989	11.86	55.31	91,142	2.50	18.11	2,952,227	80.89	55.73	10.49	173,388	4.75
10,000+ Participants	1,166,384	8.97	57.08	242,908	1.87	19.66	10,437,933	80.31	55.81	12.73	1,149,152	8.84
Total	4,402,318	13.01	56.39	877,191	2.59	13.07	25,888,330	76.48	56.01	12.14	2,680,523	7.92

Source: NBER-DOL EBS1 File (1977)

Table 4.7.19

Number of Plans by Early Retirement Requirements and Industry, 1977

	Age Requirement Only			Service Requirement Only			Age and Service Requirement				Other	
	Number	Row Percent	Mean Age	Number	Row Percent	Mean Service	Number	Row Percent	Mean Age	Mean Service	Number	Row Percent
Agriculture, Forestry, and Fishing	3,155	50.63	58.06	252	4.04	6.88	1,995	32.02	56.25	11.44	829	13.30
Mining	392	22.71	56.02	136	7.88	11.85	977	56.60	56.95	10.95	221	12.80
Construction	3,833	29.12	57.33	677	5.14	6.46	6,333	48.10	56.35	11.10	2,322	17.64
Manufacturing	9,112	20.81	57.08	1,799	4.11	8.79	27,171	62.06	56.76	11.94	5,702	13.02
Transportation, Communications, and Utilities	1,327	22.14	56.87	275	4.59	8.53	3,623	60.44	55.96	12.16	769	12.83
Wholesale Trade	5,312	28.15	57.51	1,423	7.54	7.53	8,635	45.76	56.39	11.72	3,499	18.54
Retail Trade	6,784	30.37	57.55	1,160	5.19	8.00	9,609	43.02	56.22	11.63	4,784	21.42
Finance, Insurance, and Real Estate	5,554	30.56	57.58	1,002	5.51	7.22	8,893	48.93	55.75	12.02	2,727	15.00
Services	29,701	36.13	58.06	4,046	4.92	7.25	30,433	37.02	55.89	10.55	18,036	21.94
Tax-Exempt Organizations	1,584	24.01	55.75	198	3.00	5.90	3,524	53.41	55.49	9.62	1,292	19.58
Not Classified	23,939	32.16	57.65	4,657	6.26	7.30	32,001	42.99	56.32	11.28	13,836	18.59
TOTAL	89,697	30.66	57.65	15,630	5.34	7.53	133,199	45.53	56.25	11.32	54,023	18.47

Source: NBER-DOL EBS1 File (1977)

Table 4.7.20

Number of Participants by Early Retirement Requirements and Industry, 1977

	Age Requirement Only			Service Requirement Only			Age and Service Requirement				Other	
	Number	Row Percent	Mean Age	Number	Row Percent	Mean Service	Number	Row Percent	Mean Age	Mean Service	Number	Row Percent
Agriculture, Forestry, and Fishing	49,243	38.75	55.84	5,302	4.17	17.19	65,714	51.72	55.92	11.35	6,810	5.36
Mining	61,824	19.63	54.14	8,012	2.54	10.06	196,808	62.50	55.27	11.76	48,255	15.32
Construction	165,378	7.36	55.93	13,283	.59	7.56	2,011,785	89.51	55.78	10.93	57,180	2.54
Manufacturing	1,438,070	11.85	55.92	346,799	2.86	18.67	9,471,691	78.05	56.49	11.71	879,293	7.25
Transportation, Communications, and Utilities	293,898	13.54	55.12	44,107	2.03	10.99	1,753,692	80.78	53.52	15.63	79,157	3.65
Wholesale Trade	134,306	13.69	57.04	41,783	4.26	11.21	743,960	75.83	58.00	11.54	61,051	6.22
Retail Trade	181,611	8.04	56.21	70,833	3.13	7.01	1,432,321	63.39	55.04	11.37	574,739	25.44
Finance, Insurance, and Real Estate	278,227	14.94	56.44	83,736	4.50	7.32	1,358,765	72.94	55.32	13.13	142,018	7.62
Services	346,100	16.81	56.37	48,000	2.33	8.71	1,518,832	73.77	56.13	11.76	145,833	7.08
Tax-Exempt Organizations	88,900	13.23	56.26	13,129	1.95	8.23	505,120	75.15	56.17	11.68	65,033	9.67
Not Classified	1,364,756	15.13	57.32	202,202	2.24	10.55	6,829,638	75.74	56.15	12.39	621,148	6.89
TOTAL	4,402,318	13.01	56.39	877,191	2.59	13.07	25,888,330	76.48	56.01	12.14	2,680,523	7.92

Source: NBER-DOL EBS1 File (1977)

Table 4.7.21

Number of Plans by Early Retirement Requirements and Union Status, 1977

	Age Requirement Only			Service Requirement Only			Age and Service Requirement				Other	
	Number	Row Percent	Mean Age	Number	Row Percent	Mean Service	Number	Row Percent	Mean Age	Mean Service	Number	Row Percent
Union Plans	2,496	12.07	56.50	300	1.45	14.80	17,031	82.38	57.27	12.32	846	4.09
Non-Union Plans	84,968	32.07	57.68	14,948	5.64	7.43	113,494	42.84	56.09	11.17	51,513	19.44
Not Classified	2,231	32.11	57.88	381	5.48	5.46	2,674	38.48	56.49	11.51	1,663	23.93
TOTAL	89,697	30.66	57.65	15,630	5.34	7.53	133,199	45.53	56.25	11.32	54,023	18.47

Source: NBER-DOL EBS1 File (1977)

Table 4.7.22

Number of Participants by Early Retirement Requirements and Union Status, 1977

	Age Requirement Only			Service Requirement Only			Age and Service Requirement				Other	
	Number	Row Percent	Mean Age	Number	Row Percent	Mean Service	Number	Row Percent	Mean Age	Mean Service	Number	Row Percent
Union Plans	1,598,093	9.69	56.77	269,345	1.63	21.55	13,843,880	83.97	56.08	11.95	774,951	4.70
Nonunion Plans	2,720,748	15.90	56.18	607,608	3.55	9.44	11,897,752	69.53	55.92	12.36	1,884,507	11.01
Not Classified	83,477	32.55	56.40	5,237	2.04	7.21	146,697	57.20	56.32	12.23	21,063	8.21
Total	4,407,318	13.02	56.39	877,191	2.59	13.07	25,888,330	76.47	56.01	12.14	2,680,523	7.92

Source: NBER-DOL EBS1 File (1977)

Table 4.7.23

Number of Plans by Early Retirement Requirements and Plan Entity, 1977

	Age Requirement Only			Service Requirement Only			Age and Service Requirement				Other	
	Number	Row Percent	Mean Age	Number	Row Percent	Mean Service	Number	Row Percent	Mean Age	Mean Service	Number	Row Percent
Single Employer	86,067	30.86	57.64	15,029	5.39	7.54	125,780	45.09	56.23	11.30	52,050	18.66
Multi Employer	1,542	22.01	57.78	172	2.45	9.89	4,756	67.87	56.68	11.95	537	7.66
Not Classified	2,087	31.56	57.85	428	6.47	6.04	2,662	40.26	56.36	11.13	1,435	21.70
TOTAL	89,697	30.66	57.65	15,630	5.34	7.53	133,199	45.53	56.25	11.32	54,023	18.47

Source: NBER-DOL EBS1 File (1977)

Table 4.7.24

Number of Participants by Early Retirement Requirements and Plan Entity, 1977

	Age Requirement Only			Service Requirement Only			Age and Service Requirement				Other	
	Number	Row Percent	Mean Age	Number	Row Percent	Mean Service	Number	Row Percent	Mean Age	Mean Service	Number	Row Percent
Single Employer	3,971,880	15.37	56.48	824,251	3.19	13.39	18,589,043	71.93	56.01	11.92	2,458,901	9.51
Multi Employer	380,307	5.36	55.53	47,593	.67	8.63	6,586,237	92.84	55.63	12.25	79,840	1.13
Not Classified	50,131	5.51	56.51	5,347	.59	4.57	713,049	78.33	59.49	16.92	141,780	15.57
TOTAL	4,402,318	13.01	56.39	877,191	2.59	13.07	25,888,330	76.48	56.01	12.14	2,680,523	7.92

Source: NBER-DOL EBS1 File (1977)

4.8. Benefit Reductions of Private Pension Plans for Early Retirement

The previous section used data from the Department of Labor's 1977 EBS1 survey of private pension plans to study provisions for early retirement. This section analyzes these provisions in more detail. Specifically, data from the 1979 Bureau of Labor Statistics Level of Benefits Survey (BLS-LOB (1979)) are used to study how early retirement benefits are actually calculated.

Early retirement benefit formulae can be categorized as one of two types. The first type of formula is one that always reduces the employee's full accrued retirement benefit by a designated percentage to arrive at her (his) early retirement benefit. This percentage reduction is usually a decreasing function of the employee's age. As an employee gets closer to her (his) normal retirement age, the total reduction rate decreases. And, conversely, the farther away the employee is from normal retirement, the greater will be the reduction for early retirement.

The second type of early retirement formulae—"sometimes reduced formulae"—may also reduce benefits for early retirement, but it allows employees who meet additional age

and/or service requirements to retire early with no reduction; i.e. their early retirement benefits will equal their full accrued retirement benefits. For example, a plan with a normal retirement age of 65 may allow employees to retire with reduced benefits at age 55 with 20 years of service or with nonreduced benefits at age 60 with 30 years of service. This is not to say that the nonreduced early retirement benefits for employees meeting the secondary requirements will equal the benefits that they would collect if they continued working until normal retirement. For purposes of calculating early retirement benefits, the employee's benefit is calculated using completed years of service in benefit formulae that incorporate service. Hence, if the employee chooses to continue working until normal retirement, the value of her (his) full accrued retirement benefit will increase by virtue of her (his) increased service.

For employees covered by this type of formula who retire early without meeting the secondary requirements for nonreduced early retirement, benefits are reduced in much the same manner as under the first type of formula. However, the percentage reductions in benefit levels are calculated relative to the employee's earliest nonreduced retirement age—the earliest age at which the employee would be eligible for nonreduced benefits had she (he) continued working for the firm. Consider, for example, a plan with a normal retirement age of 65 that allows for early retirement with reduced benefits at age 55 with 20 years of service and for early retirement with no benefit reduction at age 60 with 30 years of service. In the case of an employee who retires prior to age 60 with 30 years of service, the total percentage reduction in benefits would be calculated using only the years between the age of retirement and 60—the earliest nonreduced retirement age. It is important to emphasize that the employee's earliest nonreduced retirement age is calculated using projected rather than completed service for purposes of determining the benefit reduction. Hence an employee in the previous example who retires at age 58 with 28 years of service would still have her (his) reduction calculated relative to age 60 because this is the age at which she (he) would be eligible for nonreduced benefits if she (he) continued working for the firm.

Tables 4.8.1 and 4.8.2 show the numbers of participants covered by each of these types of early retirement formulae: 56.17 percent of participants are covered under the first type of reduction formula where early benefits are always reduced, while 42.91 percent are covered under the second type where early benefits are sometimes reduced; .92 percent of covered workers in the level of benefits universe are enrolled in plans with no early retirement.

Table 4.8.1 considers this information by firm size. Employees of large firms are more than twice as likely as employees of small firms to be covered by the "sometimes reduced" formulae—although a small part of this difference can be explained by the fact that small firms are less likely to offer any form of early retirement. For firms with over 2,500 employees, 62.46 percent of participants are covered by such formulae. This figure compares with 25.68 percent for firms with fewer than 100 employees. For firms with over 250 employees the fraction of employees with this type of formula is highly correlated with firm size. As the size of the firm increases, the fraction of employees with these formulae also increases.

Table 4.8.2 tabulates this information by industry. Clearly, there are substantial variations in the fractions of employees covered by these formulae across industries. For example, 74.44 percent of covered workers in the transportation, communications, and utilities industry are covered by the "sometimes reduced" formulae while only 2.24 percent of covered workers in the construction industry have such provisions. Workers in construction, retail trade, and wholesale trade are the most likely to be covered by formulae which always apply a special reduction (97.76, 89.43, and 77.44 percent, respectively). Workers in transportation, mining, and manufacturing are the least likely to be covered by such formulae (25.41, 49.93, and 55.93 percent, respectively).

Table 4.8.3 studies the provisions of the "sometimes reduced" early retirement formulae in more detail. This table enumerates workers by their normal retirement age and their earliest nonreduced early retirement age. All workers are assumed to have been hired at age 30.

The percent of workers with a normal retirement age of 60 covered by a formula that potentially permits early retirement with no benefit reduction is 11.03. However, for most of these workers, this feature has no effect since their earliest nonreduced early retirement age

is the same as their normal retirement age. This is because the predominant service requirement for nonreduced early retirement is 30 years and employees hired at age 30 will meet this requirement at the same time they fulfill their normal retirement requirements (age 60). However, a few employees with a normal retirement age of 60 (6.55 percent) are able to retire at age 55 with no reduction in their full accrued normal retirement benefits.

For plans with a normal retirement age of 62, the nonreduced early retirement feature can potentially affect the retirement behavior of a greater fraction of covered employees. The percent of these employees who are covered by formulae with a nonreduced early retirement feature is 41.83. Most of the employees with this type of formula are able to retire prior to normal retirement with no special reduction in their accrued retirement benefits. The percent of covered employees with age 62 normal retirement who are actually able to retire at age 60 with nonreduced benefits is 39.08, while 32 percent are able to retire at age 55 and 1.11 percent are able to retire at age 50 with no reduction.

For workers with a normal retirement age of 65, 55.98 percent of these workers are covered by plans which potentially permit early retirement with no reduction. The percent able to retire at age 62 with their full benefits is 12.63, while 16.40 percent are able to retire at age 60 and 9.75 percent are able to retire at age 55.

Table 4.8.3 also demonstrates that the fraction of employees with a nonreduced early retirement feature is highly correlated with the plan's normal retirement age. While only 11.03 percent of workers with a normal retirement age of 60 have a nonreduced early retirement option, the corresponding figure for workers with age 62 normal retirement is 41.83 percent and for workers with age 65 normal retirement is 55.98 percent. These results are most interesting. They suggest that a plan's normal retirement age alone is a poor gauge of the actual age at which workers may retire with full accrued retirement benefits. Hence a plan with a normal retirement age of 65 may actually be more generous with respect to early retirement than a plan with a normal retirement age of 60. Plans with the later normal retirement age may have provisions for nonreduced early retirement that effectively provide the employee with the same or higher benefits for retirement at age 60 or later. One explanation for the widespread use of nonreduced early retirement is that firms may use this feature to encourage retirement of longtime employees without affecting the retirement age of newly hired employees who have not yet met the secondary service requirements.

Tables 4.8.4 and 4.8.5 classify plan participants according to the method by which the plan reduces normal retirement benefits to arrive at early retirement benefits. There are six general methods of benefit reduction. Plans with these six methods cover 98.60 percent of covered workers in the BLS-LOB (1979) universe.

Over 23 percent of covered workers are covered by plans that specify "actuarial reduction" as the method by which benefits are reduced. Early retirement benefits are said to be "actuarially reduced" if the present discounted value of the stream of early retirement benefits equals the present discounted value of the stream of retirement benefits which the employee could collect by delaying receipt of benefits. Actuarial reduction adjusts the full accrued retirement benefit to take account of the greater number of payments the employee will collect as a result of early retirement and the loss of investment earnings that the plan sponsor suffers as a result of the early withdrawal of trust assets. As mentioned, this benefit reduction is distinct from any diminution of benefits associated with smaller credited service. The reduction rate schedule under actuarial reduction depends on two crucial assumptions: the mortality rate assumption and the interest rate assumption. The mortality assumption is important because it determines the increase in the number of years of pension payments the worker can expect to receive by retiring early. For example, a 60-year-old male early retiree with a 20-year life expectancy can currently expect to collect benefits for 20 years. If the worker delays receipt of benefits until age 62, the number of years of expected benefit payments falls by 2. Hence a higher assumed mortality rate will yield a greater rate of reduction. The interest rate used in the calculations is important because it determines the extent of the loss of investment earnings on the capital withdrawn early from the pension fund to make early retirement payments. The larger the assumed interest rate is, the greater will be the actuarial reduction.

The second type of reduction formula reduces benefits by a fixed percentage per year.

In this case, a worker's reduction rate for early retirement at a given age is calculated by multiplying a fixed percentage by the number of years until the worker will reach her (his) normal retirement age or her (his) earliest nonreduced early retirement age for plans with this feature. The percent of plan participants covered by plans that reduce benefits using this fixed percentage method is 41.18. The average annual percentage reduction rate specified is 5.03 percent.

Another 6.81 percent of plan participants are covered by formulae that reduce benefits by a fixed percentage per year that varies with years of service. For example, a plan may specify that benefits are reduced by 7 percent per year if service is less than 30 years and 4 percent if service is greater.

Almost 60 percent of plan participants are covered by formulae that reduce benefits by a varying percent per year. For example, a formula might specify that benefits are reduced by 7 percent per year after age 62 and 5 percent per year prior to age 62. Another form of this formula mixes "actuarial reduction" with "fixed percent per year reduction." In this instance, a plan might specify that benefits are reduced by 5 percent per year for years after age 60 and actuarially reduced for years prior to age 60: 27.64 percent of participants covered by the "varying percent per year" method of reduction have formulae that employ actuarial reduction for some years.

Only .13 percent of covered workers participate in plans that specify a flat reduction rate that is related to neither age nor service. The mean reduction rate for participants in these plans is 12.4 percent.

Finally, .57 percent of plan participants are covered by plans that employ the "quotient reduction formula." This formula specifies that the employee's reduction rate is equal to "100% minus the quotient of completed service and service projected to normal retirement." This formula provides the employee with an early retirement benefit that is a fraction of her (his) normal retirement benefit. This fraction is equal to her (his) completed service divided by the service that she (he) would have completed if she (he) continued working until normal retirement.

Table 4.8.4 presents data on the method of benefit reduction tabulated by firm size. Workers covered by plans of firms with fewer than 100 participants appear much less likely to be subject to an actuarial reduction provision (3.84 percent). Compared with medium size firms, very large firms are also less likely to employ an actuarial reduction method. For firms with over 2,500 employees, 20.17 percent of participants are covered by an actuarial reduction formula. The corresponding figure for firms with 250–499 employees is 28.24 percent.

The number of workers covered by plans that reduce benefits by a flat percent per year is an increasing function of firm size for firms with fewer than 1,000 employees and a decreasing function of firm size for larger firms. Workers at firms with 500–999 employees are the most likely to have this type of formula (50.40 percent), and workers at the smallest firms, with less than 100 employees, are the least likely (19.74 percent).

Employees of very small firms and very large firms are more likely than those of medium size firms to be covered by a fixed percent per year formula varying by service. For firms with fewer than 100 employees, 14.67 percent of covered workers have this type of reduction, and for firms with more than 2,500 employees, the figure is 13.59 percent. The corresponding figure for firms with 250–499 employees is only .66 percent. Employees of very small firms are also much more likely to have their benefits reduced by a varying percent per year: 61.74 percent of workers at firms with fewer than 100 employees have this type of reduction while the corresponding number for firms with over 2,500 employees is only 32.69 percent.

Very few plans reduce benefits by a flat percent, and these plans are concentrated among the larger firms. Also, few plans employ the quotient reduction formula. And again, those that do tend to be the plans of the larger firms.

Table 4.8.5 displays this information by industry. Except for workers in the construction and wholesale trade industries, most employees are covered by a fixed percent per year reduction formula. Construction and wholesale trade workers are more likely to be covered by a varying percent per year formula (97.76 percent and 57.51 percent of covered workers,

respectively). Manufacturing and finance employees are more likely to be covered by an actuarial reduction formula (26.39 percent and 24.49 percent, respectively). Few, if any, workers in the construction and mining industries have this type of reduction (zero percent and .29 percent, respectively).

Tables 4.8.6 through 4.8.9 examine the amount of the reduction in an employee's full accrued normal retirement benefit associated with early retirement. As mentioned earlier, the reduction rates of plans that specify actuarial reduction depend on the plans' interest rate and mortality assumption. Since these assumptions are not included in the Level of Benefits File, plans that rely on actuarial reduction are excluded from this analysis. However, table 4.8.6 does present the reduction rates for a hypothetical plan employing an actuarial reduction formula, using a 5 percent interest rate assumption and the 1971 Group Annuity Mortality Table. The table demonstrates that the effects of actuarial reduction are greater in the years closest to normal retirement. From ages 62 to 65, the effect of actuarial reduction is to reduce benefits by 8 to 9 percent per year. From ages 55 to 62, the effect is a reduction of only 4 to 6 percent per year. Female employees tend to have their benefits reduced less in an actuarial reduction formula—due to their lower mortality rates.

Table 4.8.7 shows the distribution of defined benefit participants by their annual reduction rates for early retirement—for plans specifying a nonactuarial reduction formula. The annual reduction rate is defined as the additional reduction that is applied to the employee's full accrued normal retirement benefit if she (he) retires a year earlier. In order to keep the numbers on a consistent basis, the table was restricted to plans with a normal retirement age of 65.

Between ages 62 and 65, roughly half of the employees are able to retire with no reduction. This is because of the availability of a nonreduced early retirement feature. From age 61 to age 50, the fraction of employees that are able to retire with no reduction declines steadily. At age 61, 37.0 percent of participants are able to retire with a nonreduced benefit; at age 50, the figure is only 7.2 percent.

For those participants who do incur a benefit reduction, most have their benefits reduced by a rate greater than 6 percent from age 60 to 64 and less than 6 percent for retirement in earlier years. Very few employees are ever subject to reduction rates of less than 3 percent except for those entitled to nonreduced benefits.

Tables 4.8.8 and 4.8.9 consider the *total* reduction rates incurred by employees retiring at different ages. The drop in the mean total reduction rate from age 55 to 54 is quite interesting. The cumulative reduction rates suggest that plans allowing retirement at age 54 reduce benefits less for retirement after age 54 than plans that do not permit for retirement at age 54. For example, while the average plan reduces benefits by 31.9 percent for retirement at age 55, the total reduction rate at that age is less than 17.1 percent for plans permitting retirement prior to age 55.

On average, the total reduction rates are quite low after age 61: 2.7 percent for retirement at age 64, 5.5 percent for retirement at age 63, and 8.2 percent for retirement at age 62. As the previous table pointed out, this is due primarily to the large fraction of participants who are able to collect nonreduced benefits at these ages.

Table 4.8.8 tabulates these total reduction rates by firm size. The mean total reduction rates for employees of the largest firms are consistently lower at all retirement ages. At ages 62, 55, and 50, the total reduction rates for these employees are 4.3, 21.2, and 28.0 percent, respectively. The corresponding rates for workers at firms with less than 100 employees are 9.8, 29.1, and 41.7, respectively.

The *mining and transportation industries* have the lowest total reduction rates at almost all ages (table 4.8.9). Manufacturing, retail trade, and wholesale trade generally have the highest total reduction rates. The service industry has relatively high reduction rates until age 55 at which point reduction rates drop to among the lowest—although few employees in the service industry are able to retire prior to age 55. The transportation industry's reduction rate of .23 percent at age 54 suggests that most employees who are able to retire at this age may do so with no reduction in their benefits.

Table 4.8.1
Number of Defined Benefit Participants by Type of Early Retirement Provision and Firm Size, 1979

Firm Size	Early Retirement Benefits Always Reduced		Early Retirement Benefits Sometimes Reduced Depending on Age at Retirement and Years of Service		No Early Retirement	
	Number of Participants	Row Percent	Number of Participants	Row Percent	Number of Participants	Row Percent
50-99 Employees	50,556	62.06	20,922	25.68	9,987	12.26
100-249 Employees	1,115,600	69.52	465,480	29.01	23,632	1.47
250-499 Employees	2,428,300	72.74	870,386	26.07	39,474	1.18
500-999 Employees	2,208,116	66.42	1,080,878	32.51	35,625	1.07
1000-2,499 Employees ¹	2,124,260	55.85	1,642,397	43.18	36,541	.96
2,500 + Employees	2,164,156	37.24	3,629,241	62.46	17,458	.30
Not Classified	233	11.67	0	.00	1,763	88.33
TOTAL	10,091,221	56.17	7,709,304	42.91	164,480	.92

Source: BLS LOB (1979)

1. This category includes all mining establishments with over 1,000 employees.

Table 4.8.2
Number of Defined Benefit Participants by Type of Early Retirement Provision and Industry, 1979

Firm Size	Early Retirement Benefits Always Reduced		Early Retirement Benefits Sometimes Reduced Depending on Age at Retirement and Years of Service		No Early Retirement	
	Number of Participants	Row Percent	Number of Participants	Row Percent	Number of Participants	Row Percent
Mining	157,960	49.43	161,625	50.57	0	.00
Construction	71,566	97.76	1,643	2.24	0	.00
Manufacturing	6,447,856	55.93	4,975,231	43.16	104,680	.91
Transportation, Communications and Utilities	567,955	25.41	1,663,715	74.44	3,351	.15
Wholesale Trade	472,575	77.44	135,605	22.22	2,074	.34
Retail Trade	1,089,701	89.43	123,784	10.16	5,067	.42
Finance, Insurance and Real Estate	1,030,582	66.95	491,344	31.92	17,385	1.13
Selected Services ¹	253,026	57.34	156,357	35.43	31,923	7.23
TOTAL	10,091,221	56.17	7,709,304	42.91	164,480	.92

Source: BLS LOB (1979)

1. Includes advertising, credit reporting and collection agencies, computer and data processing services, research and development labs, commercial testing labs, management and public relations services, engineering and architectural services, noncommercial research organizations, and accounting services.

Table 4.8.3

Number of Defined Benefit Participants by Earliest Non-reduced Early Retirement Age and Normal Retirement Age, 1979¹

Earliest Non-Reduced Early Retirement Age	Normal Retirement Age					
	60		62		65	
	Number	Column Percent	Number	Column Percent	Number	Column Percent
50	0	.00	27,813	1.11	57,631	.41
51	0	.00	0	.00	0	.00
52	0	.00	0	.00	0	.00
53	0	.00	0	.00	161,053	1.14
54	0	.00	0	.00	116,899	.83
55	58,316	6.55	8,102	.32	1,380,683	9.75
56	0	.00	0	.00	0	.00
57	0	.00	0	.00	9,775	.07
58	0	.00	0	.00	252,280	1.78
59	0	.00	0	.00	34,935	.25
60	128,926	14.48	983,006	39.08	2,322,419	16.40
61	NA	NA	0	.00	2,130	.02
62	NA	NA	33,137	1.32	1,788,254	12.63
63	NA	NA	NA	NA	69,869	.49
64	NA	NA	NA	NA	0	.00
65	NA	NA	NA	NA	161,668	1.14
No Non-Reduced Early Retirement	702,980	78.97	1,463,000	58.17	7,803,526	55.12
Total	890,222	100.00	2,515,058	100.00	14,161,122	100.00

Source: BLS LOB (1979)
NA - Not Applicable

1. For plans specifying a service requirement for nonreduced early retirement, it was assumed that all employees were hired at age 30.

Table 4.8.4

Number of Defined Benefit Participants by Method of Benefit Reduction for Early Retirement and Firm Size, 1979

	Actuarially	Fixed Percent Per Year	Fixed Percent Per Year Varying by Service	Varying Percent Per Year	Flat Percent	Quotient Reduction Formula	Other
<u>50-99 Employees</u>							
Number	2,744	14,113	10,487	44,134	0	0	0
Row Percent	3.84	19.74	14.67	61.74	.00	.00	.00
<u>100-249 Employees</u>							
Number	415,366	532,105	39,806	547,439	0	20,860	25,504
Row Percent	26.27	33.65	2.52	34.62	.00	1.32	1.61
<u>250-499 Employees</u>							
Number	931,709	1,491,532	21,653	803,596	0	27,549	22,647
Row Percent	28.24	45.22	.66	24.36	.00	.84	.69
<u>500-999 Employees</u>							
Number	888,638	1,657,813	116,771	599,031	4,645	0	22,096
Row Percent	27.02	50.40	3.55	18.21	.14	.00	.67
<u>1000-2,499 Employees¹</u>							
Number	752,020	1,849,144	237,556	838,789	4,611	20,036	70,661
Row Percent	19.93	49.01	6.30	22.23	.12	.53	1.87
<u>2,500 + Employees</u>							
Number	1,168,481	1,788,514	787,139	1,893,666	13,463	33,091	109,043
Row Percent	20.17	30.87	13.59	32.69	.23	.57	1.88
<u>Not Classified</u>							
Number	0	0	0	233	0	0	0
Row Percent	.00	.00	.00	100.00	.00	.00	.00
<u>TOTAL</u>							
Number	4,158,958	7,333,221	1,213,412	4,726,888	22,719	101,536	249,951
Row Percent	23.36	41.18	6.81	26.55	.13	.57	1.40

Source: BLS LOB (1979)

1. This category includes all mining establishments with over 1,000 employees.

Table 4.8.5
Number of Defined Benefit Participants by Method of Benefit Reduction for Early Retirement and Industry, 1979

	Actuarially	Fixed Percent Per Year	Fixed Percent Per Year Varying by Service	Varving Percent Per Year	Flat Percent	Quotient Reduction Formula	Other
<u>Mining</u>							
Number	917	213,629	11,934	79,997	0	0	13,108
Row Percent	.29	66.85	3.73	25.03	.00	.00	4.10
<u>Construction</u>							
Number	0	1,643	0	71,566	0	0	0
Row Percent	.00	2.24	.00	97.76	.00	.00	.00
<u>Manufacturing</u>							
Number	3,016,119	4,897,239	277,194	2,977,209	22,719	63,726	175,041
Row Percent	26.39	42.85	2.43	26.05	.20	.56	1.53
<u>Transportation, Communications and Utilities</u>							
Number	365,244	504,801	909,588	390,259	0	0	61,788
Row Percent	16.37	22.62	40.76	17.49	.00	.00	2.77
<u>Wholesale Trade</u>							
Number	74,416	184,004	0	349,760	0	0	0
Row Percent	12.24	30.25	.00	57.51	.00	.00	.00
<u>Retail Trade</u>							
Number	276,258	727,628	0	190,217	0	19,358	24
Row Percent	22.77	59.96	.00	15.68	.00	1.60	.00
<u>Finance, Insurance and Real Estate</u>							
Number	372,668	604,043	0	526,763	0	18,452	0
Row Percent	24.49	39.69	.00	34.61	.00	1.21	.00
<u>Selected Services¹</u>							
Number	53,336	200,234	14,696	141,117	0	0	0
Row Percent	13.03	48.91	3.59	34.17	.00	.00	.00
<u>TOTAL</u>							
Number	4,158,958	7,333,221	1,213,412	4,726,888	22,719	101,536	249,951
Row Percent	23.36	41.18	6.81	26.55	.13	.57	1.40

Source: BLS L08 (1979)

1. Includes advertising, credit reporting and collection agencies, computer and data processing services, research and development labs, commercial testing labs, management and public relations services, engineering and architectural services, noncommercial research organizations, and accounting services.

Table 4.8.6
Ratio of Early Retirement Benefit to Normal Retirement Benefit after Actuarial Reduction for Hypothetical Employees by Age of Retirement¹

Age at Retirement	Male Employee	Female Employee
65	1.000	1.000
64	.907	.920
63	.824	.849
62	.752	.785
61	.687	.726
60	.630	.674
59	.578	.626
58	.532	.582
57	.491	.542
56	.453	.505
55	.419	.472

Source: Dan M. McGill, Fundamentals of Private Pensions, Pension Research Council, 1979.

1. Assumes normal retirement age of 65 and a 5 percent interest assumption. Calculations based on 1971 Group Annuity Mortality Table.

Table 4.8.7

Distribution of Defined Benefit Participants by Annual Reduction Rates for Early Retirement and Age at Retirement, 1979¹

Age at Retirement	Number of Participants Allowed to Retire At Given Age	Mean Annual Reduction Rate	No Reduction		0-1.9%		2-2.9%	
			Number of Participants	Row Percent	Number of Participants	Row Percent	Number of Participants	Row Percent
64	9,923,570	2.7	4,944,918	49.8	27,659	0.3	137,436	1.4
63	9,923,750	2.7	4,944,918	49.8	27,659	0.3	147,796	1.5
62	9,923,750	2.8	4,875,049	49.1	27,659	0.3	147,796	1.5
61	9,579,019	3.2	3,543,518	37.0	27,698	0.3	234,749	2.5
60	9,571,930	3.2	3,541,388	37.0	39	0.0	193,693	2.0
59	7,873,960	3.5	1,818,970	23.1	0	0.0	77,037	1.0
58	7,873,960	3.5	1,784,035	22.7	0	0.0	77,037	1.0
57	7,856,856	3.5	1,676,865	21.3	0	0.0	77,037	1.0
56	7,838,525	3.5	1,676,865	21.4	0	0.0	77,037	1.0
55	7,813,385	3.5	1,676,865	21.5	0	0.0	77,037	1.0
54	773,225	2.4	322,646	41.7	0	0.0	4,382	0.6
53	773,225	3.3	205,747	26.6	0	0.0	4,382	0.6
52	633,963	4.1	44,694	7.1	0	0.0	4,382	0.7
51	633,963	4.1	44,694	7.1	0	0.0	4,382	0.7
50	622,907	4.1	44,694	7.2	0	0.0	4,382	0.7

Age at Retirement	3-3.9%		4-4.9%		5-5.9%		6% +	
	Number of Participants	Row Percent	Number of Participants	Row Percent	Number of Participants	Row Percent	Number of Participants	Row Percent
64	759,281	7.7	732,062	7.4	337,955	3.4	2,984,439	30.1
63	752,281	7.7	732,062	7.4	327,595	3.3	2,984,439	30.1
62	770,046	7.8	783,022	7.9	327,595	3.3	2,992,583	30.2
61	1,054,171	11.0	1,096,991	11.5	631,979	6.6	2,990,913	31.2
60	1,094,227	11.4	1,089,902	11.4	679,669	7.1	2,973,012	31.1
59	1,897,983	24.1	1,430,008	18.2	1,142,380	14.5	1,507,582	19.1
58	1,897,983	24.1	1,486,460	18.9	1,120,863	14.2	1,507,582	19.1
57	1,900,106	24.2	1,535,659	19.5	1,076,100	13.7	1,591,089	20.3
56	1,881,775	24.0	1,528,537	19.5	1,212,838	15.5	1,461,473	18.6
55	1,881,775	24.1	1,528,537	19.6	1,212,838	15.5	1,436,333	18.4
54	160,976	20.8	173,390	22.4	106,737	13.8	5,094	0.7
53	160,976	20.8	173,390	22.4	106,737	13.8	121,993	15.8
52	160,976	25.4	195,181	30.8	106,737	16.8	121,993	19.2
51	160,976	25.4	195,181	30.8	106,737	16.8	121,993	19.2
50	160,976	25.8	184,125	30.0	106,737	17.1	121,993	19.6

Source: BLS LOB (1979)

1. Table includes only participants of plans which specify a normal retirement age of 65. Table excludes plans which use an actuarial reduction formula for calculating early retirement benefits. For plans specifying a service requirement for early retirement, it was assumed that all workers were hired at age 30.

Table 4.8.8

Mean Total Reduction Rates for Early Retirement by Age at Retirement and Firm Size, 1979¹

	Age at Retirement							
	64	63	62	61	60	59	58	57
50-99 Employees								
Number of Participants Allowed to Retire at Given Age	60,192	60,192	60,192	60,192	60,192	46,079	46,079	46,079
Mean Total Reduction Rate	3.3	6.5	9.8	13.5	17.3	15.8	18.2	22.1
100-249 Employees								
Number of Participants Allowed to Retire at Given Age	931,210	931,210	931,210	875,906	875,906	802,590	802,590	802,590
Mean Total Reduction Rate	3.9	7.8	11.7	15.2	19.2	22.9	26.8	30.8

Table 4.8.8 Continued
 Mean Total Reduction Rates for Early Retirement by Age at Retirement and Firm Size, 1979¹

	Age at Retirement							
	64	63	62	61	60	59	58	57
250-499 Employees								
Number of Participants Allowed to Retire at Given Age	1,976,935	1,976,935	1,976,935	1,727,718	1,727,718	1,279,631	1,279,631	1,279,631
Mean Total Reduction Rate	4.1	8.1	12.2	14.3	18.3	23.2	27.4	31.5
500-999 Employees								
Number of Participants Allowed to Retire at Given Age	1,860,540	1,860,540	1,860,540	1,835,829	1,835,829	1,544,444	1,544,444	1,527,340
Mean Total Reduction Rate	3.1	6.2	9.5	13.2	17.0	21.8	25.9	30.2
1000-2,499 Employees ²								
Number of Participants Allowed to Retire at Given Age	2,245,945	2,245,945	2,245,945	2,231,152	2,224,063	1,871,178	1,871,178	1,871,178
Mean Total Reduction Rate	2.4	4.8	7.2	10.5	13.8	16.8	20.5	24.2
2,500 + Employees								
Number of Participants Allowed to Retire at Given Age	2,848,694	2,848,694	2,848,694	2,847,988	2,847,988	2,329,804	2,329,804	2,329,804
Mean Total Reduction Rate	1.4	2.8	4.3	6.2	8.2	11.8	14.1	16.5
Not Classified								
Number of Participants Allowed to Retire at Given Age	233	233	233	233	233	233	233	233
Mean Total Reduction Rate	6.7	13.4	20.1	26.8	33.5	36.8	40.1	43.4
TOTAL								
Number of Participants Allowed to Retire at Given Age	9,923,749	9,923,749	9,923,749	9,579,018	9,571,929	7,873,959	7,873,959	7,856,855
Mean Total Reduction Rate	2.7	5.5	8.2	10.9	14.1	18.0	21.4	24.9

	Age at Retirement							
	56	55	54	53	52	51	50	
50-99 Employees								
Number of Participants Allowed to Retire at Given Age	46,079	46,079	10,435	10,435	10,435	10,435	10,435	
Mean Total Reduction Rate	25.6	29.1	21.7	26.7	31.7	36.7	41.7	
100-249 Employees								
Number of Participants Allowed to Retire at Given Age	784,259	784,259	73,733	73,733	73,733	73,733	73,733	
Mean Total Reduction Rate	34.5	38.4	13.0	16.7	28.9	34.1	39.3	
250-499 Employees								
Number of Participants Allowed to Retire at Given Age	1,279,631	1,279,631	165,041	165,041	165,041	165,041	165,041	
Mean Total Reduction Rate	35.7	39.8	27.0	30.3	34.0	37.6	41.2	
500-999 Employees								
Number of Participants Allowed to Retire at Given Age	1,527,340	1,510,344	141,595	141,595	141,595	141,595	141,595	
Mean Total Reduction Rate	34.4	38.7	21.9	26.5	31.1	35.7	40.4	
1000-2,499 Employees ²								
Number of Participants Allowed to Retire at Given Age	1,871,178	1,871,178	134,639	134,639	117,402	117,402	117,402	
Mean Total Reduction Rate	27.9	31.6	19.3	22.8	30.3	34.4	38.6	
2,500 + Employees								
Number of Participants Allowed to Retire at Given Age	2,329,804	2,321,660	247,782	247,782	147,543	147,543	136,487	
Mean Total Reduction Rate	18.9	21.2	7.6	9.7	20.0	23.7	28.0	

Table 4.8.8 Continued
 Mean Total Reduction Rates for Early Retirement by Age at Retirement and Firm Size, 1979¹

	Age at Retirement						
	56	55	54	53	52	51	50
Not Classified							
Number of Participants Allowed to Retire at Given Age	233	233	0	0	0	0	0
Mean Total Reduction Rate	46.7	50.0	NA	NA	NA	NA	NA
TOTAL							
Number of Participants Allowed to Retire at Given Age	7,838,524	7,813,384	773,225	773,225	633,963	633,963	622,907
Mean Total Reduction Rate	28.4	31.9	17.1	20.4	28.9	33.1	37.5

Source: BLS LOB (1979)

1. Table includes only participants of plans which specify a normal retirement age of 65. Table excludes plans which use an actuarial reduction formula for calculating early retirement benefits. For plans specifying a service requirement for early retirement, it was assumed that all workers were hired at age 30.
2. This category includes all mining establishments with over 1,000 employees.

Table 4.8.9
 Mean Total Reduction Rate for Early Retirement by Age at Retirement and Industry, 1979¹

	Age at Retirement							
	64	63	62	61	60	59	58	57
Mining								
Number of Participants Allowed to Retire at Given Age	120,813	120,813	120,813	120,813	120,813	109,572	109,572	109,572
Mean Total Reduction Rate	0.0	0.0	0.0	3.1	6.1	10.1	13.5	16.9
Construction								
Number of Participants Allowed to Retire at Given Age	68,330	68,330	68,330	68,330	68,330	68,330	68,330	68,330
Mean Total Reduction Rate	2.6	5.3	7.9	10.5	14.9	20.5	26.0	31.2
Manufacturing								
Number of Participants Allowed to Retire at Given Age	6,033,053	6,033,053	6,033,053	5,713,277	5,706,188	4,341,029	4,341,029	4,323,925
Mean Total Reduction Rate	3.2	6.3	9.5	12.1	15.6	20.8	24.7	28.7
Transportation, Communications and Utilities								
Number of Participants Allowed to Retire at Given Age	1,697,873	1,697,873	1,697,873	1,672,918	1,672,918	1,496,332	1,496,332	1,496,332
Mean Total Reduction Rate	0.5	1.1	1.8	2.7	4.0	5.1	6.5	7.9
Wholesale Trade								
Number of Participants Allowed to Retire at Given Age	338,722	338,722	338,722	338,722	338,722	316,866	316,866	316,866
Mean Total Reduction Rate	3.7	7.4	11.1	16.0	20.9	24.1	28.0	31.9
Retail Trade								
Number of Participants Allowed to Retire at Given Age	540,946	540,946	540,946	540,946	540,946	515,924	515,924	515,924
Mean Total Reduction Rate	4.1	8.1	12.1	16.7	21.2	25.2	29.4	33.6
Finance, Insurance and Real Estate								
Number of Participants Allowed to Retire at Given Age	863,342	863,342	863,342	863,342	863,342	786,893	786,893	786,893
Mean Total Reduction Rate	2.9	5.8	8.8	12.2	15.7	18.8	22.8	26.8
Selected Services ²								
Number of Participants Allowed to Retire at Given Age	260,670	260,670	260,670	260,670	260,670	239,013	239,013	239,013
Mean Total Reduction Rate	3.9	7.8	11.7	16.2	20.3	23.1	26.8	30.6
Total								
Number of Participants Allowed to Retire at Given Age	9,923,749	9,923,749	9,923,749	9,579,018	9,571,929	7,873,959	7,873,959	7,856,855
Mean Total Reduction Rate	2.7	5.5	8.2	10.9	14.1	18.0	21.4	24.9

Table 4.8.9 Continued
 Mean Total Reduction Rate for Early Retirement by Age at Retirement and Industry, 1979¹

	Age at Retirement						
	56	55	54	53	52	51	50
Mining							
Number of Participants Allowed to Retire at Given Age	109,572	109,572	12,017	12,017	12,017	12,017	12,017
Mean Total Reduction Rate	20.3	23.7	12.1	12.6	15.1	16.6	18.2
Construction							
Number of Participants Allowed to Retire at Given Age	68,330	68,330	0	0	0	0	0
Mean Total Reduction Rate	36.4	41.5	NA	NA	NA	NA	NA
Manufacturing							
Number of Participants Allowed to Retire at Given Age	4,323,925	4,315,781	420,033	420,033	318,262	318,262	318,262
Mean Total Reduction Rate	32.7	36.7	18.5	21.1	31.5	35.2	38.9
Transportation, Communications and Utilities							
Number of Participants Allowed to Retire at Given Age	1,496,332	1,496,332	130,339	130,339	92,848	92,848	92,848
Mean Total Reduction Rate	9.3	10.7	.23	4.2	11.5	17.1	22.7
Wholesale Trade							
Number of Participants Allowed to Retire at Given Age	298,535	281,539	7,739	7,739	7,739	7,739	7,739
Mean Total Reduction Rate	35.1	38.8	30.0	35.0	40.0	45.0	50.0
Retail Trade							
Number of Participants Allowed to Retire at Given Age	515,924	515,924	47,106	47,106	47,106	47,106	47,106
Mean Total Reduction Rate	37.8	42.0	22.1	25.6	29.1	32.7	36.2
Finance, Insurance and Real Estate							
Number of Participants Allowed to Retire at Given Age	786,893	786,893	137,027	137,027	137,027	137,027	125,971
Mean Total Reduction Rate	30.9	34.9	29.2	33.5	37.7	42.0	48.5
Selected Services²							
Number of Participants Allowed to Retire at Given Age	239,013	239,013	18,964	18,964	18,964	18,964	18,964
Mean Total Reduction Rate	34.4	38.2	0.0	5.9	11.8	17.7	23.6
Total							
Number of Participants Allowed to Retire at Given Age	7,838,524	7,813,384	773,225	773,225	633,963	633,963	622,907
Mean Total Reduction Rate	28.4	31.9	17.1	20.4	28.9	33.1	37.5

Source: BLS LOB (1979)

1. Table includes only participants of plans which specify a normal retirement age of 65. Table excludes plans which use an actuarial reduction formula for calculating early retirement benefits. For plans specifying a service requirement for early retirement, it was assumed that all workers were hired at age 30.

2. Includes advertising, credit reporting and collection agencies, computer and data processing services, research and development labs, commercial testing labs, management and public relations services, engineering and architectural services, noncommercial research organizations, and accounting services.

4.9 Benefit Accrual after Normal Retirement

As noted in section 4.5, many defined benefit plans have formulae that relate retirement benefits to the amount of a worker's past service. For individuals continuing to work beyond the plan's normal retirement, however, these and other defined benefit plans do not necessarily permit continued benefit accrual.

Tables 4.9.1 and 4.9.2 classify participants according to their plans' provisions for benefit accrual after normal retirement: 47.49 percent of participants are covered by plans that continue benefit accrual without limit after the employee reaches normal retirement; 29.74 percent of participants are covered by plans that permit limited benefit accrual; The remaining 22.76 percent of participants are covered by plans that provide no benefit accrual after normal retirement.

Plans limit benefit accrual in one of four ways. One method is to allow benefit accrual for only a specified number of years after normal retirement. Plans with this feature cover only .4 percent of participants. For these plans the mean number of years after normal retirement during which benefits continue to be accrued is 4.9. Another method, which permits post-normal retirement benefit accrual only until the employee reaches a specified age, is faced by 28.55 of the participants. The mean age specified by these plans is 70. Plans that accrue benefits only until the employee completes a specified number of years of service cover .63 percent of participants. Finally, .16 percent of participants belong to plans that provide benefit accrual only until the employee reaches a specified age and completes a specified number of years of service.

Table 4.9.1 presents these provisions for post-normal retirement benefit accrual by firm size. Covered workers in firms with 250–499 employees are the most likely to face unlimited benefit accrual after normal retirement; 57.34 percent of covered workers in these firms can continue to accrue benefits after normal retirement. Workers in the largest firms, those with over 2,500 employees, are the least likely to belong to plans with unlimited accrual. Only 40.04 percent of covered workers in these large firms face unlimited accrual. In the smallest firms 39.03 percent of participants are unable to continue accruing benefits; for largest firms the percentage is 16.37. Pension participants in the largest firms are the most likely to face limited benefit accrual after reaching normal retirement; 42.33 percent of these workers are allowed to accrue benefits only until they reach a specified age.

Table 4.9.2 cross-tabulates this information by industry. Workers in the construction industry are the most likely and workers in the mining industry are the least likely to suffer a complete halt in benefit accrual after normal retirement. The fraction of workers so affected in the two industries is .856 and .029, respectively. Workers in the mining and wholesale trade industries are the most likely to be covered by plans with unlimited benefit accrual (64.33 percent and 60.68 percent of covered workers, respectively), and workers in the construction and services industries are the least likely to have such provisions (7.75 percent and 24.84 percent of covered workers, respectively). Workers in the transportation industry are the most likely to have post-normal retirement benefits accrual limited by a maximum age (49.90 percent of covered workers).

For plans that limit or discontinue benefit accrual after normal retirement, tables 4.9.3 and 4.9.4 analyze the disposition of the worker's accrued pension benefits once benefit accrual is halted: 14.82 percent of the participants in these plans begin to receive their normal pension payments immediately after benefit accrual stops—even though they are still employed by the same employer; 75.90 percent of the participants are covered by provisions that defer pension payments until the employee actually retires with no change in the benefit amount; 9.07 percent of the participants are covered by provisions that defer pension payments until the employee retires but actuarially increase these benefits to reflect the shorter stream of pension payments.

Workers at firms with 500–999 employees are the most likely to have their pension payments begin immediately (22.66 percent), and workers at small firms are the least likely to have this provision (6.32 percent) (table 4.9.3). Workers in the smallest firms and the largest firms are the most likely to have their pension payments deferred with no actuarial increase (93.68 percent and 87.21 percent of covered workers, respectively). Workers at firms with 100–249 employees are more likely to have their benefits deferred with an actuarial increase.

Table 4.9.4 tabulates these data by industry. Workers in the wholesale trade industry are more than twice as likely as workers in other industries to have their benefits begin immediately after accrual stops. Workers in the retail trade and transportation industries have the highest probability of having their benefit payments deferred with no actuarial increase. Workers in the construction industry have the highest probability of having their benefit payments deferred with an actuarial adjustment.

The large fraction of workers that have their pension payments deferred after benefit accrual stops with no actuarial increase is quite interesting. Since the worker forgoes benefits by continuing to work for the firm, this benefit provision represents an implicit tax on

continued employment by the worker with her (his) current employer. In recent years, much attention has been focused on the earnings test for social security benefits. Critics have maintained that this social security provision discourages employment by the elderly by reducing social security benefits as wage income increases. The findings here suggest that private pensions have similar disincentive effects—since most workers forfeit all or part of their pension benefits by continuing to work with the employer beyond a specified date.

Table 4.9.1
Number of Defined Benefit Participants by Provisions for Benefit Accrual for Employment
after Eligibility for Normal Retirement by Firm Size, 1979

	No Service Credited	All Service Credited	Service Credited For N Years After Normal Retirement	Service Credited Until Employee Reaches Specified Age	Service Credited Until Employee Completes Specified Years of Service	Service Credited Until Employee Reaches Specified Age and Completes Specified Years of Service
<u>50-99 Employees</u>						
Number	30,189	33,866	0	13,291	0	0
Row Percent	39.03	43.79	.00	17.18	.00	.00
<u>100-249 Employees</u>						
Number	431,470	685,515	0	453,502	9,670	0
Row Percent	27.31	43.38	.00	28.70	.61	.00
<u>250-499 Employees</u>						
Number	856,912	1,887,508	35,846	499,887	11,743	0
Row Percent	26.03	57.34	1.09	15.19	.36	.00
<u>500-999 Employees</u>						
Number	903,411	1,720,599	18,071	661,114	0	0
Row Percent	27.35	52.09	.55	20.01	.00	.00
<u>1000-2,499 Employees¹</u>						
Number	888,614	1,821,765	17,582	1,020,143	47,384	0
Row Percent	23.41	48.00	.46	26.88	1.25	.00
<u>2,500 + Employees</u>						
Number	941,271	2,302,437	0	2,434,240	43,553	29,311
Row Percent	16.37	40.04	.00	42.33	.76	.51
<u>TOTAL</u>						
Number	4,051,867	8,451,923	71,499	5,082,117	112,350	29,311
Row Percent	22.76	47.49	.40	28.55	.63	.16

Source: BLS LOB (1979)

1. This category includes all mining establishments with over 1,000 employees.

Table 4.9.2
Number of Defined Benefit Participants by Provisions for Benefit Accrual for Employment
after Eligibility for Normal Retirement by Industry, 1979

	No Service Credited	All Service Credited	Service Credited For N Years After Normal Retirement	Service Credited Until Employee Reaches Specified Age	Service Credited Until Employee Completes Specified Years of Service	Service Credited Until Employee Reaches Specified Age and Completes Specified Years of Service
<u>Mining</u>						
Number	917	205,583	0	113,085	0	0
Row Percent	.29	64.33	.00	35.38	.00	.00
<u>Construction</u>						
Number	62,704	5,676	0	4,879	0	0
Row Percent	85.59	7.75	.00	6.66	.00	.00
<u>Manufacturing</u>						
Number	2,506,578	5,921,304	21,539	2,931,960	97,526	5,109
Row Percent	21.83	51.56	.19	25.53	.85	.04
<u>Transportation, Communications and Utilities</u>						
Number	238,040	847,727	0	1,081,277	0	0
Row Percent	10.98	39.12	.00	49.90	.00	.00

Table 4.9.2 Continued

Number of Defined Benefit Participants by Provisions for Benefit Accrual for Employment after Eligibility for Normal Retirement by Industry, 1979

	No Service Credited	All Service Credited	Service Credited For N Years After Normal Retirement	Service Credited Until Employee Reaches Specified Age	Service Credited Until Employee Completes Specified Years of Service	Service Credited Until Employee Reaches Specified Age and Completes Specified Years of Service
<u>Wholesale Trade</u>						
Number	112,751	370,329	0	127,174	0	0
Row Percent	18.48	60.68	.00	20.84	.00	.00
<u>Retail Trade</u>						
Number	503,723	336,580	0	378,249	0	0
Row Percent	41.34	27.62	.00	31.04	.00	.00
<u>Finance, Insurance and Real Estate</u>						
Number	460,452	664,297	49,960	308,191	14,824	24,202
Row Percent	30.25	43.65	3.28	20.25	.97	1.59
<u>Selected Services¹</u>						
Number	166,702	100,477	0	137,302	0	0
Row Percent	41.21	24.84	.00	33.95	.00	.00
<u>TOTAL</u>						
Number	4,051,867	8,451,923	71,499	5,082,117	112,350	29,311
Row Percent	22.76	47.49	.40	28.55	.63	.16

Source: BLS LOB (1979)

1. Includes advertising, credit reporting and collection agencies, computer and data processing services, research and development labs, commercial testing labs, management and public relations services, engineering and architectural services, noncommercial research organizations, and accounting services.

Table 4.9.3

Number of Defined Benefit Participants by Disposition of Accrued Pension Benefits when Service is no longer Credited by Firm Size, 1979

	Pension Payments Begin		Pension Payments Deferred With No Change in Pension Amount		Pension Payments Deferred With Actuarial Increase		Other	
	Number of Participants	Row Percent	Number of Participants	Row Percent	Number of Participants	Row Percent	Number of Participants	Row Percent
50-99 Employees	2,744	6.32	40,676	93.68	0	.00	0	.00
100-249 Employees	87,202	9.95	614,588	70.14	174,393	19.90	0	.00
250-499 Employees	229,023	16.72	991,126	72.37	149,317	10.90	0	.00
500-999 Employees	341,677	22.66	995,868	66.04	170,484	11.31	0	.00
1000-2,499 Employees ¹	383,117	21.42	1,229,757	68.75	156,531	8.75	19,281	1.08
2,500 + Employees	265,091	8.16	2,832,325	87.21	150,467	4.63	0	.00
TOTAL	1,308,854	14.82	6,704,340	75.90	801,192	9.07	19,281	.22

Source: BLS LOB (1979)

1. This category includes all mining establishments with over 1,000 employees.

Table 4.9.4
 Number of Defined Benefit Participants by Disposition of Accrued Pension Benefits
 when Service is no longer Credited by Industry, 1979

	Pension Payments Begin		Pension Payments Deferred With No Change in Pension Amount		Pension Payments Deferred With Actuarial Increase		Other	
	Number of Participants	Row Percent	Number of Participants	Row Percent	Number of Participants	Row Percent	Number of Participants	Row Percent
Mining	23,630	20.73	87,380	76.65	2,992	2.62	0	.00
Construction	4,879	7.22	27,659	40.93	35,045	51.85	0	.00
Manufacturing	858,822	16.40	3,931,808	75.07	427,384	8.16	19,281	.37
Transportation, Communications and Utilities	161,228	12.38	1,141,370	87.62	0	.00	0	.00
Wholesale Trade	112,922	47.07	71,645	29.86	55,358	23.07	0	.00
Retail Trade	9,277	1.25	664,618	87.88	82,173	10.87	0	.00
Finance, Insurance and Real Estate	137,099	16.88	571,399	70.37	103,464	12.74	0	.00
Selected Services ¹	797	.26	208,431	68.56	94,776	31.18	0	.00
TOTAL	1,308,854	14.82	6,704,310	75.90	801,192	9.07	19,281	.22

Source: BLS LOB (1979)

1. Includes advertising, credit reporting and collection agencies, computer and data processing services, research and development labs, commercial testing labs, management and public relations services, engineering and architectural services, noncommercial research organizations, and accounting services.

4.10 Cost of Living Adjustments of Private Pension Plans

This section uses three sources of data to examine post-retirement cost of living adjustments (COLAs) of private pension plans. As described in chapter 2, the sampling universes of the three data sets differ, and this should be kept in mind in making comparisons or combining information from the three sources. One should be particularly cautious in drawing inferences about national aggregates on the basis of the data presented in tables 4.10.4, 4.10.7, and 4.10.8; unlike most tables in this volume, these are *unweighted* tabulations of survey information from the DOL-SPPBA (1979), the Bankers Trust Survey, and the Towers, Perrin, Forster & Crosby survey. However, these surveys include a significant number of the nation's largest pension plans, and the unweighted information presented in the tables by plan size is likely to be an accurate description of the behavior of the nation's largest plans.

Unlike the latter tables, tables 4.10.1 and 4.10.2 are based on the BLS-LOB (1979), and the figures here are population-weighted estimates of the BLS-LOB (1979) sample universe. These particular tables show the fraction of defined benefit participants covered by plans with automatic cost of living increases. Fewer than 3 percent of all participants are covered by such plans. This percent varies from zero for plan sponsors with few employees to 5.38 percent for plan sponsors with 2,500 or more workers. For the relatively few participants with automatic cost of living increases, virtually all receive a full COLA up to some maximum.

There is variation in the provision of automatic COLAs across industries (table 4.10.2). The BLS-LOB (1979) survey reports no participants with automatic COLAs in mining, construction, wholesale trade, and retail trade. Manufacturing, the dominant industry in terms of active pension participants, reports fewer than 2 percent of covered workers in plans with automatic COLAs. In finance, insurance, and real estate as well as selected services the fraction of active defined benefit participants with automatic COLAs exceeds 10 percent.

Tables 4.10.3 through 4.10.6 are based on Dr. Robert Clark's preliminary analysis of the COLA information reported in the DOL-SPPBA (1979).⁶ The DOL-SPPBA (1979) questionnaire asks pension plans to detail their cost of living increases between 1973 and 1979. According to Dr. Clark's study "Inflation and Pension Benefits" (1982), there are 173 private plans in the survey that identified 1979 recipients who were also receiving benefits in 1973. These plans reported 104,601 recipients in 1973.⁷ While only 51 of the 173 plans provided

COLAs over the period 1973 to 1979, over three-quarters of the 27 plans with 500 or more recipients granted increases (table 4.10.3); as a consequence, 92,403 of the 104,601 recipients (over 88 percent of the total) received at least one COLA between 1973 and 1979.

On average, the fifty-one plans awarding increases between 1973 and 1979 provided increases in 2.7 of the 7 years. Only seven plans provided COLAs in each of the 6 years, excluding 1979. Another seven plans provided between three to five increases in the 6 years 1973 through 1978; twenty-one plans provided only one increase between 1973 and 1978.

The fifty-one plans determined the size of their COLAs primarily in one of two ways: either on the basis of a collective bargaining agreement or on the basis of special consideration by a "board or other body" (table 4.10.4).

Between 1973 and 1979 the Consumer Price Index rose by 63.34 percent. For the 104,393 recipients in Dr. Clark's study, mean nominal pension benefits rose from \$2,128 in 1973 to \$2,597 in 1979, or by 22.04 percent. Table 4.10.5 records these changes in average nominal benefits and the Consumer Price Index. Table 4.10.6 shows the reduction in real pension benefits implied by the data in table 4.10.5. Average real pension benefits for the 104,393 recipients fell by 25.27 percent between 1973 and 1979. Had no COLAs been granted, the decline in real benefits would have been 38.78 percent. Hence, for the 104,393 recipients for whom there is reliable information dating back to 1973, COLAs offset more than half of the increase in the Consumer Price Index.

For the 1,705 recipients in plans with fewer than 100 recipients, the 7-year decline in real mean benefits is 37.24 percent. For the largest plans, those with 10,000 or more recipients that report 62,168 recipients, the average mean real benefit decrease is 17.75 percent.

The Bankers Trust Survey and the Towers, Perrin, Forster & Crosby survey of large corporate pension plans also indicate that most large private pension plans typically provide some benefit adjustment for inflation. Almost two-thirds of the plans in these surveys provided COLAs between 1976 and 1979 (table 4.10.7). Corporate plans with 25,000 or more participants were about 25 percent more likely to report COLAs than smaller plans.

Of the 153 plans that gave COLAs, 77 determined the COLAs as a specific percentage of the base pension amount. The 4-year percentage increase for these 77 plans averaged 22.69 percent on a participant-weighted basis.

Table 4.10.1
Number of Defined Benefit Participants by Provisions for Automatic Cost of Living Increases
by Firm Size, 1977

	Full CPI With No Maximum	Full CPI With Maximum	Fraction of CPI With No Maximum	Fraction of CPI With Maximum	No Automatic Cost of Living Increases
<u>50-99 Employees</u>					
Number	0	0	0	0	83,461
Row Percent	.00	.00	.00	.00	100.00
<u>100-249 Employees</u>					
Number	0	44,433	0	2,825	1,557,454
Row Percent	.00	2.77	.00	.18	97.06
<u>250-499 Employees</u>					
Number	0	33,747	0	0	3,304,413
Row Percent	.00	1.01	.00	.00	98.99
<u>500-999 Employees</u>					
Number	0	57,247	0	3,676	3,263,696
Row Percent	.00	1.72	.00	.11	98.17

Table 4.10.1 Continued
 Number of Defined Benefit Participants by Provisions for Automatic Cost of Living Increases
 by Firm Size, 1977

	Full CPI With No Maximum	Full CPI With Maximum	Fraction of CPI With No Maximum	Fraction of CPI With Maximum	No Automatic Cost of Living Increases
<u>1000-2,499 Employees¹</u>					
Number	0	61,945	0	0	3,741,253
Row Percent	.00	1.63	.00	.00	98.37
<u>2,500 + Employees</u>					
Number	5,549	296,977	0	10,215	5,498,114
Row Percent	.10	5.11	.00	.18	94.62
<u>TOTAL</u>					
Number	5,549	494,349	0	16,716	17,448,391
Row Percent	.03	2.75	.00	.09	97.12

Source: BLS LOB (1979)

1. This category includes all mining establishments with over 1,000 employees.

Table 4.10.2
 Number of Defined Benefit Participants by Provisions for Automatic Cost of Living Increases
 by Industry, 1977

	Full CPI With No Maximum	Full CPI With Maximum	Fraction of CPI With No Maximum	Fraction of CPI With Maximum	No Automatic Cost of Living Increases
<u>Mining</u>					
Number	0	0	0	0	319,585
Row Percent	.00	.00	.00	.00	100.00
<u>Construction</u>					
Number	0	0	0	0	73,209
Row Percent	.00	.00	.00	.00	100.00
<u>Manufacturing</u>					
Number	5,549	189,899	0	16,716	11,315,603
Row Percent	.05	1.65	.00	.15	98.16
<u>Transportation, Communications and Utilities</u>					
Number	0	93,941	0	0	2,141,080
Row Percent	.00	4.20	.00	.00	95.80
<u>Wholesale Trade</u>					
Number	0	0	0	0	610,254
Row Percent	.00	.00	.00	.00	100.00
<u>Retail Trade</u>					
Number	0	0	0	0	1,218,552
Row Percent	.00	.00	.00	.00	100.00
<u>Finance, Insurance and Real Estate</u>					
Number	0	159,507	0	0	1,379,804
Row Percent	.00	10.36	.00	.00	89.64
<u>Selected Services¹</u>					
Number	0	51,002	0	0	390,304
Row Percent	.00	11.56	.00	.00	88.44
<u>TOTAL</u>					
Number	5,549	494,349	0	16,716	17,448,391
Row Percent	.03	2.75	.00	.09	97.12

Source: BLS LOB (1979)

1. Includes advertising, credit reporting and collection agencies, computer and data processing services, research and development labs, commercial testing labs, management and public relations services, engineering and architectural services, noncommercial research organizations, and accounting services.

Table 4.10.3

Number of Plans Awarding Cost of Living Increases During 1973-1978 by Plan Size and Year of Increase¹

	Number of Plans in Sample	Weighted Total Number of Plans	Weighted Number of Plans Awarding Increases	Percent of Total Plans
<u>1-99 Recipients</u>				
1973-1978	110	26,548	4,274	16.1
1973	110	26,548	1,646	6.2
1974	110	26,548	2,283	8.6
1975	110	26,548	2,442	9.2
1976	110	26,548	2,283	8.6
1977	110	26,548	2,416	9.1
1978	110	26,548	2,575	9.7
<u>100-499 Recipients</u>				
1973-1978	36	3,587	1,471	41.0
1973	36	3,587	143	4.0
1974	36	3,587	459	12.8
1975	36	3,587	599	16.7
1976	36	3,587	384	10.7
1977	36	3,587	585	16.3
1978	36	3,587	900	25.1
<u>500-999 Recipients</u>				
1973-1978	8	569	451	79.3
1973	8	569	81	14.3
1974	8	569	276	48.5
1975	8	569	116	20.4
1976	8	569	78	13.7
1977	8	569	220	38.7
1978	8	569	90	15.9
<u>1,000-4,999 Recipients</u>				
1973-1978	8	293	159	54.1
1973	8	293	49	16.6
1974	8	293	43	14.8
1975	8	293	57	19.3
1976	8	293	81	27.5
1977	8	293	73	24.8
1978	8	293	65	22.2
<u>5,000-9,999 Recipients</u>				
1973-1978	7	114	95	83.1
1973	7	114	8	7.3
1974	7	114	70	61.4
1975	7	114	58	50.7
1976	7	114	33	29.0
1977	7	114	33	29.0
1978	7	114	79	69.4
<u>10,000+ Recipients</u>				
1973-1978	4	85	85	100.0
1973	4	85	49	57.7
1974	4	85	49	58.2
1975	4	85	72	85.1
1976	4	85	43	50.2
1977	4	85	66	77.1
1978	4	85	39	46.2
<u>TOTAL</u>				
1973-1978	173	32,638	6,528	20.0
1973	173	32,638	1,991	6.1
1974	173	32,638	3,199	9.8
1975	173	32,638	3,362	10.3
1976	173	32,638	2,905	8.9
1977	173	32,638	3,394	10.4
1978	173	32,638	3,753	11.5

Source: Dr. Robert Clark, "Inflation and Pension Benefits"

1. Sample includes only plans with at least one recipient retired in 1973.

Table 4.10.4

Number of Private Pension Plans and Participants with Cost of Living Increases During 1973-1978 by Method of Increase¹

	Plan Provision For Automatic Cost of Living Adjustment	Collective Bargaining Agreement	Special Consideration by Board or Other Body	Other
<u>Plans</u>				
Number of Plans	5	20	48	2
Percent of Plans	.07	.29	.71	.03
<u>Participants</u>				
Number of Participants	1,728	196,671	186,438	64
Percent of Participants	.00	.55	.52	.00

Source: Dr. Robert Clark, "Inflation and Pension Benefits"

Table enumerates plans and participants for each method of increase.

Table 4.10.5

Mean Annual Benefit and Mean Percentage Increase in Annual Benefit
for Persons Retired in 1973 by Plan Size, 1973-1979

	Number of Recipients	Mean Annual Benefit	Annual Percentage Increase	Percent Change in CPI	Ratio of Annual Percentage Increase in Mean Benefit To CPI Change
<u>1-99 Recipients</u>					
1973	1,705	\$1,852	NA	NA	NA
1974	1,705	1,857	0.3	11.0	.027
1975	1,705	1,866	0.5	9.1	.055
1976	1,705	1,884	1.0	5.8	.172
1977	1,705	1,893	0.5	6.5	.077
1978	1,705	1,902	0.5	7.6	.066
1979	1,705	1,912	0.5	11.3	.044
<u>100-499 Recipients</u>					
1973	3,780	\$2,405	NA	NA	NA
1974	3,780	2,428	1.1	11.0	.100
1975	3,780	2,483	2.6	9.1	.286
1976	3,780	2,238	2.5	5.8	.431
1977	3,780	2,260	1.0	6.5	.154
1978	3,780	2,355	4.2	7.6	.553
1979	3,780	2,410	2.3	11.3	.204
<u>500-999 Recipients</u>					
1973	2,619	\$1,893	NA	NA	NA
1974	2,619	1,910	.9	11.0	.082
1975	2,619	1,984	3.9	9.1	.429
1976	2,619	2,031	2.4	5.8	.414
1977	2,619	2,072	2.0	6.5	.308
1978	2,619	2,177	5.1	7.6	.671
1979	2,619	2,185	.4	11.3	.035
<u>1,000-4,999 Recipients</u>					
1973	8,953	\$2,356	NA	NA	NA
1974	8,953	2,367	.5	11.0	.045
1975	8,953	2,405	1.6	9.1	.176
1976	8,953	2,456	2.1	5.8	.362
1977	8,953	2,528	2.9	6.5	.446
1978	8,953	2,588	2.4	7.6	.316
1979	8,953	2,621	1.3	11.3	.115
<u>5,000-9,999 Recipients</u>					
1973	25,368	\$2,305	NA	NA	NA
1974	25,368	2,320	.7	11.0	.064
1975	25,368	2,397	3.3	9.1	.363
1976	25,368	2,528	5.5	5.8	.948
1977	25,368	2,581	2.1	6.5	.323
1978	25,368	2,614	1.3	7.6	.171
1979	25,368	2,761	5.6	11.3	.496
<u>10,000+ Recipients</u>					
1973	62,168	\$2,144	NA	NA	NA
1974	62,168	2,279	6.3	11.0	.573
1975	62,168	2,398	5.2	9.1	.571
1976	62,168	2,511	4.7	5.8	.810
1977	62,168	2,609	3.9	6.5	.600
1978	62,168	2,787	6.8	7.6	.895
1979	62,168	2,881	3.4	11.3	.301
<u>TOTAL</u>					
1973	104,393	\$2,128	NA	NA	NA
1974	104,393	2,192	3.0	11.0	.273
1975	104,393	2,270	3.6	9.1	.396
1976	104,393	2,355	3.7	5.8	.638
1977	104,393	2,418	2.7	6.5	.415
1978	104,393	2,523	4.3	7.6	.566
1979	104,393	2,597	2.9	11.3	.257

Source: Dr. Robert Clark, "Inflation and Pension Benefits"

Table 4.10.6

Mean Real Annual Benefit and Mean Percentage Increase in Annual Benefit
for Persons Retired in 1973 by Plan Size, 1973-1979
(1980 Dollars)

	Number of Recipients	Mean Real Annual Benefit	Annual Percentage Increase (Decrease)
<u>1-99 Recipients</u>			
1973	1,705	\$1,391	NA
1974	1,705	1,257	-9.6
1975	1,705	1,158	-7.9
1976	1,705	1,105	-4.6
1977	1,705	1,043	-5.6
1978	1,705	974	-6.6
1979	1,705	879	-9.8
<u>100-499 Recipients</u>			
1973	3,780	\$1,582	NA
1974	3,780	1,441	-8.9
1975	3,780	1,354	-6.0
1976	3,780	1,313	-3.0
1977	3,780	1,245	-5.2
1978	3,780	1,206	-3.1
1979	3,780	1,109	-8.0
<u>500-999 Recipients</u>			
1973	2,619	\$1,422	NA
1974	2,619	1,293	-9.1
1975	2,619	1,231	-4.8
1976	2,619	1,191	-3.2
1977	2,619	1,142	-4.1
1978	2,619	1,115	-2.4
1979	2,619	1,005	-9.9
<u>1,000-4,999 Recipients</u>			
1973	8,953	\$1,770	NA
1974	8,953	1,603	-9.4
1975	8,953	1,492	-6.9
1976	8,953	1,440	-3.5
1977	8,953	1,393	-3.3
1978	8,953	1,325	-4.9
1979	8,953	1,206	-9.0
<u>5,000-9,999 Recipients</u>			
1973	25,368	\$1,732	NA
1974	25,368	1,571	-9.3
1975	25,368	1,487	-5.3
1976	25,368	1,463	-.3
1977	25,368	1,422	-4.1
1978	25,368	1,338	-5.9
1979	25,368	1,270	-5.1
<u>10,000+ Recipients</u>			
1973	62,168	\$1,611	NA
1974	62,168	1,543	-4.2
1975	62,168	1,488	-3.6
1976	62,168	1,473	-1.0
1977	62,168	1,437	-2.4
1978	62,168	1,427	-.7
1979	62,168	1,325	-7.1
<u>TOTAL</u>			
1973	104,393	\$1,599	NA
1974	104,393	1,484	-7.2
1975	104,393	1,408	-5.1
1976	104,393	1,381	-1.9
1977	104,393	1,332	-3.5
1978	104,393	1,292	-3.0
1979	104,393	1,195	-7.5

Source: Dr. Robert Clark, "Inflation and Pension Benefits"

Table 4.10.7

Plan Size	Mean Total Cost of Living Increases, Large Corporate Pension Plans, 1976-1979, Plan Weighted				
	Plans With Any Cost of Living Increase, 1976-1979			Plans With No Cost of Living Increase, 1976-1979	
	Number of Plans	Row Percent	Mean Percentage Increase ¹	Number of Plans	Row Percent
1-25,000 Participants	95	59.01	20.97	66	40.99
25,000 + Participants	58	73.42	22.76	21	26.58
Total	153	63.75	21.88	87	36.25

Source: Bankers Trust and TPE&C

1. Calculation includes only seventy-seven plans that specify increases as a percentage of base pension amount.

Table 4.10.8

Plan Size	Mean Total Cost of Living Increases, Large Corporate Pension Plans, 1976-1979, Participant Weighted				
	Plans With Any Cost of Living Increase, 1976-1979			Plans With No Cost of Living Increase, 1976-1979	
	Number of Participants	Row Percent	Mean Percentage Increase ¹	Number of Participants	Row Percent
1-25,000 Participants	1,023,500	59.69	22.21	691,250	40.31
25,000 + Participants	5,141,150	81.74	22.53	1,148,300	18.26
Total	6,164,650	77.02	22.69	1,839,550	22.98

Source: Bankers Trust and TPE&C

1. Calculation is participant weighted and includes only seventy-seven plans that specify increases as a percentage of base pension amount.

4.11 Disability Provisions of Private Pension Plans

After social security, the private pension system represents the leading means of providing disability insurance protection in the country. In 1977 over 84 percent of pension plans representing 74 percent of pension participants reported disability provisions (table 4.11.1). Defined benefit plans and defined contribution plans are almost equally likely to provide benefits for disabled pension plan participants (tables 4.11.2 and 4.11.3). Disability benefits are features of over 70 percent of pension plans regardless of pension plan size (table 4.11.4). Smaller plans cover a somewhat larger fraction of their participants for disability (table 4.11.5). There is somewhat more variation in the provision of disability benefits across industry (tables 4.11.6 and 4.11.7). In the construction industry 93.84 percent of participants potentially receive financial protection in the case of disability. In finance, insurance, and real estate the figure is 67.23 percent. A somewhat smaller fraction of union plans have disability benefits than do nonunion plans, while a somewhat greater fraction of union participants than nonunion participants are covered in plans with such benefits (tables 4.11.8 and 4.11.9). A similar reverse relation with respect to plans and participants exists for single employer and multiemployer plans. About 5 percent more single employer plans provide disability benefits than do multiemployer plans; on the other hand, 19 percent fewer participants in single employer than in multiemployer plans are covered by disability provisions (tables 4.11.10 and 4.11.11).

Although 87 percent of pension plans provide disability benefits to participants irrespective of age or service, the receipt of benefits in the case of disability is automatic for only about one-third of the 74.38 percent of participants covered by disability provisions (table 4.11.12). The other two-thirds face fairly stringent requirements before they are eligible to receive disability benefits. Of those participants faced with eligibility tests for receipt of disability benefits, 97 percent face a service requirement and 25 percent face an age requirement; 23 percent face both an age and a service requirement. The mean service requirement for those facing a service requirement is 11.43 years, and the mean age

requirement for those facing an age requirement is 48.32. Tables 4.11.13 and 4.11.14 examine the dispersion of these age and service requirements around their mean values. Over 30 percent of disability-covered participants in plans with age requirements must be 55 years old or over at the time the disability occurs before they are eligible to collect even a penny of disability benefits. Few plans with age requirements provide benefits for workers who become disabled prior to age 40. In terms of service requirements, the key numbers of years are 1 year, 5 years, 10 years, 15 years, and 20 years. Over a third of the pension participant group with service disability requirements need to work 15 or more years before they are entitled to compensation for disabilities arising either on or off the job; 10.84 percent of this population need to be employed 5 or fewer years before they are eligible to collect.

Despite the fact that defined benefit and defined contribution plans are almost equally likely to include disability benefits in their pension program, a much greater fraction of defined contribution, disability-covered participants are eligible for benefits independent of age or service than is the case for similarly covered defined benefit participants. Table 4.11.16 points this out. Fewer than 16 percent of the 81 percent of defined contribution participants covered by disability provisions face eligibility requirements; in contrast, more than 88 percent of the 73 percent of disability-covered defined benefit participants must satisfy these eligibility tests. The service restrictions themselves, when imposed, are more lenient for defined contribution plans than for defined benefit plans. Mean (participant-weighted) service requirements for these two types of plans average 6.48 and 11.77 years, respectively. Mean age requirements are fairly similar across plan type for plans with such requirements.

Given that defined benefit plans are larger on average than defined contribution plans, the figures in tables 4.11.17 and 4.11.18 relating disability requirements to plan size are not surprising. The tables reveal lower mean service requirements for small plans than for large plans where such requirements are in force. The tables also indicate a monotonically rising fraction of plans with disability eligibility requirements as plan size increases.

Much of the industry variation in eligibility rules for receipt of disability benefits is also explained simply by the type of pension plan covering participants in particular industries. Industries such as retail trade with nearly half of its covered workers enrolled in defined contribution plans are also industries that are much more likely to provide disability benefits without testing for age or years of service (tables 4.11.19 and 4.11.20). Transportation, communications, and utilities is the industry with the largest fraction of defined benefit participants (85 percent); it is also the industry with the second most stringent disability eligibility requirements. Almost 80 percent of its covered workers are affected by these provisions. Construction is the most stringent industry with respect to these provisions. Over 86 percent of construction workers covered by pensions must, on average, either work over 10 years or be over age 45 before they are eligible for disability benefits in the case of an accident on the job.

The differences in treatment of union and nonunion workers with respect to disability are also striking. In nonunion plans only 47 percent of covered workers with disability plans face these disability tests; in union plans almost 90 percent of the relevant population are affected by age and service requirements (tables 4.11.21 and 4.11.22). For multiemployer pension plan participants the 90 percent figure just mentioned rises to 94 percent. While the fraction of affected workers differs greatly depending on whether a plan is union versus nonunion or multiemployer versus single employer, the actual participant-weighted age and service requirements for plans with these requirements are quite similar across these pension plan classifications.

Table 4.11.1

Number of Plans with Disability Provisions and Number of Participants covered by Plans with Disability Provisions, 1977

	With Disability Provisions		Without Disability Provisions	
	Number	Row Percent	Number	Row Percent
Number of Plans	383,859	84.11	72,514	15.89
Number of Participants	30,627,480	74.38	10,549,446	25.62

Source: DOL-NBER EBS1 File (1977)

Table 4.11.2

Number of Plans with Disability Provisions by Plan Type, 1977

	With Disability Provisions		Without Disability Provisions	
	Number	Row Percent	Number	Row Percent
Defined Benefit	113,565	78.62	30,891	21.38
Defined Contribution	260,838	87.66	36,717	12.34
Other	9,454	65.84	4,905	34.16
Total	383,859	84.11	72,514	15.89

Source: DOL-NBER EBS1 File (1977)

Table 4.11.3

Number of Participants Covered by Disability Provisions by Plan Type, 1977

	With Disability Provisions		Without Disability Provisions	
	Number	Row Percent	Number	Row Percent
Defined Benefit	22,010,413	72.70	8,265,764	27.30
Defined Contribution	8,201,902	80.67	1,965,128	19.33
Other	415,163	56.58	318,553	43.42
Total	30,627,480	74.38	10,549,446	25.62

Source: DOL-NBER EBS1 File (1977)

Table 4.11.4

Number of Plans with Disability Provisions by Plan Size, 1977

	With Disability Provisions		Without Disability Provisions	
	Number	Row Percent	Number	Row Percent
1-24 Participants	306,880	86.02	49,875	13.98
25-49 Participants	27,580	79.48	7,122	20.52
50-99 Participants	28,318	75.50	9,187	24.50
100-249 Participants	9,837	76.40	3,039	23.60
250-499 Participants	4,692	78.17	1,310	21.83
500-999 Participants	2,917	77.07	868	22.93
1,000-4,999 Participants	2,853	76.94	855	23.06
5,000-9,999 Participants	464	76.69	141	23.31
10,000+ Participants	317	73.55	114	26.45
Total	383,859	84.11	72,514	15.89

Source: DOL-NBER EBS1 File (1977)

Table 4.11.5
Number of Participants Covered by Disability Provisions by Plan Size, 1977

	With Disability Provisions		Without Disability Provisions	
	Number	Row Percent	Number	Row Percent
1-24 Participants	1,924,755	85.67	322,017	14.33
25-49 Participants	949,025	79.20	249,252	20.80
50-99 Participants	2,196,862	75.13	727,230	24.87
100-249 Participants	1,542,304	76.40	476,357	23.60
250-499 Participants	1,542,304	76.40	476,357	23.60
500-999 Participants	2,047,641	77.03	610,654	22.97
1,000-4,999 Participants	5,939,855	76.42	1,833,202	23.58
5,000-9,999 Participants	3,111,403	75.83	991,708	24.17
10,000+ Participants	11,267,568	69.77	4,881,016	30.23
Total	30,627,480	74.38	10,549,446	25.62

Source: DOL-NBER EBS1 File (1977)

Table 4.11.6
Number of Plans with Disability Provisions by Industry, 1977

	With Disability Provisions		Without Disability Provisions	
	Number	Row Percent	Number	Row Percent
Agriculture, Forestry, and Fishing	6,592	83.94	1,261	16.06
Mining	1,952	78.11	547	21.89
Construction	17,476	84.69	3,160	15.31
Manufacturing	51,756	81.90	11,440	18.10
Transportation, Communications, and Utilities	6,688	78.23	1,861	21.77
Wholesale Trade	26,843	85.52	4,545	14.48
Retail Trade	30,789	85.43	5,251	14.57
Finance, Insurance, and Real Estate	21,956	82.04	4,806	17.96
Services	118,228	88.17	15,863	11.83
Tax-Exempt Organizations	5,858	71.35	2,352	28.65
Not Classified	95,715	81.71	21,423	18.29
TOTAL	383,859	84.11	72,514	15.89

Source: DOL-NBER EBS1 File (1977)

Table 4.11.7
Number of Participants Covered by Disability Provisions by Industry, 1977

	With Disability Provisions		Without Disability Provisions	
	Number	Row Percent	Number	Row Percent
Agriculture, Forestry, and Fishing	127,221	77.97	35,942	22.03
Mining	266,398	73.68	95,161	26.32
Construction	2,272,627	93.84	149,197	6.16
Manufacturing	10,592,528	71.92	4,135,877	28.08
Transportation, Communications, and Utilities	1,954,843	77.66	562,268	22.34
Wholesale Trade	1,023,438	84.51	187,560	15.49
Retail Trade	2,146,459	79.12	566,532	20.88
Finance, Insurance, and Real Estate	1,507,851	67.23	735,102	32.77
Services	2,069,350	77.54	599,352	22.46
Tax-Exempt Organizations	554,546	33.81	1,085,651	66.19
Not Classified	8,112,216	77.19	2,396,800	22.81
TOTAL	30,627,480	74.38	10,549,446	25.62

Source: DOL-NBER EBS1 File (1977)

Table 4.11.8
Number of Plans with Disability Provisions by Union Status, 1977

	With Disability Provisions		Without Disability Provisions	
	Number	Row Percent	Number	Row Percent
Union Plans	19,293	80.48	4,678	19.52
Non-Union Plans	351,977	84.64	64,406	15.36
Not Classified	9,588	73.65	3,430	26.35
TOTAL	383,859	84.11	72,514	15.89

Source: DOL-NBER EBS1 File (1977)

Table 4.11.9
Number of Participants Covered by Disability Provisions by Union Status, 1977

	With Disability Provisions		Without Disability Provisions	
	Number	Row Percent	Number	Row Percent
Union Plans	15,134,245	79.24	3,963,901	20.76
Non-Union Plans	15,226,816	70.34	6,420,690	29.66
Not Classified	266,417	61.77	164,854	38.23
TOTAL	30,627,480	74.38	10,549,446	25.62

Source: DOL-NBER EBS1 File (1977)

Table 4.11.10
Number of Plans with Disability Provisions by Plan Entity, 1977

	With Disability Provisions		Without Disability Provisions	
	Number	Row Percent	Number	Row Percent
Single Employer	368,092	84.36	68,253	15.64
Multi Employer	7,109	79.69	1,812	20.31
Not Classified	8,657	77.96	2,448	22.04
TOTAL	383,859	84.11	72,514	15.89

Source: DOL-NBER EBS1 File (1977)

Table 4.11.11

Number of Participants Covered by Disability Provisions by Plan Entity, 1977

	With Disability Provisions		Without Disability Provisions	
	Number	Row Percent	Number	Row Percent
Single Employer	23,026,656	70.81	9,494,260	29.19
Multi Employer	6,848,298	89.34	816,767	10.66
Not Classified	752,525	75.94	238,418	24.06
TOTAL	30,627,480	74.38	10,549,446	25.62

Source: DOL-NBER EBS1 File (1977)

Table 4.11.12

Number of Plans and Participants by Age and Service Requirements for Disability Benefits, 1977

	Age Requirement Only			Service Requirement Only			Age and Service Requirement				No Requirement	
	Number	Row Percent	Mean Age	Number	Row Percent	Mean Service	Number	Row Percent	Mean Age	Mean Service	Number	Row Percent
Number of Plans	2,967	.80	49.21	31,897	8.57	8.58	15,058	4.04	45.21	10.70	322,373	86.59
Number of Participants	536,943	1.82	47.22	15,042,616	51.09	11.29	4,581,029	15.56	48.45	11.91	9,282,635	31.53

Source: DOL-NBER EBS1 File (1977)

Table 4.11.13

Distribution of Age Requirements for Disability Benefits, 1977

Age	Participants		Plans	
	Number	Column Percent	Number	Column Percent
15	131,593	2.57	373	2.07
18	2,294	.04	158	.88
19	155	.00	1	.01
20	6,739	.13	90	.50
21	9,538	.19	479	2.66
22	2,631	.05	71	.39
23	2,170	.04	157	.87
24	3,941	.08	212	1.18
25	76,098	1.49	1,348	7.49
26	608	.01	18	.10
27	11,952	.23	79	.44
28	609	.01	36	.20
30	53,008	1.04	224	1.24
31	935	.02	20	.11
32	26,446	.52	136	.76
33	144	.00	1	.01
35	135,333	2.64	254	1.41
37	14,523	.28	31	.17
40	600,285	11.73	1,502	8.34
41	1,285	.03	1	.01
42	4,005	.08	2	.01
43	1,219	.02	2	.01
44	2,135	.04	18	.10
45	609,319	11.91	2,050	11.39
47	480	.01	1	.01
48	5,104	.10	1	.01
49	5,983	.12	1	.01
50	1,746,221	34.12	4,636	25.75
51	2,123	.04	18	.10
52	16,335	.32	9	.05
53	697	.01	1	.01
54	200	.00	1	.01
55	1,183,954	23.13	4,125	22.91
56	192	.00	17	.09
57	3,747	.07	18	.10
58	190	.00	1	.01
59	52	.00	17	.09
60	158,282	3.09	672	3.73
62	43,556	.85	74	.41
63	1,272	.02	1	.01
65	252,613	4.94	1,148	6.38
Total	5,117,966	100.00	18,004	100.00

Source: DOL-NBER EBS1 File (1977)

TABLE 4.11.14
Distribution of Service Requirements for Disability Benefits, 1977

Years of Service	Participants		Plans	
	Number	Column	Number	Column
		Percent		Percent
0	8,980	.05	42	.09
1	630,270	3.23	5,604	12.04
2	159,417	.82	1,599	3.44
3	126,336	.65	3,062	6.58
4	97,878	.50	480	1.03
5	1,099,528	5.64	4,006	8.61
6	15,027	.08	303	.65
7	9,872	.05	116	.25
8	57,563	.30	109	.23
9	14,349	.07	42	.09
10	9,647,718	49.49	17,188	36.94
11	6,003	.03	28	.06
12	138,063	.71	187	.40
13	41,216	.21	38	.08
14	12,082	.06	49	.11
15	6,521,750	33.45	12,459	26.78
16	8,549	.04	50	.11
17	11,708	.06	2	.00
18	3,193	.02	21	.05
19	0	.00	0	.00
20	886,277	4.55	1,144	2.46
Total	19,495,779	100.00	46,529	100.00

Source: DOL-NBER EBS1 File (1977)

Table 4.11.15

Number of Plans by Age and Service Requirements for Disability Benefits and Plan Type, 1977

	Age Requirement Only			Service Requirement Only			Age and Service Requirement				No Requirement	
	Number	Row Percent	Mean Age	Number	Row Percent	Mean Service	Number	Row Percent	Mean Age	Mean Service	Number	Row Percent
Defined Benefit	1,767	1.64	49.00	21,863	20.24	10.92	12,492	11.56	47.27	11.79	71,920	66.57
Defined Contribution	1,176	.46	49.91	9,468	3.71	3.34	2,358	.92	34.76	5.23	242,170	94.90
Other	23	.25	28.79	565	6.22	6.01	207	2.28	39.75	7.45	8,282	91.24
Total	2,937	.79	49.21	31,897	8.57	8.58	15,058	4.04	45.21	10.70	322,373	86.60

Source: DOL-NBER EBS1 File (1977)

Table 4.11.16

Number of Participants by Age and Service Requirements for Disability Benefits and Plan Type, 1977

	Age Requirement Only			Service Requirement Only			Age and Service Requirement				No Requirement	
	Number	Row Percent	Mean Age	Number	Row Percent	Mean Service	Number	Row Percent	Mean Age	Mean Service	Number	Row Percent
Defined Benefit	476,319	2.26	46.95	13,887,989	65.79	11.70	4,327,304	20.50	48.51	12.00	2,416,395	11.45
Defined Contribution	58,212	.73	49.52	1,060,966	13.36	6.10	134,591	1.69	45.06	9.49	6,687,730	84.21
Other	2,410	.61	45.37	93,660	23.79	9.21	119,133	30.26	50.02	11.61	178,509	45.34
Total	536,943	1.82	47.22	15,042,616	51.09	11.29	4,581,029	15.56	48.45	11.91	9,282,635	31.53

Source: DOL-NBER EBS1 File (1977)

Table 4.11.17

Number of Plans by Age and Service Requirements for Disability Benefits and Plan Size, 1977

	Age Requirement Only			Service Requirement Only			Age and Service Requirement				No Requirement	
	Number	Row Percent	Mean Age	Number	Row Percent	Mean Service	Number	Row Percent	Mean Age	Mean Service	Number	Row Percent
1-24 Participants	1,557	.52	49.31	12,022	4.02	5.31	5,022	1.68	40.91	7.98	280,332	93.78
25-49 Participants	315	1.19	49.11	3,412	12.90	8.72	1,890	7.15	45.68	11.38	20,825	78.76
50-99 Participants	630	2.34	47.83	8,260	30.69	11.14	4,637	17.23	47.51	12.32	13,387	49.74
100-249 Participants	190	2.03	49.64	3,249	34.66	10.79	1,437	15.33	47.90	12.23	4,498	47.98
250-499 Participants	109	2.46	53.18	1,915	43.27	10.81	837	18.91	47.80	12.08	1,565	35.36
500-999 Participants	58	2.09	51.90	1,296	46.67	10.65	567	20.42	48.42	11.85	856	30.82
1,000-4,999 Participants	92	3.45	50.85	1,374	51.48	10.75	459	17.20	48.45	11.76	744	27.88
5,000-9,999 Participants	7	1.58	48.00	189	42.66	10.82	152	34.31	48.08	12.72	95	21.44
10,000+ Participants	7	2.29	36.00	177	57.84	9.98	54	17.65	50.26	11.22	68	22.22
Total	2,967	.83	49.21	31,897	8.93	8.58	15,058	.00	45.21	10.70	322,373	90.24

Source: DOL-NBER EBS1 File (1977)

Table 4.11.18

Number of Participants by Age and Service Requirements for Disability Benefits and Plan Size, 1977

	Age Requirement Only			Service Requirement Only			Age and Service Requirement				No Requirement	
	Number	Row Percent	Mean Age	Number	Row Percent	Mean Service	Number	Row Percent	Mean Age	Mean Service	Number	Row Percent
1-24 Participants	10,850	.58	47.74	92,750	4.95	6.23	46,235	2.47	42.70	8.96	1,722,455	92.00
25-49 Participants	11,427	1.26	49.33	122,150	13.44	8.91	68,932	7.58	45.60	11.53	706,632	77.73
50-99 Participants	51,922	2.49	48.56	671,790	32.20	11.22	373,642	17.91	47.65	12.37	989,187	47.41
100-249 Participants	29,681	2.02	50.29	526,089	35.82	10.80	230,451	15.69	48.03	12.28	682,563	46.47
250-499 Participants	38,644	2.49	53.73	681,462	43.87	10.82	291,753	18.78	47.82	12.03	541,476	34.86
500-999 Participants	42,228	2.17	52.57	915,765	46.97	10.63	401,227	20.58	48.52	11.88	590,373	30.28
1,000-4,999 Participants	193,247	3.47	51.08	2,904,692	52.13	10.74	966,683	17.35	48.46	11.53	1,507,786	27.06
5,000-9,999 Participants	48,172	1.63	45.28	1,306,131	44.18	10.92	957,227	32.38	48.33	12.52	644,544	21.80
10,000+ Participants	110,769	1.00	35.67	7,821,786	70.63	11.80	1,244,877	11.24	49.33	11.63	1,897,617	17.13
Total	536,943	1.82	47.22	15,042,616	51.09	11.29	4,581,029	15.56	48.45	11.91	9,282,635	31.53

Source: DOL-NBER EBS1 File (1977)

Table 4.11.19

Number of Plans by Age and Service Requirements for Disability Benefits and Industry, 1977

	Age Requirement Only			Service Requirement Only			Age and Service Requirement				No Requirement	
	Number	Row Percent	Mean Age	Number	Row Percent	Mean Service	Number	Row Percent	Mean Age	Mean Service	Number	Row Percent
Agriculture, Forestry, and Fishing	56	.86	64.63	380	5.80	9.02	179	2.73	39.42	5.98	5,934	90.61
Mining	1	.05	65.00	346	18.18	11.37	172	9.04	47.50	10.83	1,384	72.73
Construction	78	.46	41.46	1,439	8.56	7.54	502	2.99	47.36	11.26	14,793	87.99
Manufacturing	641	1.28	43.24	10,614	21.21	11.04	5,084	10.16	46.48	11.93	33,702	67.35
Transportation, Communications, and Utilities	65	.99	43.78	1,093	16.70	10.06	459	7.01	47.30	12.55	4,927	75.29
Wholesale Trade	206	.79	49.30	1,647	6.32	7.15	875	3.36	42.60	9.40	23,349	89.54
Retail Trade	136	.46	47.95	1,050	3.52	5.97	656	2.20	42.11	9.05	27,983	93.82
Finance, Insurance, and Real Estate	341	1.60	51.42	1,615	7.58	6.91	1,122	5.27	47.18	10.70	18,221	85.55
Services	590	.51	50.25	4,384	3.79	4.88	1,675	1.45	42.50	8.47	108,982	94.25
Tax-Exempt Organizations	86	1.69	51.51	616	12.12	9.27	377	7.42	42.86	9.58	4,005	78.78
Not Classified	762	.82	52.46	8,708	9.41	8.16	3,952	4.27	45.13	10.65	79,088	85.49
TOTAL	2,967	.80	49.21	31,897	8.57	8.58	15,058	4.04	45.21	10.70	322,373	86.59

Source: DOL-NBER EBS1 File (1977)

Table 4.11.20

Number of Participants by Age and Service Requirements for Disability Benefits and Industry, 1977

	Age Requirement Only			Service Requirement Only			Age and Service Requirement				No Requirement	
	Number	Row Percent	Mean Age	Number	Row Percent	Mean Service	Number	Row Percent	Mean Age	Mean Service	Number	Row Percent
Agriculture, Forestry, and Fishing	4,887	3.95	60.20	33,772	27.28	10.79	20,536	16.59	46.31	9.83	64,612	52.19
Mining	436	.18	65.00	128,987	53.90	10.93	30,884	12.90	46.64	10.70	79,020	33.02
Construction	10,201	.47	43.68	1,491,996	68.23	9.46	379,053	17.33	46.46	12.94	305,486	13.97
Manufacturing	150,836	1.47	44.31	5,478,242	53.28	11.44	1,863,523	18.12	48.44	12.11	2,790,254	27.14
Transportation, Communications, and Utilities	91,107	4.88	47.06	1,215,948	65.07	12.51	190,386	10.19	43.30	12.96	371,298	19.87
Wholesale Trade	8,365	.85	54.01	453,395	45.85	15.26	87,864	8.89	48.71	11.92	439,196	44.42
Retail Trade	18,428	.88	42.98	438,218	20.86	10.69	385,229	18.34	48.72	11.05	1,258,903	59.93
Finance, Insurance, and Real Estate	84,046	5.84	42.27	317,778	22.08	6.19	265,659	18.46	52.17	10.72	771,902	53.63
Services	64,471	3.24	51.93	630,266	31.63	7.86	380,137	19.08	50.64	11.60	917,619	46.05
Tax-Exempt Organizations	9,801	1.89	41.41	312,115	60.26	10.62	84,581	16.33	48.76	9.35	111,409	21.51
Not Classified	94,360	1.23	53.65	4,541,933	58.97	11.93	893,172	11.60	48.28	12.09	2,172,932	28.21
TOTAL	536,943	1.82	47.22	15,042,616	51.09	11.29	4,581,029	15.56	48.45	11.91	9,282,635	31.53

Source: DOL-NBER EBS1 File (1977)

Table 4.11.21

Number of Plans by Age and Service Requirements for Disability Benefits and Union Status, 1977

	Age Requirement Only			Service Requirement Only			Age and Service Requirement				No Requirement	
	Number	Row Percent	Mean Age	Number	Row Percent	Mean Service	Number	Row Percent	Mean Age	Mean Service	Number	Row Percent
Union Plans	317	1.71	37.66	10,511	56.74	11.81	4,431	23.92	48.12	12.86	3,266	17.63
Non-Union Plans	2,577	.75	50.73	20,584	5.98	6.99	10,231	2.97	43.89	9.78	311,073	90.31
Not Classified	72	.77	43.89	800	8.60	7.36	394	4.24	46.62	10.38	8,034	86.39
TOTAL	2,967	.80	49.21	31,897	8.57	8.58	15,058	4.04	45.21	10.70	322,373	86.59

Source: DOL-NBER EBS1 File (1977)

Table 4.11.22

Number of Participants by Age and Service Requirements for Disability Benefits and Union Status, 1977

	Age Requirement Only			Service Requirement Only			Age and Service Requirement				No Requirement	
	Number	Row Percent	Mean Age	Number	Row Percent	Mean Service	Number	Row Percent	Mean Age	Mean Service	Number	Row Percent
Union Plans	218,324	1.49	38.68	10,206,084	69.79	11.30	2,711,916	18.54	48.40	12.28	1,487,451	10.17
Non-Union Plans	317,246	2.18	53.15	4,733,866	32.51	11.27	1,825,982	12.54	48.50	11.38	7,686,217	52.78
Not Classified	1,372	.54	36.89	102,665	40.08	10.41	43,130	16.84	49.18	11.35	108,966	42.54
TOTAL	536,943	1.82	47.22	15,042,616	51.09	11.29	4,581,029	15.56	48.45	11.91	9,282,635	31.53

Source: DOL-NBER EBS1 File (1977)

Table 4.11.23

Number of Plans by Age and Service Requirements for Disability Benefits and Plan Entry, 1977

	Age Requirement Only			Service Requirement Only			Age and Service Requirement				No Requirement	
	Number	Row Percent	Mean Age	Number	Row Percent	Mean Service	Number	Row Percent	Mean Age	Mean Service	Number	Row Percent
Single Employer	2,811	.79	49.42	29,015	8.12	8.48	13,940	3.90	44.92	10.59	311,539	87.19
Multi Employer	46	.69	35.12	2,245	33.83	10.13	819	12.34	49.33	12.40	3,526	53.13
Not Classified	109	1.31	49.68	637	7.63	7.89	298	3.57	47.33	11.04	7,308	87.50
TOTAL	2,967	.80	49.21	31,897	8.57	8.58	15,058	4.04	45.21	10.70	322,373	86.59

Source: DOL-NBER EBS1 File (1977)

Table 4.11.24

Number of Participants by Age and Service Requirements for Disability Benefits and Plan Entry, 1977

	Age Requirement Only			Service Requirement Only			Age and Service Requirement				No Requirement	
	Number	Row Percent	Mean Age	Number	Row Percent	Mean Service	Number	Row Percent	Mean Age	Mean Service	Number	Row Percent
Single Employer	466,098	2.10	46.73	9,604,728	43.32	11.17	3,320,441	14.98	48.93	11.95	8,777,801	39.59
Multi Employer	64,734	.99	50.62	4,908,323	74.72	10.78	1,211,919	18.45	47.09	11.79	383,643	5.84
Not Classified	6,110	.87	49.16	529,564	75.06	17.99	48,668	6.90	49.01	12.23	121,190	17.18
TOTAL	536,943	1.82	47.22	15,042,616	51.09	11.29	4,581,029	15.56	48.45	11.91	9,282,635	31.54

Source: DOL-NBER EBS1 File (1977)