

Private Retirement Benefits and Relationship to Earnings: Survey of New Beneficiaries

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The level of benefits being received by private pensioners from their longest job, as reported in the Survey of Newly Entitled Beneficiaries, is closely related to earnings and length of service. The private pension system provides substantial replacement of earnings at retirement for the average career worker. Men and women differ sharply in amount of earnings and length of service—a fact that explains, in part, men's higher average wage replacement and women's much lower pension levels. Private benefit levels for current retirees in the survey are much higher than those for the entire aged population. Individuals retiring at or before age 62 tend to have higher private pensions and wage replacement than those retiring at later ages, a result of liberalized early-retirement provisions in recent years.

BETWEEN JULY 1969 and June 1970, approximately 1,200,000 persons became entitled to retired-worker benefits under the social security program. Nearly 300,000 reported that they had private pension coverage on the longest job of their career (table 1). Of that group, 49 percent reported they were already receiving private pension benefits; about 30 percent said that they would receive them at some future date (table 2). Ten percent said they would not receive a private pension benefit although they had been in a plan and 13 percent did not know the answer to or did not respond to the pension receipt question.

This article focuses on the 134,000 private wage and salary workers who reported on the amount of private pensions they were receiving. The analysis concerns the amount of these benefits in relation to earnings, length of service, and other characteristics and the adequacy of the benefits as measured by their relation to preretirement earnings.

Findings presented here are based on the

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Survey of Newly Entitled Beneficiaries (SNEB), conducted by the Social Security Administration. The universe for the survey, sampled monthly, consists of all persons who were recently awarded their first retired-worker benefits under the old-age, survivors, disability, and health insurance (OASDHI) program. It includes those who file for early retirement benefits at ages 62–64 and picks up nearly all other insured workers at age 65 as they establish entitlement to benefits when they enroll for hospital benefits under Medicare.

Starting in July 1968 a monthly mail questionnaire was sent to individuals in the sample. They were asked about their current and past work experience, health, retirement status, sources of income, and pension coverage other than OASDHI. The survey results reported here for private pensioners are based on the last year of the survey, for benefit awards from July 1969–June 1970.¹

GENERAL VIEW

The benefit levels and wage replacement for individual private pensioners are the product of a wide diversity of benefit formulas found in private plans. Though many variations exist, basically, benefits are computed in one of three ways: (1) Benefits of a uniform nature (\$100 flat monthly pension after a minimum age and number of years of service, for example); (2) benefits related to years of service alone (\$5 a month for each year of service); and (3) benefits related to both earnings and service (1 percent of monthly

¹ Since the estimates are based on a sample, they may differ somewhat from figures that would have been obtained by asking the same questions of all persons in the subject population. Some preliminary estimates of sampling variability of the survey results are given in the Technical Note at the end of this article. Additional details on concepts and methodology appear in the first article in the series. See Patience Lauriat and William Rabin, "Men Who Claim Benefits Before Age 65: Findings from the Survey of New Beneficiaries, 1968," *Social Security Bulletin*, November 1970.

TABLE 1.—Private pension coverage on longest job: Number and percentage distribution of persons initially entitled to OASDHI retired-worker benefits, by class of worker, pension coverage, and sex, July 1969–June 1970 awards

Class of worker and pension coverage on longest job	Total		Men		Women	
	Number (in thousands)	Percentage distribution	Number (in thousands)	Percentage distribution	Number (in thousands)	Percentage distribution
Total reporting ¹	1,173		696		476	
Longest job:						
Not wage and salary.....	171		140		31	
Government wage and salary.....	141		78		63	
Private wage and salary.....	828	100	461	100	365	100
Covered by private pension plan.....	292	35	214	46	78	21
Not covered by private pension plan.....	462	56	209	45	253	69
Did not know or no response.....	72	9	37	8	34	9

¹ Includes 35,000 persons who failed to indicate their longest job.

earnings for each year of service). The service and earnings formulas may vary further depending on the earnings base used (career average or average of recent earnings).

A plan may distinguish between benefits for current service and for service before the effective date or amendment of the plan. Plans also vary with respect to provisions for minimum benefits, maximum benefits, and treatment of social security benefits.

Given these methods of computing benefits, it is not surprising to find that pensions being received by new social security beneficiaries were closely related to both length of employment and earnings. Therefore, a continuum of benefits emerges with highly-paid career workers enjoying the highest pension benefits and lower-paid workers with short periods of service the lowest. For example, men with 40 or more years of service and annual earnings of \$10,000 or more had a median annual pension of \$4,620, compared with a median of \$650 for men with less than 20 years of service who earned less than \$6,000 annually.

The highest benefits were reported, as might be expected, by workers whose jobs were in industries such as transportation, public utilities, and

finance, and occupations such as professional and managerial jobs, where long service, high earnings, and liberal pension plans were common. The lowest benefits were found for unskilled and semi-skilled workers in mining, construction, and service industries. Typically, these workers were relatively low paid and often had pension coverage for shorter periods of service on a particular job. The median annual private pension ranged from \$1,620 for men reporting private pension receipt from jobs in the service industry to \$3,550 for men reporting a pension from jobs in the finance industry. Furthermore, the median annual pension for managers and officials was more than \$4,000, or about double that for craftsmen and operatives.

Among those receiving private pensions from their longest job, there was a sharp distinction in the amount of earnings and length of service between men and women. This factor explains much of the difference in pension levels of men and women with median annual pensions of \$2,080 and \$970, respectively.

The private pension system has matured to a degree that it provides, on the average, substantial replacement of earnings at retirement for

TABLE 2.—Private pension receipt by private wage and salary employees with pension coverage from longest job: Number and percentage distribution of persons initially entitled to OASDHI retired-worker benefits, by pension receipt and sex, July 1969–June 1970 awards

Pension receipt	Total		Men		Women	
	Number (in thousands)	Percentage distribution	Number (in thousands)	Percentage distribution	Number (in thousands)	Percentage distribution
Total reporting.....	292	100	214	100	78	100
Employees with private pension coverage on longest job:						
Receiving benefits ¹	142	49	108	50	34	44
Will receive benefits.....	85	29	63	29	22	28
Will not receive benefits.....	28	10	17	8	11	14
Did not know, or no response.....	37	13	26	12	11	14

¹ The amount of pension received was reported by 102,000 men and 32,000 women.

career workers. This study shows, however, that there is some diversity in the amount of earnings replaced by an individual's private retirement benefits, depending primarily upon length of employment. Half of the men newly entitled to OASDHI benefits in the period July 1969–June 1970 found that their private pensions replaced 25 percent or more of earnings on their longest job. For men with short service the total wage replacement was usually lower—a median of 10 percent for men with 10–14 years of service. It was usually higher for those with long service—a median of 35 percent for men with 40 or more years of service. For women, the median wage replacement was 19 percent, somewhat lower than for men, mainly because women had, on the average, shorter service.

These results show that private pension plans reflect the expectation that their beneficiaries will receive OASDHI benefits. Obviously, the median wage replacement of 25 percent for men (19 percent for women) is insufficient by itself to provide levels of living in retirement comparable to those before retirement. Generally, only for workers who reported long service—where the bulk of the private pension coverage is found—did private pension replacement rates reach or exceed 30 percent of reported earnings.²

Private benefit levels for current retirees are much higher than those being received by the entire aged population—a result of the maturing of the plans, as well as benefit liberalizations. For recent retirees, high earnings levels are also a factor since many private plans base benefits on final earnings formulas.

The survey data also show that a substantial number of individuals were drawing private plan benefits at or before age 62—the eligibility age for reduced social security benefits. They tended to have somewhat higher private retirement benefits

² Persons covered by private pension plans differed significantly in several important respects from those not included in such plans. Workers with long service and high annual earnings whose longest jobs were in manufacturing, transportation, public utilities, and finance industries were most likely to have pension plan coverage. Least likely to be included in such plans were unskilled and semiskilled workers in construction, trade, and service industries, paid at relatively low rates with short service on a particular job. See Walter W. Kolodrubetz, "Characteristics of Workers with Pension Coverage on Longest Job: New Beneficiaries," *Social Security Bulletin*, November 1971.

and wage replacement than those retiring at later ages. These differences reflect the liberalization of early retirement provisions in private plans in recent years, particularly in mass production industries. Expansion of this trend could presage continued pressure toward early retirement.

PRIVATE PENSION LEVELS

Private pension levels reflect the application of a great variety of pension formulas with respect to thousands of individuals having diverse personal characteristics and work experience. A wide range in private pensions was thus reported by men awarded social security benefits in the period July 1969–June 1970 (table 3). There is a concentration of private pension benefits (with more than half the men) in the range of \$500–\$2,499. The median annual private pension payment for men was estimated at \$2,080, equivalent to a \$175 monthly pension. This median does not differ much from the median (\$1,968) reported for all private pensioners responding to the survey income questions since most of the private pensions being paid were earned on the respondents' longest job.³

The distribution pattern differed somewhat according to OASDHI payment status. Men electing to receive reduced OASDHI benefits at age 62 had slightly higher median private pension amounts than those entitled to OASDHI retired-worker benefits at later ages.

Ordinarily, persons retiring before age 65 would be expected, because of actuarial reductions for early retirement, to receive lower private plan benefits than those retiring at age 65 or later. In addition, fewer years of service are available to compute benefits for early retirees. The median pension amount of \$3,240 for men who actually began receiving their private pension at ages 60 and 61 (when they were not eligible to receive social security retirement benefits) was, however, appreciably higher than it was for men who became private pensioners at later ages (table 4). This difference reflects in part the impact of special early retirement features in pension plans, such as those negotiated by the United Auto

³ See the Technical Note, page 33, for definition of longest job.

TABLE 3.—Annual rate of private pension from longest job: Percentage distribution of persons initially entitled to OASDHI retired-worker benefits, by age of entitlement and benefit-payment status at date of award, July 1969–June 1970 awards

Annual rate of private pension	Total	Benefit payment status				Age at entitlement to payable benefits				
		Payable			Post-poned	Reduced			Not reduced	
		Total	Reduced	Not reduced		62	63	64	65	66 and over
Men										
Number reporting amount of private pension from longest job (in thousands).....	102	76	64	11	27	39	12	14	10	1
Total percent.....	100	100	100	100	100	100	100	100	100	(1)
Under \$500.....	6	5	5	7	10	3	6	7	6	(1)
500-999.....	14	13	12	17	17	10	2	18	17	(1)
1,000-1,499.....	14	14	13	14	15	11	19	14	14	(1)
1,500-1,999.....	14	15	16	11	13	14	14	20	11	(1)
2,000-2,499.....	12	12	11	15	11	12	10	11	15	(1)
2,500-2,999.....	8	7	8	6	9	7	8	10	6	(1)
3,000-3,499.....	7	7	7	9	6	8	6	6	9	(1)
3,500-3,999.....	7	8	8	6	4	10	7	6	6	(1)
4,000-4,499.....	3	4	4	3	2	6	2	2	2	(1)
4,500-4,999.....	6	6	7	2	4	10	5	1	2	(1)
5,000-7,999.....	6	6	6	6	5	8	6	3	7	(1)
8,000 or more.....	3	3	2	4	5	2	5	2	4	(1)
Median annual private pension.....	\$2,080	\$2,160	\$2,180	\$2,007	\$1,850	\$2,500	\$1,990	\$1,780	\$2,040	(1)
Women										
Number reporting amount of private pension from longest job (in thousands).....	32	26	21	5	6	13	3	4	4	1
Total percent.....	100	100	100	100	100	100	100	100	100	(1)
Under \$500.....	23	23	24	20	20	24	28	21	21	(1)
500-999.....	29	30	29	37	25	28	31	31	33	(1)
1,000-1,499.....	16	15	16	12	18	14	17	21	14	(1)
1,500-1,999.....	11	11	10	12	14	10	7	13	13	(1)
2,000-2,499.....	10	10	9	12	10	9	11	9	12	(1)
2,500-2,999.....	4	4	4	3	4	5	1	4	4	(1)
3,000-3,499.....	2	2	2	1	5	2	1	1	2	(1)
3,500-3,999.....	2	2	2	1	3	3	1	1	1	(1)
4,000-4,499.....	1	1	1	1	1	1	1	1	1	(1)
4,500-4,999.....	2	2	2	2	1	2	2	1	1	(1)
5,000-7,999.....	1	1	1	1	1	1	1	1	1	(1)
8,000 or more.....	(2)	(2)	(2)	1	1	(2)	1	1	1	(1)
Median annual private pension.....	\$970	\$940	\$950	\$910	\$1,150	\$970	\$860	\$980	\$940	(1)

¹ Not computed because base less than 2,250.

² Less than 0.5 percent.

Workers (UAW). These plans provide high benefits—as much as \$400 per month in 1970 UAW plans—for workers retiring before eligibility for social security benefits.⁴

The median private pension amounts for those who began receiving benefits at ages 62–64 and

⁴ In 1970, UAW plans provided supplementary pension payments under certain conditions. A worker could qualify as early as age 50 with 10 years of service if he retired under mutually satisfactory conditions or at the employer's request. Besides the normal retirement benefit (\$5.50–\$6.00 per year of service depending on the worker's job and earnings), the worker could be paid an amount (equal to \$6 times the years of service up to 25) that stops when the worker becomes eligible for unreduced social security benefits. In addition, a supplemental benefit also was payable until age 65, which together with the previously computed benefit would bring the total to \$400 a month. The \$100 is reduced if years of service are less than 30 or age is less than 60.

for those who began drawing them at age 65 or later also showed some differences. As earlier SNEB findings have indicated,⁵ reasons for retirement vary substantially, but an important incentive for a person's accepting or initiating early retirement is the presence of a private pension. Those who expect a generous pension, especially one that will replace a high proportion of recent earnings, tend to retire at or below the minimum allowable age under social security and to elect a reduced OASDHI benefit at age 62. It is not surprising, therefore, to find higher median pension amounts for early retirees.

⁵ Virginia Reno, *Why Men Stop Working at or Before Age 65, Preliminary Findings from the Survey of New Beneficiaries*, Report No. 3, May 1971 (also printed in the *Social Security Bulletin*, June 1971).

TABLE 4.—Age when first received private pension and annual rate of private pension from longest job: Percentage distribution of persons initially entitled to OASDHI retired-worker benefits, by annual pension rate and sex, July 1969–June 1970 awards

Age when first received private pension	Number of persons (in thousands)	Median annual private pension	Percentage distribution by annual rate of private pension							
			Total	Under \$500	\$500–999	\$1,000–1,999	\$2,000–2,999	\$3,000–3,999	\$4,000–4,999	\$5,000 or more
Men										
Number reporting amount of private pension from longest job.....	102	\$2,080	100	6	14	28	20	14	9	9
Under 55.....	1	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
55–59.....	6	1,850	100	9	15	33	14	15	8	8
60–61.....	12	3,240	100	2	7	23	14	15	25	13
62.....	21	2,250	100	4	12	28	21	14	10	11
63–64.....	19	2,140	100	4	10	32	22	17	6	8
65 and over.....	36	1,840	100	9	17	29	21	12	5	8
No response.....	7	1,910	100	10	21	21	17	12	9	10
Women										
Number reporting amount of private pension from longest job.....	32	970	100	23	29	27	14	4	2	1
Under 55.....	1	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
55–59.....	3	1,440	100	21	15	37	22	5	7	1
60–61.....	3	1,090	100	23	24	21	14	8	2	1
62.....	7	850	100	26	34	24	7	4	2	3
63–64.....	5	860	100	28	31	24	13	2	2	2
65 and over.....	11	1,040	100	18	30	30	14	5	1	(²)
No response.....	3	950	100	20	33	18	23	-----	2	2

¹ Not computed because base less than 2,250.

² Less than 0.5 percent.

Private pensions for women, on the average, were about half those for men (table 3). Furthermore, although the range in pension amounts for men was fairly wide, more than half the women received less than \$1,000. The main reasons for the women's lower pension levels are their shorter service periods and lower earnings—key factors in pension calculations and, hence, benefit levels.

Private pension amounts reported in this survey confirm that the most recently retired workers on the OASDHI rolls have considerably higher private pensions than persons aged 65 and over already receiving benefits, many of whom have been retired for some time. According to the 1968 Social Security Survey of the Aged, the median private pension benefit in 1967 was \$900 for all aged units (with one person aged 65 or older) who were receiving such benefits.⁶ For married couples it was \$972 and for nonmarried persons it was \$779. Although the two surveys are not comparable, it seems clear that persons now reaching age 65 enjoy appreciably higher private pensions than those who retired some time ago. This growth in private pension levels is the result of a number of factors, including liberalization of pension plan

benefit formulas⁷ and higher wage levels on which benefits are based.

PENSION-EARNINGS REPLACEMENT RATIO

An important factor in assessing the role and adequacy of private pension plans is the proportion of preretirement earnings they replace. To obtain this information, respondents were asked to report earnings on their longest job (by the hour, week, month, or year), assumed to be their last or usual earnings. Where necessary, an annual earnings rate was obtained by applying an appropriate multiplier.

The respondents were also asked to report the monthly pension amount related to the job for which earnings were reported, and this amount was converted to an annual rate. The results were used to compute a wage-replacement or pension-earnings (P/E) replacement ratio for the respondent's pension job—that is, the annual pension amount from his longest job, divided by the annual earnings in that job. About 90 percent of the respondents who reported receiving private pensions provided information on both the pen-

⁶ Walter W. Kolodrubetz, "Private and Public Retirement Pensions: Findings From 1968 Survey of the Aged," *Social Security Bulletin*, September 1970.

⁷ See Bankers Trust Company, *1970 Study of Industrial Retirement Plans*, 1970, and Henry E. Davis and Arnold Strasser, "Private Pension Plans, 1960–1969: An Overview," *Monthly Labor Review*, July 1970.

sion amount and earnings on their longest job. An opportunity was thus provided to analyze wage replacement rates for new retirees with varying personal characteristics.

The P/E ratio is a powerful tool for analyzing the role of private pension plans in income maintenance after retirement. It also provides a simple method for comparing the relative value of benefit levels by reducing the dollar benefits to an index. These computed ratios, like benefit levels, do not, however, provide a complete picture. Other factors could not be taken into account—answers, for example, to these questions: Did the plan provide other benefits such as vesting and survivors' benefits that would compensate for lower pensions and P/E ratios? Was a joint-and-survivor benefit elected? Are benefits adjusted after retirement to keep pace with the cost of living? Did the employee contribute to the plan?

Furthermore, since these data are restricted to persons reporting pension benefits from their longest job—where they are most likely to have built up substantial service—the wage-replacement ratios obviously are somewhat higher than if the findings related to all those receiving private pensions. They tend to produce a favorable measure of private pension plan performance in terms of wage replacement.

Earnings and other income reported in surveys tend to be understated. To that extent, then, the computed pension wage-replacement ratio for an individual would be inflated. If pension benefits were understated, the computed ratio would, of course, be deflated.

The private pension system is characterized by a fairly concentrated band or set of wage-replacement rates in 1970. As table 5 shows, two-thirds of the men had private pensions that

TABLE 5.—Private pension-earnings replacement ratio from longest job: Percentage distribution of persons initially entitled to OASDHI retired-worker benefits, by age at entitlement and benefit-payment status at date of award, and by sex, July 1969–June 1970 awards

Private pension-earnings replacement ratio	Total	Benefit payment status			Age at entitlement to payable benefits					
		Total	Payable		Post-poned	Reduced			Not reduced	
			Reduced	Not reduced		62	63	64	65	66 and over
Men										
Number reporting amount of private pension and earnings from longest job (in thousands).....	97	71	60	11	26	37	11	13	9	1
Total percent.....	100	100	100	100	100	100	100	100	100	(¹)
Earnings replacement (percent):										
Under 10.....	12	10	9	13	17	8	13	10	13	(¹)
10-19.....	25	24	23	26	30	20	26	28	26	(¹)
20-29.....	24	24	24	24	24	21	24	31	24	(¹)
30-39.....	19	20	20	17	17	22	20	17	17	(¹)
40-49.....	12	13	13	13	7	15	10	10	14	(¹)
50-59.....	4	5	5	5	1	6	4	3	4	(¹)
60-69.....	2	2	3	2	1	4	1	1	(¹)	(¹)
70 or more.....	3	3	3	2	2	4	3	(²) 1	(¹) 2	(¹)
Median pension-earnings ratio (percent).....	25	27	28	24	21	30	25	24	25	(¹)
Women										
Number reporting amount of private pension and earnings from longest job (in thousands).....	29	23	19	4	5	12	3	4	4	1
Total percent.....	100	100	100	100	100	100	100	100	100	(¹)
Earnings replacement (percent):										
Under 10.....	20	20	21	15	19	21	24	18	15	(¹)
10-19.....	32	32	31	35	32	29	25	43	32	(¹)
20-29.....	22	20	19	25	28	18	22	20	27	(¹)
30-39.....	14	16	16	16	10	17	14	13	17	(¹)
40-49.....	7	7	8	6	7	8	9	5	6	(¹)
50-59.....	2	2	2	1	1	3	1	1	1	(¹)
60-69.....	1	1	1	2	3	1	2	2	2	(¹)
70 or more.....	2	2	3	1	1	3	4	1	1	(¹)
Median pension-earnings ratio (percent).....	19	19	19	20	20	20	21	17	21	(¹)

¹ Not computed because base less than 2,250.

² Less than 0.5 percent.

replaced 10-39 percent of earnings. Few had private pensions that replaced more than 50 percent of earnings on the longest job. The median P/E ratio was 25 percent for men who reported both private pension amounts and earnings on their longest job.

The private P/E ratio for men electing reduced OASDHI benefits was higher than the median for those receiving unreduced OASDHI benefits. For those who chose to receive reduced benefits age 62, the median private P/E ratio was about 30 percent; for ages 63 and 64 combined, it was about 25 percent, as it was for men receiving full benefits at age 65 or later.

Table 6 shows that the median P/E ratio varied according to actual age on receipt of private pension benefit. Men who began receiving such benefits at ages 60 or 61 had a high median P/E ratio, amounting to about 36 percent of reported earnings; 41 percent had a ratio of 40 percent or more. These high ratios reflect the influence of special early-retirement features in many pension plans, such as those of the United Auto Workers previously described. Median P/E ratios for men who began receiving private pensions at older ages ranged from 23 to 27 percent.

For women the median pension-wage replacement was 19 percent—somewhat lower than that

for men, mainly because the average duration of employment was lower for women. The disparity in median P/E ratios for men and women (about 25 percent) was not nearly as large as the difference (more than 100 percent) in actual benefit amounts received. Almost three-fourths of the women received pensions replacing less than 30 percent of their earnings.

The median P/E ratios for women electing reduced OASDHI benefits were similar to those of women who waited for full OASDHI benefits. When the data on the age when private pensions were first received are examined, a higher P/E ratio, 28 percent, is found for those who began receiving a pension at ages 55-59 than at older ages.

INFLUENCING FACTORS

Most pension plans reward longer service with a larger pension; many recognize, in addition, that higher pay also merits a higher pension. The great variation in applying the factors of length of service and earnings among plans and the wide range of earnings levels and length of employment, as well as other personal characteristics reported by the workers, tend to obscure these

TABLE 6.—Age when first received private pension and private pension-earnings replacement ratio from longest job: Percentage distribution of persons initially entitled to OASDHI retired-worker benefits, by pension-earnings ratio and sex, July 1969-June 1970 awards

Age when first received pension	Number of persons (in thousands)	Median pension-earnings ratio (percent)	Percentage distribution by pension-earnings ratio (percent)					
			Total	Under 10	10-19	20-29	30-39	40 or more
Men								
Number reporting amount of private pension and earnings from longest job.....	97	25	100	12	25	24	19	20
Under 55.....	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)
55-59.....	6	24	100	17	23	23	18	19
60-61.....	12	36	100	4	16	19	21	41
62.....	19	27	100	10	25	23	19	25
63-64.....	17	25	100	10	28	27	21	16
65 and over.....	35	23	100	14	29	26	17	13
No response.....	6	26	100	15	27	14	21	23
Women								
Number reporting amount of private pension and earnings from longest job.....	29	19	100	20	32	22	14	12
Under 55.....	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)
55-59.....	3	28	100	14	21	19	37	9
60-61.....	3	24	100	23	19	20	15	23
62.....	7	18	100	24	35	18	11	13
63-64.....	4	18	100	18	42	18	11	11
65 and over.....	10	20	100	17	34	28	12	8
No response.....	2	(1)	(1)	(1)	(1)	(1)	(1)	(1)

¹ Not computed because base less than 2,250.

basic relationships. To isolate the influence of some of these factors, private pension benefits and P/E ratios were examined in relation to a number of selected characteristics on the longest pension job, including length of employment, earnings, industry, occupation, and race.

Length of Employment

A striking feature of private pension benefits is the close relationship of benefit levels to years of employment on the pension job. This is illustrated in table 7, which shows a median annual private pension of \$3,100 for men reporting 40 or more years of service—double the amount for men with 20–24 years of service. As the table shows, wide variation in benefits occurs as the result of differences in pension benefit formulas (including those taking earnings into account) and differences in earnings for workers with similar service periods. The distribution pattern for women was similar to that for men, but median dollar amounts for equivalent intervals were roughly two-thirds below the men's benefits.

The median monthly pension for men was \$5.90 for each year of employment (the monthly pension on the longest job divided by length of employment on longest job) as the tabulation that follows indicates. Men with 40 or more years of

Length of employment	Median monthly pension for each year of employment for—	
	Men	Women
Total.....	\$5.90	\$3.60
Less than 10 years.....	(1)	(1)
10-14 years.....	5.30	3.50
15-19 years.....	4.95	3.40
20-24 years.....	5.55	3.45
25-29 years.....	5.60	3.75
30-34 years.....	6.75	3.75
35-39 years.....	6.60	3.70
40 years or more.....	6.10	3.70

¹ Not computed because base less than 2,250.

service received a \$6.10 median monthly benefit for each year of employment—a rate not much greater than that for length-of-service groupings of less than 30 years.

The P/E ratio based on earnings reported on a job with a pension was also directly correlated to years of service. The median ratios ranged from 10 percent for men reporting 10–14 years of serv-

TABLE 7.—Length of employment on longest job and annual rate of private pension from longest job: Percentage distribution of persons initially entitled to OASDI retired-worker benefits, by annual pension rate and sex, July 1969–June 1970 awards

Length of employment	Number of persons (in thousands)	Median annual private pension	Percentage distribution by annual rate of private pension							
			Total	Under \$500	\$500–999	\$1,000–1,999	\$2,000–2,999	\$3,000–3,999	\$4,000–4,999	\$5,000 or more
			Men							
Number reporting amount of private pension from longest job.....	102	\$2,080	100	6	14	28	20	14	9	9
Less than 10 years.....	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
10-14 years.....	4	800	100	29	35	19	5	8	1	2
15-19 years.....	11	1,030	100	17	31	36	9	4	(2)	2
20-24 years.....	14	1,470	100	6	22	44	9	13	5	1
25-29 years.....	18	1,840	100	5	13	38	24	10	5	4
30-34 years.....	14	2,490	100	4	8	23	24	17	14	10
35-39 years.....	14	2,870	100	2	7	19	25	18	14	16
40 years or more.....	25	3,100	100	2	4	17	25	19	14	19
No response.....	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
			Women							
Number reporting amount of private pension from longest job.....	32	970	100	23	29	27	14	4	2	1
Less than 10 years.....	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
10-14 years.....	4	500	100	50	29	16	2	3	1	1
15-19 years.....	6	720	100	30	44	17	8	1	1	1
20-24 years.....	6	900	100	28	30	31	8	4	3	1
25-29 years.....	5	1,170	100	13	30	38	10	4	3	1
30-34 years.....	6	1,630	100	9	23	33	25	3	6	1
35-39 years.....	5	2,010	100	8	12	29	33	13	3	1
40 years or more.....	(2)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No response.....	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)

¹ Not computed because base less than 2,250.

² Less than 0.5 percent.

³ Less than 500.

TABLE 8.—Length of employment on longest job and private pension-earnings replacement ratio from longest job: Percentage distribution of persons initially entitled to OASDHI retired-worker benefits, by pension-earnings ratio and sex, July 1969–June 1970 awards

Length of employment	Number of persons (in thousands)	Median pension-earnings ratio (percent)	Percentage distribution by pension-earnings ratio (percent)					
			Total	Under 10	10-19	20-29	30-39	40 or more
Men								
Number reporting amount of private pension and earnings from longest job.....	97	25	100	12	25	24	19	20
Less than 10 years.....	1	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
10-14 years.....	4	10	100	49	28	5	5	13
15-19 years.....	10	15	100	22	54	13	8	3
20-24 years.....	14	19	100	16	40	25	9	11
25-29 years.....	17	23	100	11	31	31	15	13
30-34 years.....	13	28	100	7	16	35	19	23
35-39 years.....	13	31	100	4	18	25	28	25
40 years or more.....	24	35	100	5	10	19	30	38
No response.....	(²)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
Women								
Number reporting amount of private pension and earnings from longest job.....	29	19	100	20	32	22	14	12
Less than 10 years.....	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
10-14 years.....	3	11	100	48	33	9	3	7
15-19 years.....	6	14	100	30	52	11	4	3
20-24 years.....	6	21	100	20	29	31	11	10
25-29 years.....	4	21	100	11	38	29	13	10
30-34 years.....	5	29	100	6	24	22	26	22
35-39 years.....								
40 years or more.....	4	31	100	6	13	27	33	21
No response.....	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)

¹ Not computed because base less than 2,250.

² Less than 500.

ice to 35 percent for those reporting 40 or more years of service (table 8).

As might be expected, the distribution of P/E ratios by length of service indicates that short-service workers do not fare as well on the whole under pension plans as do workers with longer service. About three-fourths of the men with less than 20 years of employment had P/E ratios of less than 20 percent. At the other extreme, two-thirds of the men with 40 or more years of employment had ratios of 30 percent or more. For some short-service workers, however, coverage under minimum benefit formulas or in liberal plans provided wage replacement of 30 percent or more.

For women, the P/E ratios were about the same as for men with comparable service periods. This similarity contrasts with the sharp difference in pension levels for equivalent lengths of employment.

The tabulation to the right shows the median wage replacement by years of service (P/E ratio divided by length of employment) distributed by length of employment. Private pension plans, on the average, replaced less than 1 percent of earnings for each year of employment. The median

wage replacement for each year of employment was in the narrow range of 0.8–0.9 percent for men, indicating similar treatment with regard to wage replacement for all periods of service. Workers with 20 years of service would have about twice the P/E ratio of workers with 10 years of service. There is little difference between men and women in wage replacement per year of service.

Length of employment	Median pension-earnings ratio (percent) for each year of employment for—	
	Men	Women
Total.....	0.8	0.8
Less than 10 years.....	(¹)	(¹)
10-14 years.....	.8	.8
15-19 years.....	.8	.7
20-24 years.....	.8	.9
25-29 years.....	.8	.7
30-34 years.....	.9	.9
35-39 years.....	.8	
40 years or more.....	.8	.7

¹ Not computed because base less than 2,250.

Earnings

On the average, pension amounts varied directly with reported earnings from the longest private pension job. The median benefit of men reporting

TABLE 9.—Annual earnings rate on longest job and annual rate of private pension from longest job: Percentage distribution of persons initially entitled to OASDHI retired-worker benefits, by annual pension rate and sex, July 1969–June 1970 awards

Annual earnings rate	Number of persons (in thousands)	Median annual private pension	Percentage distribution by annual rate of private pension							
			Total	Under \$500	\$500-999	\$1,000-1,999	\$2,000-2,999	\$3,000-3,999	\$4,000-4,999	\$5,000 or more
Men										
Number reporting amount of private pension from longest job.....	102	\$2,080	100	6	14	28	20	14	9	9
Under \$4,000.....	7	940	100	21	33	26	8	3	5	4
4,000-4,999.....	8	1,330	100	15	26	31	15	9	3	2
5,000-5,999.....	13	1,390	100	9	25	36	17	10	4	1
6,000-6,999.....	16	1,760	100	6	15	40	22	9	8	1
7,000-7,999.....	12	2,020	100	3	11	35	28	16	6	1
8,000-8,999.....	10	2,180	100	2	12	32	25	20	9	2
9,000-9,999.....	21	3,110	100	3	5	19	21	23	17	12
10,000-14,999.....	11	5,020	100	1	3	6	14	12	12	82
15,000 or more.....	6	1,870	100	10	11	34	18	13	8	4
No response.....										
Women										
Number reporting amount of private pension from longest job.....	32	\$970	100	23	29	27	14	4	2	1
Under \$4,000.....	6	490	100	51	32	15	1			1
4,000-4,999.....	6	810	100	26	40	28	4	2	(¹)	
5,000-5,999.....	6	870	100	24	36	29	8	1	1	1
6,000-6,999.....	7	1,490	100	5	28	33	26	4	3	1
7,000-7,999.....	3	2,060	100	3	7	37	32	16	5	
8,000-8,999.....	2	(²)	(²)	(²)	(²)	(²)	(²)	(²)	(²)	(²)
9,000-9,999.....	(²)	(²)	(²)	(²)	(²)	(²)	(²)	(²)	(²)	(²)
10,000-14,999.....	3	990	100	23	28	29	17	2	1	
15,000 or more.....										
No response.....										

¹ Less than 0.5 percent.
² Not computed because base less than 2,250.

³ Less than 500.

annual earnings of \$15,000 or more was \$5,020, five times that for men with earnings less than \$5,000 (table 9). Women with lower earnings had somewhat lower median benefits than men in similar earnings ranges. Differences were not as great in the higher earnings intervals, however.

When annual pension amounts are converted to monthly medians per year of employment, much of the disparity between men and women disappears—that is, where earnings were similar, women and men earned about the same amount of percent across length-of-service levels. As the figures below show, the equality (with some excep-

pension levels for men and women was women's lower-than-average service.

The distribution of P/E ratios by earnings intervals in table 10 reveals that private plans tended to provide about the same wage replacement regardless of earnings, except at lower earnings levels. This finding is in contrast with the previously observed differences related to length of employment. The median P/E ratio for men, for example, ranged from 20 to 28 percent across earnings levels, compared with a range of 10-35 percent across length-of-service levels. As the figures below show, the equality (with some excep-

Annual earnings rate	Median monthly pension for each year of employment for—	
	Men	Women
Total.....	\$5.90	\$3.60
Less than \$5,000.....	3.20	2.70
5,000-5,999.....	4.35	3.25
6,000-6,999.....	4.40	4.50
7,000-7,999.....	5.25	
8,000-8,999.....	5.65	5.85
9,000-9,999.....	5.90	
10,000-14,999.....	7.50	(¹)
15,000 or more.....	10.05	(¹)

¹ Not computed because base less than 2,250.

Annual earnings rate	Median pension-earnings ratio (percent) for each year of employment for—	
	Men	Women
Total.....	0.8	0.8
Less than \$5,000.....	1.0	.6
5,000-5,999.....	.9	.7
6,000-6,999.....	.8	.8
7,000-7,999.....	.8	
8,000-8,999.....	.8	.8
9,000-9,999.....	.8	
10,000-14,999.....	.8	(¹)
15,000 or more.....	.8	(¹)

¹ Not computed because base less than 2,250.

TABLE 10.—Annual earnings rate on longest job and private pension-earnings replacement ratio from longest job: Percentage distribution of persons initially entitled to OASDHI retired-worker benefits, by pension-earnings ratio and sex, July 1969–June 1970 awards

Annual earnings rate	Number of persons (in thousands)	Median pension-earnings ratio (percent)	Percentage distribution by pension-earnings ratio (percent)					
			Total	Under 10	10-19	20-29	30-39	40 or more
Men								
Number reporting amount of private pension and earnings from longest job.....	97	25	100	12	25	24	19	20
Under \$4,000.....	7	30	100	12	23	15	14	36
4,000-4,999.....	8	23	100	18	29	17	16	23
5,000-5,999.....	13	22	100	13	33	19	16	18
6,000-6,999.....	16	24	100	11	28	29	15	19
7,000-7,999.....	12	25	100	10	27	27	20	16
8,000-8,999.....	10	25	100	10	27	26	18	19
9,000-9,999.....	21	27	100	10	21	26	25	18
10,000-14,999.....	11	28	100	15	17	23	24	22
15,000 or more.....								
Women								
Number reporting amount of private pension and earnings from longest job.....	29	19	100	20	32	22	14	12
Under \$4,000.....	6	19	100	25	26	19	14	16
4,000-4,999.....	6	18	100	22	37	19	12	10
5,000-5,999.....	6	17	100	26	35	17	13	9
6,000-6,999.....	7	23	100	13	30	27	17	13
7,000-7,999.....								
8,000-8,999.....	3	23	100	6	36	29	12	17
9,000-9,999.....								
10,000-14,999.....	2	(1)	(1)	(1)	(1)	(1)	(1)	(1)
15,000 or more.....	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)

¹ Not computed because base less than 2,250.

² Less than 500.

tions) is more evident when the conversion to wage replacement per year of service is made.

Earnings and Service

The interaction of earnings and service on benefit levels for men is demonstrated in table 11. At any given length of service, benefit levels were higher as earnings increased and, for any given earnings level, benefits were higher as service increased. The median annual benefit of \$4,620 for men with 40 or more years of service and earnings of \$10,000 or more contrasts with the median of \$650 for men with less than 20 years of service and earnings below \$6,000.

The tabulation below indicates the same close

Length of employment	Median monthly pension for each year of employment for men with annual earnings of—		
	\$6,000-7,999	\$8,000-9,999	\$10,000 or more
Less than 20 years.....	\$4 60	\$6 15	\$9 20
20-24 years.....	4 80	5 95	8 85
25-29 years.....	4 95	5 40	7 95
30-34 years.....	5 65	5 95	9 85
35-39 years.....	4 95	5 75	9 55
40 years or more.....	4 65	5 45	9 05

correlation between service and earnings and benefit levels. A decline in the monthly benefit per year of service is noted at the service levels after 35 years. This decrease reflects the influence of formulas providing flat monthly benefits for specified service and plans with maximum limits on service credits used to compute benefits. Men with less than 20 years of service received somewhat higher benefits for each year of service than those with 20–29 years, probably as the result of minimum benefit formulas.

On the average, the proportion of earnings replaced by the private pension plans varies directly with service, not with earnings, as table 12 shows. The median P/E ratio for men with less than 20 years of employment at various earnings levels ranged from 13 percent to 15 percent. For those with 40 or more years of employment the ratio was in the narrow range of 33–36 percent, except for a small group of men earning less than \$6,000 (where it was 42 percent). The same general picture emerges for other service and earnings categories.

The results suggest that low-wage earners had somewhat greater wage replacement than high-wage earners, especially those with long service.

TABLE 11.—Length of employment and annual earnings rate on longest job and annual rate of private pension from longest job: Percentage distribution of men initially entitled to OASDHI retired-worker benefits, by annual pension rate, July 1969–June 1970 awards

Length of employment and annual earnings rate	Number of men (in thousands)	Median annual private pension	Percentage distribution by annual rate of private pension							
			Total	Under \$500	\$500–999	\$1,000–1,999	\$2,000–2,999	\$3,000–3,999	\$4,000–4,999	\$5,000 or more
Number reporting amount of private pension from longest job ¹	102	\$2,080	100	6	14	28	20	14	9	9
Less than 20 years.....	16	960	100	21	32	32	8	5	1	2
Under \$6,000.....	4	650	100	37	42	19	1	1	1	1
6,000–7,999.....	5	860	100	20	42	30	2	5	1	1
8,000–9,999.....	3	1,220	100	8	26	46	14	5	1	1
10,000 or more.....	3	1,650	100	10	14	38	18	8	2	10
20–24 years.....	14	1,470	100	6	22	44	9	13	5	1
Under \$6,000.....	2	(?)	(?)	(?)	(?)	(?)	(?)	(?)	(?)	(?)
6,000–7,999.....	5	1,260	100	7	30	50	5	7	1	1
8,000–9,999.....	4	1,610	100	2	15	49	11	15	8	1
10,000 or more.....	3	2,280	100	1	10	34	16	25	12	2
25–29 years.....	18	1,840	100	5	13	38	24	10	5	4
Under \$6,000.....	3	1,490	100	10	19	46	9	6	9	1
6,000–7,999.....	6	1,590	100	5	15	52	18	5	4	1
8,000–9,999.....	4	1,750	100	3	17	41	27	9	3	1
10,000 or more.....	5	2,480	100	3	5	19	38	16	7	12
30–34 years.....	14	2,490	100	4	8	23	24	17	14	10
Under \$6,000.....	2	(?)	(?)	(?)	(?)	(?)	(?)	(?)	(?)	(?)
6,000–7,999.....	4	2,120	100	4	9	34	27	13	12	1
8,000–9,999.....	3	2,270	100	1	6	24	45	8	16	1
10,000 or more.....	5	3,850	100	1	2	10	16	27	18	27
35–39 years.....	14	2,870	100	2	7	19	25	18	14	16
Under \$6,000.....	1	(?)	(?)	(?)	(?)	(?)	(?)	(?)	(?)	(?)
6,000–7,999.....	3	2,180	100	4	11	25	33	10	16	4
8,000–9,999.....	3	2,550	100	5	30	31	24	7	7	36
10,000 or more.....	6	4,250	100	1	6	19	22	16	10	19
40 years or more.....	25	3,100	100	2	4	17	25	19	14	13
Under \$6,000.....	3	2,000	100	5	15	28	33	5	3	1
6,000–7,999.....	6	2,370	100	1	5	29	38	17	10	1
8,000–9,999.....	5	2,790	100	2	3	21	31	32	8	3
10,000 or more.....	11	4,620	100	1	1	5	12	17	23	40

¹ Includes about 6,000 persons not reporting on earnings and/or length of employment.

² Not computed because base less than 2,250.

TABLE 12.—Length of employment and annual earnings rate on longest job and pension-earnings replacement ratio from longest job: Percentage distribution of men initially entitled to OASDHI retired-worker benefits, by pension-earnings ratio, July 1969–June 1970 awards

Length of employment and annual earnings rate	Number of men (in thousands)	Median pension-earnings ratio (percent)	Percentage distribution by pension-earnings ratio (percent)					
			Total	Under 10	10–19	20–29	30–39	40 or more
Number reporting amount of private pension and earnings from longest job ¹	97	25	100	12	25	24	19	20
Less than 20 years.....	15	14	100	31	46	10	7	6
Under \$6,000.....	4	15	100	32	36	9	15	8
6,000–7,999.....	5	14	100	30	52	9	3	5
8,000–9,999.....	3	15	100	22	54	13	7	5
10,000 or more.....	3	13	100	37	42	13	6	3
20–24 years.....	14	19	100	16	40	25	9	11
Under \$6,000.....	2	(?)	(?)	(?)	(?)	(?)	(?)	(?)
6,000–7,999.....	5	18	100	17	41	30	5	7
8,000–9,999.....	4	19	100	14	41	20	10	16
10,000 or more.....	3	18	100	19	41	28	10	3
25–29 years.....	17	23	100	11	31	31	15	13
Under \$6,000.....	3	28	100	4	30	19	16	30
6,000–7,999.....	6	24	100	10	27	37	16	10
8,000–9,999.....	4	20	100	12	37	28	15	8
10,000 or more.....	5	21	100	15	31	34	12	8
30–34 years.....	13	28	100	7	16	35	19	23
Under \$6,000.....	2	(?)	(?)	(?)	(?)	(?)	(?)	(?)
6,000–7,999.....	4	31	100	5	14	29	25	27
8,000–9,999.....	3	27	100	7	15	43	14	21
10,000 or more.....	5	28	100	7	13	39	22	19
35–39 years.....	13	31	100	4	18	25	28	25
Under \$6,000.....	1	(?)	(?)	(?)	(?)	(?)	(?)	(?)
6,000–7,999.....	3	32	100	5	23	19	25	28
8,000–9,999.....	3	30	100	3	19	29	28	21
10,000 or more.....	6	32	100	3	13	23	34	21
40 years or more.....	24	35	100	5	10	19	30	36
Under \$6,000.....	3	42	100	6	2	17	22	53
6,000–7,999.....	6	35	100	2	15	23	21	39
8,000–9,999.....	5	33	100	4	11	27	31	27
10,000 or more.....	11	36	100	6	9	14	37	34

¹ Includes about 1,000 persons not reporting on length of employment.

² Not computed because base less than 2,250.

TABLE 13.—Industry of longest job and annual rate of private pension from longest job: Percentage distribution of persons initially entitled to OASDHI retired-worker benefits, by annual pension rate and sex, July 1969–June 1970 awards

Industry of longest job	Number of persons (in thousands)	Median annual private pension	Percentage distribution by annual rate of private pension							
			Total	Under 500	\$500-900	\$1,000-1,999	\$2,000-2,999	\$3,000-3,999	\$4,000-4,999	\$5,000 or more
Men										
Number reporting amount of private pension from longest job.....	102	\$2,080	100	6	14	28	20	14	9	9
Forestry, fisheries, and agriculture.....	(1)	(1)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
Mining and construction.....	8	1,710	100	8	12	49	14	10	4	3
Manufacturing:										
Durable goods.....	37	2,120	100	6	14	27	20	12	14	7
Nondurable goods.....	24	1,760	100	8	15	35	19	10	4	8
Food, tobacco, textiles, apparel, paper, and printing.....	14	1,570	100	11	16	39	20	8	2	3
Chemicals, petroleum, rubber, plastics, and leather.....	10	2,110	100	4	15	29	18	12	6	16
Transportation and public utilities.....	15	3,030	100	2	8	20	19	27	12	12
Wholesale and retail trade.....	7	2,100	100	7	18	22	25	17	4	7
Finance, insurance, and real estate.....	6	3,550	100	3	9	13	20	13	14	28
Business and repair services.....	3	1,620	100	9	22	26	15	12	1	15
Other.....	1	(2)	(1)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
No response.....	1	(2)	(1)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
Women										
Number reporting amount of private pension from longest job.....	32	\$970	100	23	29	27	14	4	2	1
Forestry, fisheries, and agriculture.....	(1)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
Mining and construction.....	(1)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
Manufacturing:										
Durable goods.....	6	1,080	100	15	31	33	8	6	6	1
Nondurable goods.....	8	800	100	29	35	25	8	1	1	-----
Food, tobacco, textiles, apparel, paper, and printing.....	6	750	100	29	43	24	5	-----	-----	-----
Chemicals, petroleum, rubber, plastics, and leather.....	2	1,030	100	28	21	28	15	5	4	-----
Transportation and public utilities.....	4	1,870	100	1	12	44	35	6	-----	2
Wholesale and retail trade.....	4	630	100	41	35	12	9	3	-----	1
Finance, insurance, and real estate.....	3	1,260	100	10	26	40	13	9	2	1
Business and repair services.....	5	790	100	34	28	12	18	5	2	2
Other.....	(1)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
No response.....	(1)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)

¹ Less than 500.

² Not computed because base less than 2,250.

Fifty-three percent of the men earning less than \$6,000, with 40 or more years of employment, had P/E ratios of 40 percent or more, a much higher proportion than any other earnings category. These low-wage earners, however, constitute a very small fraction of those who reported receiving pension benefits. When conversion is made to wage replacement per year of service, higher P/E ratios are not as evident for lower earners, as the figures shown in the following tabulation indicate.

Length of employment	Median pension-earnings ratio (percent) for each year of employment for men with annual earnings of--		
	\$6,000-7,999	\$8,000-9,999	\$10,000 or more
Less than 20 years.....	0.8	0.9	0.8
20-24 years.....	.8	.8	.8
25-29 years.....	.8	.7	.8
30-34 years.....	1.1	.8	.9
35-39 years.....	.9	.8	.9
40 years or more.....	.8	.7	.8

Direct comparisons of benefit levels and P/E ratios of men and women with similar service and earnings could not be made because too few women had comparable earnings and service to provide reliable estimates. The data previously presented, however, suggest that women, on the average, received lower benefits than men, chiefly because of their shorter service and because of their lower earnings.

Benefit formulas used by private plans obviously affect benefits and wage-replacement ratios. Formulas based on both earnings and service tend to push benefits upward as earnings and service increase, as the group of tables just discussed clearly demonstrates. On the other hand, benefit formulas based upon service alone cause benefits to rise as service increases but are not affected by earnings. Such formulas may explain some of the concentration in benefits of \$1,000-\$2,500 for earnings levels between \$5,000 and \$10,000.

The different pension formulas used in comput-

TABLE 14.—Industry of longest job and private pension-earnings replacement ratio from longest job: Percentage distribution of persons initially entitled to OASDHI retired-worker benefits, by pension-earnings ratio and sex, July 1969–June 1970 awards

Industry of longest job	Number of persons (in thousands)	Median pension-earnings ratio (percent)	Percentage distribution by pension-earnings ratio (percent)					
			Total	Under 10	10-19	20-29	30-39	40 or more
Men								
Number reporting amount of private pension and earnings from longest job.....	97	25	100	12	25	24	19	20
Forestry, fisheries, and agriculture.....	(¹) 7	(²) 24	(³) 100	(⁴) 17	(⁵) 23	(⁶) 26	(⁷) 24	(⁸) 11
Mining and construction.....								
Manufacturing:								
Durable goods.....	36	25	100	12	26	22	17	23
Nondurable goods.....	22	22	100	13	33	29	14	11
Food, tobacco, textiles, apparel, paper, and printing.....	13	20	100	16	35	32	11	6
Chemicals, petroleum, rubber, plastics, and leather.....	10	25	100	8	30	26	18	18
Transportation and public utilities.....	14	33	100	5	13	24	26	32
Wholesale and retail trade.....	7	23	100	14	29	23	20	14
Finance, insurance, and real estate.....	6	34	100	6	14	18	33	29
Business and repair services.....	3	18	100	16	43	15	9	17
Other.....	1	(²)	(³)	(⁴)	(⁵)	(⁶)	(⁷)	(⁸)
No response.....	1	(²)	(³)	(⁴)	(⁵)	(⁶)	(⁷)	(⁸)
Women								
Number reporting amount of private pension and earnings from longest job.....	29	19	100	20	32	22	14	12
Forestry, fisheries, and agriculture.....	(¹)	(²)	(³)	(⁴)	(⁵)	(⁶)	(⁷)	(⁸)
Mining and construction.....	(¹)	(²)	(³)	(⁴)	(⁵)	(⁶)	(⁷)	(⁸)
Manufacturing:								
Durable goods.....	7	18	100	17	40	17	9	17
Nondurable goods.....	7	19	100	24	30	28	12	6
Food, tobacco, textiles, apparel, and printing.....	5	17	100	26	33	27	9	5
Chemicals, petroleum, rubber, plastics, and leather.....	2	(²)	(³)	(⁴)	(⁵)	(⁶)	(⁷)	(⁸)
Transportation and public utilities.....	4	32	100	4	7	30	38	21
Wholesale and retail trade.....	4	16	100	25	40	17	8	11
Finance, insurance, and real estate.....	3	22	100	12	32	25	22	8
Business and repair services.....	4	15	100	31	39	10	7	13
Other.....	(¹)	(²)	(³)	(⁴)	(⁵)	(⁶)	(⁷)	(⁸)
No response.....	(¹)	(²)	(³)	(⁴)	(⁵)	(⁶)	(⁷)	(⁸)

¹ Less than 500.

² Not computed because base less than 2,250.

ing benefits also had different effects both on the P/E ratio distributions and the computed medians. Where earnings and length of service are both considered, the P/E ratio would be the same regardless of earnings but would provide higher replacement as service increased. Under formulas based on service alone, as an individual's service increases the P/E ratio rises, but the ratio declines as earnings increase. Uniform benefit formulas tend to provide high replacement for workers with low earnings and short service and provide lower replacement for workers with high earnings and long service.

Other formula provisions also affected the range of benefits. Minimum benefit amounts create a floor under benefits, providing relatively high benefits at lower earnings and service levels. On the other hand, for workers with higher earnings and those with longer service periods, the flat uniform benefits and maximums on benefits tend to hold down the pension. In addition, integrated plans that provide a higher benefit for earnings above the social security taxable wage base than for those

below tend to expand P/E ratios at higher earnings levels.

Industry

The survey found that private benefit levels varied widely among reported industries on longest job. These interindustry variations in benefit levels reflect in part the general influence of such factors as the types of formulas used to compute benefits, collective-bargaining patterns, differences in employee and employer contributions, maturity of plans, etc., although these factors were not studied in the survey. Interindustry differences in benefit levels also result from such factors as occupation, earnings levels, job-holding patterns, and the length of service of the individual involved.

Generally, the lowest private pension benefits were in industries marked by low wage rates and semiskilled and unskilled occupations. In the food,

tobacco, textile, apparel, paper, and printing industries, for example, the median pension for men was lowest, \$1,570 (table 13). In the mining and construction and service industries, the median private pension was not much different.

In contrast, relatively higher benefits—with medians about 25 percent greater—were reported for men in other nondurable (chemical, petroleum, rubber, and leather) and durable goods manufacturing and in wholesale and retail trade. The highest benefits were provided in finance, insurance, and real estate (a median of \$3,550 for men), and in transportation, communications, and public utilities (a median of \$3,060 for men). This partly reflects the higher prevalence of contributory plans (plans financed jointly by employer and employee), high wage rates, and longer-than-average service in these industries.

For women, the pattern of median private pension benefits ranked by industry was similar to that of men, but at a much lower absolute dollar level—typically about half the amount reported by men in each industry. One exception occurred, however, in retail and wholesale trade, where the median benefit of \$630 for women was found to be the lowest in the industry groupings, and the median for men fell near the middle of the ranking.

Wage-replacement ratios follow a similar pattern of interindustry differences. For men, except for the substantially higher ratios found in finance and in transportation and public utilities, the median P/E ratio was in the range of 18–25 percent (table 14). In transportation and public utilities and in finance the median ratios were 33 percent and 34 percent, respectively. The higher ratios in these industries are the result of the mixed influence of contributory plans, liberal benefit formulas, and the longer-than-average length of service of pensioners.

The median P/E ratios for women were not much different than those for men in certain industries, such as transportation and public utilities and services. As noted earlier, however, actual dollar benefits were substantially lower for women in these industries. In other industries, such as durable goods manufacturing, wholesale and retail trade, and finance, median P/E ratios for men and women differed widely. This result seems to indicate that women are more likely to be included in less liberal pension plans in the same industry, although probably not with the same employer. More important, however, are the shorter service periods for women than for men in those industries that account for much of the difference.

TABLE 15.—Occupation on longest job and annual rate of private pension from longest job: Percentage distribution of persons initially entitled to OASDHI retired-worker benefits, by annual pension rate and sex, July 1969–June 1970 awards

Occupation on longest job	Number of persons (in thousands)	Median annual private pension	Percentage distribution by annual rate of private pension							
			Total	Under 500	\$500–999	\$1,000–1,999	\$2,000–2,999	\$3,000–3,999	\$4,000–4,999	\$5,000 or more
Men										
Number reporting amount of private pension from longest job.....	102	\$2,080	100	6	14	28	20	14	9	9
Professional and technical workers.....	9	2,990	100	2	8	22	18	18	13	21
Managers and officials.....	11	4,170	100	2	8	10	13	15	13	39
Clerical and sales workers.....	13	2,200	100	5	12	28	23	14	10	8
Craftsmen.....	30	2,080	100	6	13	29	23	16	8	5
Operatives.....	30	1,750	100	6	16	38	18	11	9	1
Service and household workers.....	3	850	100	22	38	21	12	6	3	2
Laborers and foremen.....	5	1,550	100	16	16	26	21	16	2	3
No response.....	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Women										
Number reporting amount of private pension from longest job.....	32	\$970	100	23	29	27	14	4	2	1
Professional and technical workers.....	3	1,980	100	14	17	20	28	12	4	5
Managers and officials.....	2	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Clerical and sales workers.....	15	1,080	100	18	29	31	17	3	1	1
Craftsmen.....	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Operatives.....	9	850	100	24	36	27	6	4	3	(1)
Service and household workers.....	2	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Laborers and foremen.....	(2)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No response.....	(2)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)

¹ Not computed because base less than 2,250.

² Less than 500.

Occupation

The survey data reveal striking differences in private pension levels being received by occupational groups, as might be expected. Among the men, the managers and officials and the professional and technical workers (typically with high earnings) had much higher pension payments than other occupational groups, with median benefits of \$4,170 and \$2,990, respectively (table 15). Blue-collar workers such as craftsmen and operatives, who form a large part of the total number of private pensioners, had median benefits that were about half those for managers and officials. Preliminary data indicate that this difference is based on variations in earnings levels and benefit formulas, not on length of service. Service workers, with a median pension of \$890, had the lowest benefits.

The occupational data also demonstrate a characteristic previously noted: women typically fared less well than men in the distribution of private pensions. The median benefit for women in almost every occupation for which data are available was about half that for men, except for professional and technical workers.

The wide differentials, however, disappear (except for the small group of service workers with

pensions) when P/E ratio rankings are viewed by occupational classification. The highest median P/E ratio for men (about 31 percent) was that of managers and officials—not considerably above the 24–29 percent range found for other occupations (table 16). As noted earlier, the key element in determining the P/E ratio is length of service rather than earnings; this finding is therefore not unexpected. The P/E ratios for women in various occupations were somewhat lower than those for men, again reflecting the effect of shorter length of service.

Race

The SNEB survey also permits some observations about the comparative level of private pension benefits for white workers and the small group of Negro and those of other minority races receiving pensions. On the average, white men were receiving much higher private pensions than those of other races, with medians of \$2,130 and \$1,230, respectively (table 17). Half the white men had pensions under \$2,000, but four-fifths of the men of other races had pensions below that amount. Furthermore, as table 18 shows, the P/E

TABLE 16.—Occupation on longest job and private pension-earnings replacement ratio from longest job: Percentage distribution of persons initially entitled to OASDHI retired-worker benefits, by pension-earnings ratio and sex, July 1969–June 1970 awards

Occupation on longest job	Number of persons (in thousands)	Median pension-earnings ratio (percent)	Percentage distribution by pension-earnings ratio (percent)					
			Total	Under 10	10-19	20-29	30-39	40 or more
Men								
Number reporting amount of private pension and earnings from longest job.....	97	25	100	12	25	24	19	20
Professional and technical workers.....	9	25	100	9	28	24	24	15
Managers and officials.....	11	31	100	9	19	21	27	25
Clerical and sales workers.....	13	27	100	8	23	25	19	24
Craftsmen.....	28	25	100	14	24	24	21	16
Operatives.....	28	25	100	10	28	26	14	21
Service and household workers.....	3	17	100	26	35	14	8	18
Laborers and foremen.....	5	24	100	22	20	20	15	23
No response.....	(¹)	(¹)	(²)	(²)	(²)	(²)	(²)	(²)
Women								
Number reporting amount of private pension and earnings from longest job.....	29	19	100	20	32	22	14	12
Professional and technical workers.....	2	(¹) 19	100	(¹) 23	(¹) 29	(¹) 16	(¹) 14	(¹) 19
Managers and officials.....	2	(¹) 21	100	(¹) 18	(¹) 32	(¹) 22	(¹) 17	(¹) 12
Clerical and sales workers.....	13	(¹) 19	100	(¹) 18	(¹) 35	(¹) 23	(¹) 9	(¹) 13
Craftsmen.....	1	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
Operatives.....	9	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
Service and household workers.....	2	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
Laborers and foremen.....	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
No response.....	(¹)	(¹)	(²)	(²)	(²)	(²)	(²)	(²)

¹ Less than 500.

² Not computed because base less than 2,250.

TABLE 17.—Race and annual rate of private pension from longest job: Percentage distribution of persons initially entitled to OASDHI retired-worker benefits, by annual pension rate and sex, July 1969–June 1970 awards

Race	Number of persons (in thousands)	Median annual private pension	Percentage distribution by annual rate of private pension							
			Total	Under \$500	\$500–999	\$1,000–1,999	\$2,000–2,999	\$3,000–3,999	\$4,000–4,999	\$5,000 or more
Men										
Number reporting amount of private pension from longest job.....	102	\$2,080	100	6	14	28	20	14	9	9
White.....	98	2,130	100	6	14	28	20	14	9	9
Other races.....	4	1,230	100	22	18	38	13	6	4
Women										
Number reporting amount of private pension from longest job.....	32	\$970	100	23	29	27	14	4	2	1
White.....	30	980	100	21	30	27	14	4	2	1
Other races.....	1	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)

¹ Not computed because base less than 2,250.

TABLE 18.—Race and private pension-earnings replacement ratio from longest job: Percentage distribution of persons initially entitled to OASDHI retired-worker benefits, by pension-earnings ratio and sex, July 1969–June 1970 awards

Race	Number of persons (in thousands)	Median pension-earnings ratio (percent)	Percentage distribution by pension-earnings ratio (percent)					
			Total	Under 10	10-19	20-29	30-39	40 or more
Men								
Number reporting amount of private pension and earnings from longest job.....	97	25	100	12	26	24	19	20
White.....	93	26	100	11	25	24	20	20
Other races.....	4	19	100	22	32	19	9	17
Women								
Number reporting amount of private pension and earnings from longest job.....	29	19	100	20	32	22	14	12
White.....	28	20	100	20	32	22	14	12
Other races.....	1	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)

¹ Not computed because base less than 2,250.

ratios were higher for white workers, reflecting the effect of different work histories.

Workers Who Expect Pensions

A substantial number of newly entitled social security beneficiaries were expected to receive private pensions from their longest job—about three-fifths as many as were already receiving such pensions, as table 2 shows. A small number of these persons were already receiving social security benefits and had rights to deferred vested private pensions. The vast majority, however, were still working, their OASHDI benefits were

postponed, and they were expecting pensions from their current job.

Preliminary indications are that these persons—especially the men—will probably receive pensions (and wage replacement) fairly similar to those among the newly entitled beneficiaries who were already receiving pensions from their longest job. The data in table 19 show that earnings on the longest job were similar among these groups for both men and women. Employment on the longest job averaged 2 years less for those expecting a pension, but the duration may be about the same by the time the private pension would be payable. For men, there was little difference in the distribution by occupation. Among those expecting pensions, fewer men were in manufacturing, trans-

TABLE 19.—Selected characteristics of persons receiving or expecting to receive private pension from longest job: Percent-age distribution of persons initially entitled to OASDHI retired-worker benefits, July 1969–June 1970 awards

Characteristic	Men		Women	
	Receiving private pension	Will receive private pension	Receiving private pension	Will receive private pension
<i>Earnings</i>				
Number reporting (in thousands).....	97	58	29	21
Total percent.....	100	100	100	100
Under \$5,000.....	7	7	41	40
5,000-5,999.....	8	9	21	17
6,000-6,999.....	13	14	13	13
7,000-7,999.....	16	15	9	13
8,000-8,999.....	12	14	6	7
9,000-9,999.....	10	9	3	2
10,000-14,999.....	22	18	5	6
15,000 or more.....	12	14	1	1
Median.....	\$8,490	\$8,560	\$6,440	\$5,250
<i>Length of employment</i>				
Number reporting (in thousands).....	102	61	31	21
Total percent.....	100	100	100	100
Less than 10 years.....	1	3	2	5
10-14 years.....	4	6	11	14
15-19 years.....	11	13	20	20
20-24 years.....	14	15	19	20
25-29 years.....	17	18	15	17
30-34 years.....	14	11	9	8
35-39 years.....	14	9	10	7
40 years or more.....	25	25	14	9
Median.....	31	29	24	23
<i>Occupation</i>				
Number reporting (in thousands).....	102	62	32	22
Total percent.....	100	100	100	100
Professional and technical workers.....	9	10	9	16
Managers and officials.....	11	12	5	3
Clerical and sales workers.....	13	12	47	37
Craftsmen.....	30	28	3	4
Operatives.....	30	27	30	32
Service and household workers.....	3	5	5	6
Laborers and foremen.....	5	7	1	1
<i>Industry</i>				
Number reporting (in thousands).....	101	62	31	22
Total percent.....	100	100	100	100
Mining and construction.....	8	12	(1)	1
Manufacturing:				
Durable goods.....	37	30	20	14
Nondurable goods.....	24	21	26	28
Transportation and public utilities.....	15	12	14	5
Wholesale and retail trade.....	7	9	13	15
Finance, insurance, and real estate.....	6	6	10	8
Business and repair services.....	3	8	16	27
Other.....	1	1	1	2

¹ Less than 0.5 percent.

portation, and public utilities, however, and relatively more in mining, construction, and services. Among women, the occupational and industry differences were somewhat larger.

process. Data collection and tabulation operations were conducted by the Bureau of the Census. The selection of the sample from social security records was performed by the Social Security Administration.

Technical Note

The estimates presented here are based on data from the Survey of Newly Entitled Beneficiaries—one of the surveys undertaken by the Social Security Administration to study the retirement

Survey Design

Population.—The SNEB universe consists of all persons initially awarded retired-worker benefits during each month between July 1968 and June

1970. The data presented in this report cover the period July 1969–June 1970. To receive an initial retired-worker benefit award, an individual must: (1) be at least aged 62; (2) have earned insured status from his own covered work experience;⁸ and (3) have filed a claim to establish his entitlement to retired-worker benefits. Disabled-worker beneficiaries, whose benefits are automatically converted to retired-worker benefits at age 65, are excluded from the SNEB universe.

Sample design.—The sample for SNEB was selected by means of a two-stage design. The first stage was the selection of a single primary sampling unit (PSU) from each of 100 strata by appropriate probability procedures. The selection of the PSU's was made by the Bureau of the Census as one of several combinations of the basic 357 PSU designs of the Current Population Survey.⁹ Each PSU comprises a single county or group of counties (town or group of towns in the New England States). Twenty-one of the PSU's used in the first stage consist of the counties comprising the 21 largest metropolitan areas. Each of these self-representing PSU's is identical to its stratum. The remaining metropolitan areas were grouped into 33 strata and one PSU (a single metropolitan area) was selected from each stratum. Remaining counties not in metropolitan areas were grouped into 46 strata, and one PSU was selected to represent each stratum.

The second stage of the sampling process was the monthly selection of new beneficiaries to whom questionnaires would be mailed. These are individuals who had been awarded retired-worker benefits for the first time during the preceding month and who resided in a sample PSU.

Sample size.—The size of the SNEB sample was originally set at about 3,200 cases per month, or 1 in 27 of the persons receiving retired-worker benefit awards each month. From July through

⁸ To be insured for retired-worker benefits, a man must have earnings in covered employment in a number of calendar quarters equal to at least the number of years between 1950 and the year he reaches age 65 (age 62 for women). A man aged 65 in 1969, for example, needed at least 18 calendar quarters of covered employment.

⁹ For details on the Current Population Survey sampling procedures, a description of PSU's, stratification, and selection of first-stage units see the Bureau of the Census, *The Current Population Survey—A Report on Methodology*, Technical Paper Number 7.

December 1969 the sample was reduced to about 1,500 cases per month.

Data collection.—Questionnaires were usually mailed to persons in the sample by the end of the month following their benefit awards. A second questionnaire was mailed to those who did not respond to the first mailing within 2 weeks. A third questionnaire was sent by certified mail to those who did not respond within 4 weeks. These three mailings yielded about a 75-percent response. The second and third mailings were omitted for the December 1969 sample to avoid overlap with the 1970 decennial census.

Starting with July 1969, mail responses were screened clerically for completeness of response to income questions. About two-thirds of the incomplete income reports were rectified by telephone follow-up. The remainder were included in the personal interview follow-up. This follow-up was conducted at the end of each calendar quarter. The follow-up included, in addition to all respondents whose incomplete income reports were not corrected by telephone, a 50-percent random sample of persons who did not return the questionnaires or whose questionnaires were returned by the Post Office as undeliverable. (For the December 1969 sample, only a 25-percent random sample of nonrespondents was selected for personal interview.) Nonresponse cases selected for personal interview were weighted to include cases not chosen for the follow-up sample.

TABLE I.—Response before and after personal interview follow-up,¹ July 1969–June 1970

Status of the questionnaire	Before personal interview follow-up ²		After personal interview follow-up ³	
	Number	Percent	Number	Percent
Total sample.....	31,633	100	31,633	100
Questionnaires with adequate response.....	25,150	79	29,089	92
Questionnaires without adequate response.....	1,868	6	2,254	7
Undeliverable.....	447	1	131	(⁴)
Deceased.....	220	1	314	1
Refusal.....	614	2	1,672	6
Failed quality check.....	564	2	83	(⁴)
Miscellaneous.....	23	(⁴)	55	(⁴)
Questionnaires not returned.....	4,615	15	290	1

¹ Does not reflect telephone and personal interview follow-up of inadequate income responses.

² After a maximum of 3 mailings for all months except December 1969 for which there was a single mailing.

³ Undeliverable and no response sample cases are weighted to include cases not chosen for the follow-up sample.

⁴ Less than 0.5 percent.

⁵ Estimated.

Noninterview adjustment.—The personal interview follow-up produced an effective response rate of about 92 percent for the July 1969–June 1970 period, after allowing for the weighting of the follow-up cases (table I). To meet the minimum acceptance criteria for an adequate response, the person had to indicate his employment status. If he was not employed, he had to give a reason why he left his former job. The 8 percent who did not provide an adequate response include 6 percent who refused to participate in the survey.

In order to represent the nonrespondents, the originally assigned weights were adjusted by multiplying them by the reciprocal of the response ratio. To allow for possible variations in response rates, this adjustment was made for 12 sex, residence, age-at-entitlement, and payment-status groups separately for each calendar quarter of data.

Sampling Variability

Since the SNEB estimates are based on a sample, they may differ from the figures that would have been obtained if every person initially awarded retired-worker benefits from July 1969 to June 1970 were included in the survey. In this survey, as in others, the results are also subject to errors due to response and nonreporting.

The standard error measures the sampling variability of estimates—that is, the variations that occur by chance simply because a sample of the population rather than the population as a whole is surveyed. The chances are about 68 out of 100 that an estimate from the sample would differ by less than the standard error from the results based on the same procedures for the entire population. The chances are about 95 out of 100 that

TABLE II.—Rough approximations of standard errors of estimated percentages of persons or married couples, July 1969–June 1970 awards

Size of base	Estimated percentages						
	2 or 98	5 or 95	10 or 90	20 or 80	30 or 70	40 or 60	50
5,000.....	1.6	2.5	3.4	4.6	5.2	5.6	5.7
10,000.....	1.1	1.8	2.4	3.2	3.7	4.0	4.0
25,000.....	.7	1.1	1.5	2.0	2.3	2.5	2.6
50,000.....	.5	.8	1.0	1.4	1.6	1.8	1.8
100,000.....	.4	.6	.8	1.0	1.2	1.2	1.0
150,000.....	.3	.4	.6	.8	1.0	1.0	.9
200,000.....	.2	.4	.5	.7	.8	.9	.7
300,000.....	.2	.3	.4	.6	.7	.7	.7

the differences would be less than twice the standard error.

Estimated percentages.—The standard error of an estimated percentage depends on the size of the percentage and the size of its base. Table II presents rough approximations of standard errors of estimated percentages for the survey period July 1969–June 1970. Linear interpolation applied to the base or the percentage or both may be used to calculate the value of a standard error not specifically shown. For example:

In table 3, of the 102,000 men receiving private pensions an estimated 20 percent had pensions less than \$1,000. As table II shows, the estimated standard error is 1.0 percent. To calculate 95-percent confidence limits, a value from table II is multiplied by 2. Therefore, with 95-percent confidence, the proportion of the men receiving less than \$1,000 is between 18 percent and 22 percent.

When two percentages are compared to determine whether they differ by a statistically significant amount, the standard error of the difference can be approximated as the square root of the sum of the squares of the standard error of each of the percentages. For example:

The proportion of the men among the 102,000 receiving private pensions whose pension amounts are between \$1,500 and \$1,999 is 14 percent, and the proportion of women among the 32,000 receiving private pensions whose pension amounts are between \$1,500 and \$1,999 is 11 percent. The standard error for the first group is about 0.9 percent, and the standard error of the second group is approximately 1.4 percent.

The sum of the squares of the two standard errors is 2.77, and the square root (the standard error of the difference) is 1.7 percent. Since the actual difference of 3 percentage points is less than twice the standard error of the difference, at the 95-percent level test, the proportions of men and women receiving private pensions between \$1,500 and \$1,999 do not differ.

Estimated medians.—The sampling variability of an estimated median depends on the distribution as well as the size of the base. An approximate method of measuring the reliability of the estimated median is to determine an interval about the estimate so that there is a stated degree of confidence that the true median lies within the limits. Estimated medians in this report were computed on \$500 intervals.

The upper and lower limits of the interval about the median—that is, the confidence limits—

based on grouped sample data may be estimated as follows: (1) using the base on which the median was calculated, determine from table II the standard error for 50 percent, the proportion represented by the median; (2) add to and subtract from 50 percent twice the standard error determined in step 1 (for 95-percent confidence limits); and (3) from the distribution of the characteristic, read off the upper and lower limits of the interval about the median corresponding to the two points established in step 2. Confidence limits for a median, for example, may be computed as follows:

In table 3, the median annual private pension for men entitled to reduced payable benefits is estimated to be \$2,180. The number of men with reduced payable benefits is 64,000.

1. The standard error of 50 percent with a base of 64,000 is approximately 1.6 percent (from table II).
2. For a 95-percent confidence interval, it is necessary to subtract and add two standard errors, to yield limits of 46.8 percent and 53.2 percent.
3. Since, as table 3 shows, 46 percent of the men had private pensions below \$2,000 and 11 percent had private pensions between \$2,000 and \$2,500, the dollar value of the lower limit may be found by linear interpolation to be:

$$\frac{46.8-46.0}{11} \times \$500 + \$2,000 = \$2,036$$

The upper limit can be found in the same way:

$$\frac{53.2-46.0}{11} \times \$500 + \$2,000 = \$2,327$$

Thus, with a 95-percent confidence the true median lies between \$2,036 and \$2,327.

Job questions.—A job was defined as a period of continuous service with one employer, although the work might have changed, or in self-employment. The survey questionnaire asked the respondents to report on a maximum of three jobs they had ever held during their working life. For those working, questions were asked about their current job. If they had held their current job for less than 5 years, they were asked about their last job. If neither their current nor their last job was their longest, additional questions were asked about their longest job. For those not working, questions relating to their last job were asked. If that job was not their longest, questions were asked about their longest job.

For each reported job, questions were asked

about pension coverage—whether or not they belonged to a pension plan other than OASHDI and, if so, whether they were receiving or expected to receive a pension from it. In addition, the respondents were asked to provide information about the amount of private pension benefit received from a particular job. Questions were also asked about the kind of work they did on each job, the kind of business or industry it was located in, their earnings, and the length of employment.

Information about the reported jobs could then be combined in different ways. For purposes of the preceding article, determination of which of the reported jobs was the longest was made in tabulation and characteristics were summarized for all longest jobs, whether reported as current, last, or longest. But it must be kept in mind that when jobs are combined in this way they represent jobs held for varying periods and at different points in time. Extra caution is therefore required in interpreting the data on job characteristics.

The amount of private pension benefits was included as one item in a battery of questions on different sources of income in another part of the questionnaire, regardless of the specific job with which it was related. Therefore, to the extent that workers obtained pensions from jobs other than their longest, the survey results relating only to longest job obviously understate total incidence of private pension receipt on all jobs. Furthermore, private pension income reported in the income section of the questionnaire may not apply to any particular job held by the respondent—widow's or widower's benefits, for example. For these reasons, totals in the report that relate to persons receiving benefits from longest job will not match the total reporting receipt of any private pension in the income question, though the differences are small.

The tabulation below indicates that persons

[In thousands]

Pension receipt	Total	Men	Women
Number reporting receipt of private pensions from—			
Any source (income question).....	185	143	42
One or more jobs ¹ (job question).....	157	117	36
Longest job ² (job question).....	142	108	34
Last job longest.....	114	84	30
Current or prior job longest.....	28	24	4

¹ Includes a small number of respondents who reported receipt of private pensions from two or more jobs.

² Includes a small number of respondents who reported receipt of private pensions from their longest, as well as another job.

reporting receiving private pensions from their longest job accounted for about 80 percent of the respondents on private pensions in the income section of the survey questionnaire. Furthermore, respondents reporting receiving private pension amounts from longest job represented 95 percent of all questionnaires in which private pensions were reported to be received on one or more sections of the job questions. As the tabulation shows, men who were not employed at the time of the survey whose most recent (last) job was their longest job made up the vast majority of those responding on private pension receipt from longest jobs.

Response to the Survey

Because the large majority of questionnaires were completed by the respondents themselves and returned by mail, the incidence of omitted or incomplete responses may be relatively higher than it would have been if the survey were conducted by personal interview. In surveys—both those conducted by mail and those through personal interviews—the highest rates of nonresponse are among items related to current income.

Response to the pension questions was high for

private wage and salary jobs, as the following percentages indicate: the rate was 92 percent for the question on coverage and 94 percent for the question on pension amount. The rates were identical for men and women.

The response rates for characteristics such as industry, occupation, duration on longest job, and interval since longest job were also high. The response rates for earnings on longest job for persons receiving private pensions, however, were slightly lower than those for the question on pension amount: 89 percent for the entire group, 90 percent for men, and 85 percent for women.

For SNEB, income reports were obtained for varying reference periods, with the amounts reported to be converted to “annual rates.” Earnings are reported by the hour, week, month, or year, at the option of the respondent. When the earnings are reported by the hour or week, the annual rate is obtained by applying the reported hours of work per week and/or number of weeks worked per year, as appropriate. Monthly earnings are multiplied by 12. Private pension benefits are reported by the month and are multiplied by 12 to obtain an annual rate. The data presented on P/E ratios are, therefore, based on the estimated annual rates of earnings and private pensions.

Notes and Brief Reports

Utilization and Reimbursements Under Medicare for 1967 and 1968 Decedents*

Deaths are relatively frequent in the population aged 65 and over and often are preceded by serious illnesses requiring substantial expenditures for medical services. Many of these aged decedents were among Medicare beneficiaries for whom large reimbursements were made under the program. In light of the concern with rising Medicare costs, it is important to examine the size of reimbursements for decedents, as their services

and charges represent a relatively inflexible proportion of the total.

The numbers of persons enrolled in the Medicare program who died during 1967 and 1968 and the amount reimbursed on their behalf for covered services are contrasted here with the experience of survivors in the same period. Tabular data for both years are presented. Though the analysis makes reference only to the 1967 figures, the relationships are the same for both years.

Of the 21 million persons aged 65 and over who were enrolled under Medicare for some time during 1967, about 5.4 percent died. Twenty-two percent of all reimbursements under the program were made on behalf of these decedents. In general, under every part of the program, proportionately more persons who died used reimbursed medical services (table 1).

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