

ANALYSIS OF 346 GROUP ANNUITIES UNDERWRITTEN IN 1946-50

By

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FOREWORD

This study, prepared by Mrs. Van Eenam and Miss Penman, presents an analysis of the benefit and contribution provisions of new group annuity contracts written in 1946-50. The general pattern and characteristics of these plans are compared with those of plans written in earlier years, as previously presented in Actuarial Study No. 25.

In the United States, old-age security is achieved in many ways. The old-age and survivors insurance system offers a "floor of protection". One of the most important methods of achieving additional protection is through retirement plans which supplement the OASI benefits. The group annuity considered in this study is only one of several types of retirement plans used in this field. Trusteed plans are very frequently utilized; these involve the use of insurance contracts (either on a group or individual basis) or of a separate trust fund for the accumulation of reserves with benefits being directly dispersed therefrom. A few provide benefits administered by the employer and financed through a special liability account. Still others pay benefits with no advance funding. Since World War II many large collective bargaining plans have been established, especially in the mass industries (coal, steel, automobiles, etc.). While most of these plans are on a trusteed basis without the use of insurance contracts, especially for the largest employers, some collective bargaining plans are group annuities and thus are included in this study.

Still another form of protection, namely that provided for entirely by the individual (such as home ownership, savings, life insurance, etc.) is not within the scope of this study. It, too, is a very important element in providing old-age security in this country.

Robert J. Myers
Chief Actuary
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A. INTRODUCTION

In 1948 this office reported on a study of 376 group annuity plans underwritten during the period 1942-46 Actuarial Study No. 25. The present study analyzes 346 plans written during the next 4-year period and compares them with those of the previous study as well as with certain pre-World War II plans. A closing date of September 1950 was chosen to eliminate those which might have been affected by the Social Security Act Amendments of 1950.

Certain trends appearing in group annuity plans inaugurated during the last year covered by the study reflect the increase of union-management negotiations. These latter plans include those basing benefits on years of service only (or on earnings only, generally near retirement age). An effort has been made to compare the general characteristics with those shown in the previous study.

Group annuities are only one form of insured retirement plans. Other insured plans are funded under group permanent life insurance-- a combination of life insurance and retirement annuities. Still another method is the issuance of individual policies under a pension-trust arrangement. The latter method is used in by far the greatest number of insured retirement plans, but the average number of employees is much smaller than under other methods. Combinations of insured methods are not uncommon. As of the end of 1951, the number of group annuity contracts in force in the United States is estimated at about 2,400 covering about 2,200,000 employees. Persons initially covered under the 346 plans included in this study are estimated at about 240,000. Our summaries of distributions relate to number of plans and not to coverage. Thus a plan covering only a few hundred employees is given the same weight in the analysis as one covering thousands of persons.

B. SUMMARY OF MAJOR PROVISIONS

Contributory plans account for 258 of the 346 group annuity plans analyzed, with employees and employers jointly paying the premiums. Among the 258 are 9 partial contributory plans requiring employee contributions on only the upper portion of the earnings upon which benefits are based. The remaining 88 plans are non-contributory, the employer bearing the entire cost. Money purchase plans account for 12 of the contributory and 4 of the noncontributory plans; the balance are of the definite benefit form.*

Eligibility requirements for membership appear in all except 4 of the plans. A period of service is required in 97% of the plans, most commonly 5 years, followed closely by 1 year. Over 50% have a minimum age requirement, most frequently age 30. The maximum age above which new employees may not become members of the plan is 65 or over for men in about 70% of the plans; age 60 is specified in 14%, and the balance is scattered, largely in ages from 55 to 59.

The normal retirement age for men is 65 in 98% of the plans; the age is 5 years younger for women in 12%. Under 4 plans the normal retirement age for both men and women is 60. Provision is made for early optional retirement in all except 3 plans; in 94% it is limited to within 10 years of normal retirement age. In about 8% a specified number of years of service and/or participation is also required. Deferment beyond the normal retirement age is permitted in at least 79% of the plans, usually with the consent of the employer. In case of deferment, nearly 50% of such plans pay benefits beginning at normal retirement age; where benefits are deferred to actual retirement, at least 18% provide an increased amount.

Among the 346 plans there are 182 different benefit formulas. The most common provides 1% of earnings for each year of credited future service and $\frac{3}{4}$ % of earnings for each year of credited past service. Considering only future service benefits, the formula is 1% of all credited earnings in 16% of the plans. That portion of the future benefit which is based on the first \$3000 of annual earnings is 1% for each year of service in 41% of the plans and $\frac{3}{4}$ % in 25%. The past service benefit formulas tend to be less generous than those for future service, especially as regards the portion based on earnings in excess of \$3000.

The employee contribution rate averaged for the 258 contributory plans is about 2.6% of the first \$3000 of annual earnings and about 4.0% of the excess. The most common contribution rate is 2% on the first \$3000 of annual earnings and 4% on the excess; this formula is used in 49 plans. Under the 12 contributory money purchase plans, the averaged employer contribution rate for future service benefits is 3.5% on the first \$3000 and 4.1% on the excess. The averaged employee contribution rates for these plans are 2.2% and 3.1%, respectively.

* See page 20 for explanation of these terms.

If death occurs before retirement, a lump-sum equal to the employee's contributions with interest is paid the beneficiaries (11 of the plans do not add interest). A few plans have other provisions--especially if death occurs after the optional retirement age. In this event a monthly benefit equal to the amount the employee would have received had he retired at such date is payable for a period of 5 or 10 years. If death occurs after retirement, the benefit depends upon the type of annuity in force in both contributory and noncontributory plans. The normal form usually provides for payment to the beneficiary of the difference between the employee's contributions accumulated with interest to retirement age and the benefits already paid. Optional forms of benefit may be elected, most important of which is a joint and survivor annuity. Termination cash benefits are similar to death benefits before retirement.

Vesting of a part or all of the employer's contributions if certain requirements are met is provided in 94% of the plans. In general, this takes the form of an annuity deferred to normal retirement age. The most usual type of requirement for vesting combines attained age and years of service, found in 29% of the plans with vesting. A period of service or participation or both is required in about 94%; an age stipulation appears in 49%. Among the plans with vesting, the required period of service is 10 years or less in 53% of the plans; there is either no age requirement or the stipulated age is 45 or less in 73%. The most common specific requirement is 5 years of participation.

Integration with benefits under Old-Age and Survivors Insurance (hereafter designated as OASI) is found in 69% of the plans. This is effected in most cases through a higher benefit rate on annual earnings in excess of \$3000 than on the first \$3000. Only 5 plans provide no benefits on earnings below \$3000.

The provisions of the contributory plans are on the average slightly more generous than those of the noncontributory, except with respect to past service benefit formulas and minimum retirement benefits. Although relatively more of the noncontributory plans have unusual features than the contributory, the benefit formulas of the former tend to be more uniform. The averaged future service rates of benefit do not differ appreciably. A larger percentage of the noncontributory plans provide for past service benefits (92% vs. 86%); all past service is credited in 16% of the noncontributory and in only 7% of the contributory. Provision for a maximum benefit occurs more frequently in the noncontributory plans (45% vs. 25%), and this tends to be lower than that found among the contributory plans.

Vesting is not only slightly less frequent (91% vs. 95%) among the noncontributory plans, but is more likely to begin with respect to only a portion of the employer's contribution (37% vs. 14%); also the period of service before vesting takes place tends to be longer among plans of this type.

C. TYPES OF PLANS

The 346 plans are of two main types--definite benefit and money purchase. The method most commonly used for providing benefits under both types involves the annual purchase of a small paid-up (unit) annuity deferred to retirement date.

Under definite benefit plans the benefit formula is predetermined, and the contributions for a given year are the amounts necessary to provide the benefits for that year of service. The total contribution necessary for a given year depends on the attained age of the employee. The employee contributes a fixed percentage of earnings, and the employer contributes the balance needed to purchase the paid-up deferred annuity representing the benefit for that particular year of service. Thus, the employer contribution will increase as the age of the employee increases. The total benefit at retirement age is the sum of the paid-up benefits for all years of participation. The above relates to future service benefits, although in most cases the employer provides benefits covering some or all of past service. Definite benefit plans account for 330 of the plans. Of these, 318 provide a fixed percentage of earnings per year of service.

The money purchase type involves a predetermined contribution rate for employer, and in contributory plans for employee as well. This is a fixed percentage of earnings, the employer rate usually being equal to or a multiple of the employee's contribution rate. The benefit is the annuity that the combined contributions will purchase. The result is that larger amounts of annuity income are purchased at the younger attained ages than at the higher. In general, under money purchase plans the contribution rates are fixed, the benefit purchased varying by attained age; under definite benefit plans the benefit rates and employee contribution rates are fixed, with the employer contribution rate varying by attained age.

Future service benefits are of the money purchase type in 16 plans, only 1 of which, however, provides past service benefits on this basis. In the other plans past service benefits, when provided, are of the definite benefit type. The trend is away from the money purchase type as is indicated in the following table:

<u>Period Established</u>	<u>Definite Benefit</u>	<u>Money Purchase</u>	<u>Total</u>
1938-42	67%	33%	100%
1942-46	89	11	100
1946-50	95	5	100

About 75% of the plans are contributory; that is, the cost is shared by employers and employees. This is in contrast with the group

annuity plans adopted during and shortly after the war period which showed only 58% as contributory. The peak for this period seems to have been reached during 1948 when 85% of the plans underwritten were contributory; by 1950 it had dropped to 59% or close to the level of the war period. The following table points out the over-all trend with respect to the distribution of plans according to this classification:

<u>Period Established</u>	<u>Contributory</u>	<u>Noncontributory</u>	<u>Total</u>
1938-42	94%	6%	100%
1942-46	58	42	100
1946-50	75	25	100

D. ELIGIBILITY

Participation in practically all plans is contingent upon satisfying certain age and service conditions. While the majority make no distinction as to the kind of service, 49 (14%) cover salaried employees only, and 7 (2%) hourly workers only. In 5 plans coverage is limited to those earning in excess of \$3,000 and in at least 7, only to those subject to collective bargaining. A few plans specify the occupation, such as flight or non-flight airline employees.

These eligibility requirements not only tend to eliminate the temporary and casual worker but are important in determining the time at which benefits begin to accrue under the contract. Only 4 of the 346 plans have no such provision, the sole eligibility qualification being regular full-time employment with the company (Table 1). On the other hand, 325 plans (94%) require the completion of a definite period of service before the attainment of a maximum age, such as age 65; of these, 56% (53% of the total) provide for the attainment of a minimum age, generally 30, before eligibility is fully established.

The deviation and frequency of the minimum age and service requirements are pointed out in Table 2. Here it is observed that the 1- and 5-year waiting periods are the most prevalent, with slightly more plans favoring the longer period. About $\frac{1}{3}$ of the plans (109) utilize the 5-year term of service; of these, 39% have "minimum age 30" as a further requirement, and the same number have no minimum age requirement. Likewise, 29% of the plans (101) have a 1-year waiting period, of which over half require no minimum age. The most typical groups with the combined age-service provisions are as follows:

<u>Requirements</u>	<u>Number of Plans</u>
1-year service--no age requirement	54
5-year service--no age requirement	42
5-year service--age 30	42

Approximately 97% of the plans require a definite period of service, either with or without an auxiliary condition (Table 3). About 30% of the plans in both this study and the previous one are classified in the 1-year and 32% in the 5-year categories. Next in importance is the 3-year service period which is a requirement in 21% of the current study plans but in only 17% of those in the former one. Since this is the only group in the current study reflecting a percentage increase, it would seem that the 3-year waiting period is gaining in popularity. Beginning with World War II, the trend has been to lengthen the waiting period. In a prewar study less than 1/5 of the plans required a waiting period in excess of 1 year, whereas in more recent studies almost $\frac{2}{3}$ of the plans have had such a requirement.

Table 1

DISTRIBUTION OF PLANS BY TYPE OF ELIGIBILITY REQUIREMENTS

Type of Requirements	Number			Percent		
	Con-tributory	Noncon-tributory	Total	Con-tributory	Noncon-tributory	Total
Service, minimum and maximum age	130 ^{a/}	53	183	50%	61%	53%
Service and maximum age	113 ^{b/}	29	142	43	33	41
Service and minimum age	4	-	4	2	-	1
Service only	4	2	6	2	2	2
Minimum and maximum age	1	-	1	<u>c/</u>	-	<u>c/</u>
Maximum age only	4 ^{d/}	2	6	2	2	2
None	2	2	4	1	2	1
Total	258	88	346	100	100	100

a/ 1 plan has an alternate provision eliminating service requirement.

b/ 1 plan has an alternate provision adding a minimum-age requirement.

c/ Less than $\frac{1}{2}\%$.

d/ Represents provision in 1 plan for earnings below \$3000; a supplemental plan for earnings above \$3000 has both a service and minimum-age requirement.

Table 2

DISTRIBUTION OF PLANS BY MINIMUM AGE AND SERVICE REQUIRED FOR PARTICIPATION (MEN)

Service Requirement (Years)	Minimum Age Requirement				Total	
	None	25 and Under	30	35 and Over	Number	Percent
None	10 ^{a/}	-	1	-	11	3%
Less than 1	7	3	-	-	10	3
1	54 ^{b/}	20	18	9	101	29
2	16 ^{c/}	8	13 ^{d/}	2	39	11
3	27	18	26 ^{e/}	-	71	21
4	2	1	1	-	4	1
5	42	9	42 ^{f/}	16	109	32
Other	-	-	1 ^{g/}	-	1	<u>h/</u>
Total	158	59	102	27	346	100

- a/ 1 plan has a supplement for earnings above \$3000 with a 3-year, age-35 provision.
- b/ 1 plan lowers service requirement to 6 months if employed at age 30 or above.
- c/ Represents service requirement of 1 plan for salaried employees; 5 years are required for hourly workers.
- d/ 1 plan eliminates service requirement if employed at 40 or above.
- e/ 1 plan lowers waiting period to 2 years if employed between ages 40 and 50 and to 1 year after age 50.
- f/ 1 plan lowers service requirement to 1 year if employed at age 54 or above.
- g/ Retroactive credit given for that portion of 15-year eligibility period subsequent to age 25.
- h/ Less than 1%.

Table 3

DISTRIBUTION OF PLANS BY SERVICE ELIGIBILITY REQUIREMENT
IN CURRENT AND PREVIOUS STUDY

Service Requirement (Years)	Current Study, 1946-50						Previous Study, 1942-46 Percent
	Number			Percent			
	Con- tributory	Noncon- tributory	Total	Con- tributory	Noncon- tributory	Total	
None	7	4	11 ^{a/}	3%	5%	3%	3%
Less than 1	8	2	10	3	2	3	4
1	85	16	101 ^{b/}	33	18	29	30
2	27	12	39 ^{c/d/}	11	14	11	12
3	52	19	71 ^{e/}	20	22	21	17
4	3	1	4	1	1	1	1
5	76	33	109 ^{f/}	29	37	32	32
Other	-	1	1 ^{g/}	-	1	h/	1
Total	258	88	346	100	100	100	100

- a/ 1 plan has a supplement for earnings above \$3000 with a 3-year age-35 provision.
b/ 1 plan lowers service requirement to 6 months if employed at age 30 or above.
c/ Represents service requirement of 1 plan for salaried employees; 5 years are required for hourly workers.
d/ 1 plan eliminates service requirement if employed at 40 or above.
e/ 1 plan lowers waiting period to 2 years if employed between ages 40 and 50 and to 1 year after age 50.
f/ 1 plan lowers service requirement to 1 year if employed at age 54 or above.
g/ Retroactive credit given for that portion of 15-year eligibility period subsequent to age 25.
h/ Less than 1/2%.

Attainment of a minimum age, either alone or in combination with other requirements, is present as an eligibility condition in 54% of the plans, whereas in the previous study only 38% of the plans had such a requirement (Table 4). The most common minimum age which must be attained by men before participation is 30 which appears in about 50% of the plans with such a requirement, just as in the previous study. There is a sex differential in the minimum entrance age in 9 plans, with no uniformity in this respect.

All but 14 plans of the study impose an age limitation beyond which entry into the plan is not permitted. Table 5 shows the maximum age to be 65 in almost $\frac{2}{3}$ of the plans. A sex differential of 5 years in the maximum age occurs in 35 plans (10%); in almost all of these, the maximum age is 65 for men and 60 for women. These maximum ages apply principally to future employees, since special eligibility rules in approximately 100 plans provide a higher maximum age for the present older worker. Usually such employees have either attained or exceeded the established maximum entry age on the effective date of the plan. The provisions are quite liberal in that the ages are usually raised by approximately 5 or 10 years for this group. The most common maximum entry ages for the older worker under the special provisions are 70 (38 plans) and 65 (23 plans), with age 75 the highest (6 plans). In addition, a substantial number of plans provide coverage for the older worker outside the framework of the group annuity contract; such agreements are generally financed and administered directly by the employer.

The maximum age in approximately 14 plans is more or less influenced by a hiring clause included in the eligibility provisions. Such a rule limits membership to those employed prior to a specified age, most frequently 55 (6 plans) and 50 (4 plans). The maximum age of 6 noncontributory plans has been lowered by the hiring limitation, the range of adjustment being from 4 to 15 years.

Comparison of Contributory and Noncontributory Plans

In comparing the service requirements of the contributory and noncontributory plans, the latter type appears to favor a longer waiting period for participation. Twice as many noncontributory plans require a 5-year period as specify 1-year, whereas the contributory type requires 1 year more often than any other term of service (Table 3).

Relatively more of contributory (48%) than noncontributory (40%) require no minimum age for participation (Table 4). The difference in level of such requirements is reflected principally in the age 30 group found in 39% of the noncontributory, and in only 26% of the contributory plans.

Table 4

DISTRIBUTION OF PLANS BY MINIMUM AGE REQUIREMENT IN CURRENT AND PREVIOUS STUDY

Minimum Age Requirement (Men)	Current Study, 1946-50						Previous Study, 1942-46 Percent
	Number			Percent			
	Con-tributory	Noncon-tributory	Total	Con-tributory	Noncon-tributory	Total	
None	123	35	158	48%	40%	46%	62%
25 and under	44 ^{a/}	15 ^{b/}	59	17	17	17	11
30	68 ^{c/}	34 ^{d/}	102	26	39	29	19
35 and over	23 ^{d/}	4	27	9	4	8	8
Total	258	88	346	100	100	100	100

a/ 1 plan has a 5-year higher age provision for women.

b/ 2 plans have a 5-year and 1 a 2-year higher age provision for women.

c/ 1 plan has a 5-year lower age provision for women.

d/ 2 plans have a 5-year lower age provision for women.

Table 5

DISTRIBUTION OF PLANS BY MAXIMUM AGE LIMIT ABOVE WHICH FUTURE EMPLOYEES
MAY NOT BECOME MEMBERS OF PLAN

Maximum Age (Men)	Number			Percent		
	Con-tributory	Noncon-tributory	Total	Con-tributory	Noncon-tributory	Total
	Under 55	4	2	6	2%	2%
55	14	2	16	5	2	5
56-59	6	12 ^{a/}	18	2	14	5
60	34 ^{a/}	15	49	13	17	14
61-64	11 ^{b/}	7	18	4	8	5
65	175 ^{c/}	39 ^{a/d/}	214	68	44	62
Over 65	4	7	11	2	8	3
None	10	4	14	4	5	4
Total	258	88	346	100	100	100

a/ 2 plans have a 5-year lower age provision for women.

b/ 1 plan has a 5-year lower age provision for women.

c/ 28 plans have a 5-year lower age provision for women.

d/ Represents maximum-age provision in 1 plan for earnings below \$3000; it is lowered to age 61 on that portion above \$3000.

Age 65 is the most typical maximum age for entrance in both the contributory and noncontributory plans (Table 5). However, this maximum is provided in 68% of the former, and in 44% of the latter. The maximum age for entrance is set below age 60 in 13% of the noncontributory plans, as compared with 23% of the contributory.

In summary, noncontributory plans appear somewhat less liberal than contributory in respect to requirements for participation. The tendency is for a longer waiting period under the former, a larger percent with a minimum entry age, and a smaller percent permitting entrance into the plan up to age 65 or above.

Military Leave

A number of the plans include a provision for crediting military leave provided the former employee returns to work within a specified time after release from the armed forces. This service may generally be used to qualify for a part or all of the eligibility service period. Where eligibility requirements have already been met, it may be considered as credited service. The method of purchasing these annuities varies in that some employers bear the entire cost for such service, while others pay a portion on condition that the employee contributes his share.

E. RETIREMENT AGE

Normal Retirement

Employee annuities are purchased on the basis of a definite maturity age known as the normal retirement age. All except 6 of the 346 plans analyzed set this age at 65 for men (see Table 6). Of these 6 plans, 2 specify age 68, while 4 plans, covering only airline flight personnel (1 company includes the women employees), designate 60 as their normal retirement age.

Among the 340 plans using 65 as the normal retirement age for men are 43 (12%) which provide an age differential, with the normal retirement age for women set at 60 in all but 1 plan (2 plans also lower the normal retirement age to 60 for their mining employees). In 5 of these plans, the employer at his own expense purchases an additional special temporary annuity, payable to retired women between the ages of 60 and 65. This annuity is equivalent to the estimated old-age benefit available at age 65 under OASI.

Most of the plans include special provisions for the older worker who is near or eligible for retirement at time of initiation of the plan. Although the procedures vary somewhat, approximately 130 plans have established a sliding scale of retirement dates geared to the age at entry. Since these employees are usually age 56 and over on the effective date, such a policy affords them 5 or 10 years of participation in the plans and at the same time prevents a mass retirement of workers at time of adoption. For example, employees age 56 and 58 at entry will presumably retire at age 66 and 68, respectively. Some of these plans stipulate actual retirement must not exceed a period of 5 or 10 years after the established normal retirement age or age 70 if it occurs earlier (a few plans limit the age to 75). In about 60 plans, the older worker is covered under a separate plan which is generally financed and administered directly by the employer or under a previously arranged agreement. A limited number of plans indicate that employees aged approximately 65 and over at inauguration may continue working a year or so, and although no contributions are made by them, upon retirement they are eligible for past service benefits.

In 3 plans with normal retirement age of 65, the employee is not eligible for benefits unless he has completed a definite period of service (2 plans require 15 years and the other 20 years of service). Such requirements are of recent innovation in group annuities. Under these plans, in order to qualify for benefits, retirement may be postponed until the service condition has been satisfied; however, 2 of the 3 plans specify 70 as the maximum age for retirement.

Earlier Optional Retirement

Retirement earlier than the normal retirement age is permitted in all but 3 plans of the study. Generally such early optional retirement is within the 10-year period immediately prior to the normal retirement date. In most plans, the benefit provided at the earlier age is the

Table 6

DISTRIBUTION OF PLANS BY EARLIER OPTIONAL AND
NORMAL RETIREMENT AGES IN CURRENT AND
PREVIOUS STUDY

Earlier Optional Retirement Age	Current Study, 1946-50					Previous Study, 1942-46,	
	Normal Retirement Age				Total		Percent
	M 65 W 65	M 65 W 60	M 60 W 60	M 68 W 68	Number	Percent	
55 Men and Women	282 ^{a/}	1	-	1	284	82%	74%
55 Men, 50 Women	-	37 ^{b/}	-	-	37	11	14
60 Men and Women	7 ^{c/}	-	-	-	7	2	1
50 Men and Women	3	-	4	-	7	2	2
Any Age	3	4	-	1	8	2	8
No Provision	2	1	-	-	3	1	1
Total	297	43	4	2	346 ^{d/}	100	100
Percent	86%	12	1	1	100	-	-

a/ 5 plans provide retirement at any age for disability, 1 of which requires 10 years of participation.

b/ Includes 1 plan with normal retirement age of 55 for women; 2 plans with normal retirement age of 60 for employees engaged in mining (earlier optional age of 50); 2 plans with retirement at any age for disability; and 1 plan with retirement at age 50 for disability.

c/ Includes 1 plan permitting women to elect early retirement at age 55 and 1 provides retirement at any age for disability.

d/ Includes 28 plans with a definite period of service as a requirement of earlier optional retirement and 4 with it as an alternate provision.

actuarial equivalent of that payable at normal retirement age. The most generous in this respect are 2 plans which provide full benefit at the optional retirement age of 60 (1 plan requires 20 years of service). This latter plan also provides a temporary annuity equal to the estimated OASI old-age benefit due at age 65.

The bulk of the plans 321 (93%), have selected 55 as the earliest optional retirement age for men. Of these, 37 have an age differential for women, and 2 for mining employees. Among the remaining 22 plans with early retirement provisions are 8 which specify no definite age, but in 4 of them other conditions must be satisfied--2 plans require 10 years of membership; one, a certification of disability; and another, 15 years of service and disability.

Although in most plans, early retirement is contingent upon the attainment of a specified age only, approximately 8% have somewhat more stringent provisions. In 24 of these both an age and service requirement must be met, the latter ranging from 10 to 30 years (most commonly 10 and 15 years), while 2 plans link age with 5 years of participation. All except 3 of these 26 plans fall in the age 55 category.

On the other hand, 6 plans are more liberal in that they have alternate or additional provisions. In 4 of this group the employee is entitled to early retirement with the employer's consent after an age condition has been fulfilled, or the employee may elect it after satisfying both an age and service requirement (2 plans raise the age under the latter provision). The other 2 plans require 10 years of participation together with employer approval of the retirement, or 30 years of service and attainment of age 60 (women age 55) with retirement at the employee's option; all requirements, however, being waived in event of disability.

Whether or not one or more of the previously discussed conditions are attached, that of the employer's consent greatly influences early retirement. This is a requirement in 87% of the plans (Table 7), most of which also require attainment of a specified age. On the other hand, under 12% of the plans the employee may elect early retirement after he has satisfied an age condition or met both an age and service requirement.

An employee retiring at an early optional retirement age (or at a normal retirement age before 65) may elect a "Social Security Adjustment" in many of the plans. Under this option, benefits are so adjusted that the employee will receive approximately a level retirement income (including the estimated OASI old-age benefit payable after age 65). The actuarial value of the benefit is not changed, but a larger benefit is payable to age 65, after which the benefit under the plan reduces by the amount of the estimated OASI benefit. This option is specifically mentioned in 181 plans, or over 50%.

Disability Retirement

Disability is present as a condition of early retirement in 18 plans (5%). In 4 of these it is the only condition--1 plan provides such retirement at any age, another after 15 years of service, and 2 at age 55 in event of illness, disability, or other hardship.

Table 7

DISTRIBUTION OF PLANS BY PROVISIONS FOR EARLIER
OPTIONAL RETIREMENT

Earlier Optional Retirement Provisions	Number		Total	Percentage Distribution of Total Plans
	Con- tributory	Noncon- tributory		
Permitted With Employer's Consent Conditioned on:				
Age	207 ^{a/}	70 ^{b/}	277	80%
Age and Service	14 ^{c/}	3 ^{d/}	17	5
Age and Disability	1	1	2	1
At Any Time	3	1	4	1
Total Employer's Consent	225	75	300	87
Permitted at Employee's Election Conditioned on:				
Age	21	6	27	8
Age and Service	12 ^{e/}	2	14	4
Service and Disability	-	1	1	<u>f/</u>
Disability only	-	1	1	<u>f/</u>
Total, Employee's Election	33	10	43	12
No Provision	-	3	3	1
Total	258	88	346	100

a/ 1 plan lowers age requirement 5 years and 2 waive it entirely (1 of which substitutes 10 years of participation) in event of disability.

b/ 4 plans waive age requirement in event of disability.

c/ 1 plan waives both age and service requirement in event of disability.

d/ 1 plan waives service requirement in event of disability.

e/ 11 plans have more liberal age and/or service requirements if retirement is with employer's consent and/or in event of disability (5 plans).

f/ Less than 1/2%.

In the other 14 plans, disability is an alternate or additional provision with conditions varying somewhat. In 7 such plans early retirement is permitted after satisfying an age condition, but the requirement is modified in case of disability; of these, 1 plan lowers the age requirement 5 years, while 6 waive it entirely (in 1, however, adding 10 years of membership as the qualifying condition). In 5 such plans early retirement is contingent on fulfilling both an age and service requirement, but the disability provisions waive the service factor in 3 plans and disregard both age and service in the other 2. In the remaining 2 plans, retirement at any time in event of disability is one of 3 provisions for early retirement.

In addition to these 18 plans providing early retirement in event of disability, 4 others waive the vesting requirements for similar reasons. Benefits under the latter provisions are deferred until the normal or early optional retirement date.

Under most of the 18 plans, disability benefits which are provided at early retirement are the actuarial equivalent of those payable at normal retirement. In 1 plan, however, benefits are not reduced, but their duration is limited to the period which the reserve with interest will cover. In 2 others a minimum disability benefit is specified--1 plan provides a minimum of \$300 a year with 10 to 15 years of service, and \$400 with 15 years or more; in addition there is payable after 10 years of service a supplemental temporary benefit equal to an estimate of the OASI old-age benefit payable at age 65. In the other plan, a minimum of \$600 a year is provided until age 65, after which the regular retirement rate is applicable.

Deferred Retirement

Retirement later than the normal retirement age is provided in 274 of the plans (79%), with no such provision mentioned in the remaining plans. Of the plans providing such deferment, employment is continued with the employer's consent in 71% and at his request in 15%. In the remaining 14%, the booklets are not too definite as to where the initiative lies--deferment seems to require "mutual agreement". A number of plans indicate that postponement is continued on a year-to-year approval basis not to extend beyond the 5th anniversary of the normal retirement date or age 70 (in 1 plan the maximum age is 67 and in another 68). The consent of the union must be obtained in 1 plan if the employee continues to work beyond age 70. In still another plan employment is restricted to not more than 13 weeks in any one year.

Although employment may continue after the normal annuity age, practically all booklets indicate that no further contributions are made in the employee's behalf after the normal retirement date.

The payment of benefits is not uniform under the 274 plans providing deferred retirement. In 48% (133 plans) the annuity payment commences at normal retirement age regardless, while 52% (141 plans) defer payments

until actual retirement date. However, almost 2/5 of this latter group stipulate that benefits may not be postponed later than age 70 or 5 years after the established normal retirement date.

Of the 133 plans providing immediate payment at the normal annuity date, only 9 booklets give any indication of a salary adjustment. A few specify that the salary reduction fully offsets the annuity payment, while others indicate that the amount of adjustment is optional with the employer. Of the 141 plans postponing payments, 76% do not increase the benefit above that which would have been payable at the normal annuity date, 18% increase the amount taking into account mortality and interest factors, and 6% fail to mention whether or not the amount is increased. In the plans where benefits are not increased, the booklets are not generally specific as to what is done with the annuity payments during the period of deferment of retirement. In general, a substantial proportion is probably credited to the employer as an offset to his contributions. In contributory plans providing modified cash refund annuities, (defined on page 39) the death benefits, instead of decreasing after normal retirement date, remain constant until actual retirement. Thus, a portion of the annuity "payable" before actual retirement is needed to cover the cost of the higher death benefit. In 2 plans, the employee may elect payment at either the normal or actual retirement date. In one of these, if the latter election is made, benefits will be increased by the amount purchasable with the suspended annuities plus interest; while in the other, the suspended benefits will be payable in a lump-sum at retirement. The distribution of plans providing deferred retirement according to the time benefits are payable is as follows:

Time When Benefits Begin	Number	Percent	
		Current Study	Previous Study
Normal Retirement Age	133	48%	76%
Salary Adjustment not mentioned	124	45	67
Salary Adjustment mentioned	9	3	9
Actual Retirement Age	141	52	24
Same Amount	107	39	15
Increased Amount	26	10	5
Same or Increase (not mentioned)	8	3	4
Total	274	100	100

Comparison of Contributory and Noncontributory Plans

By far the most common normal retirement age under both types of plans is 65. This is the age for men in 100% of the noncontributory and in 98% of the contributory. The difference is due largely to the inclusion among the latter type of 4 plans covering airline flight employees which set 60 as the normal retirement age. It is to be noted that 14% of the contributory use a sex differential as compared with 8% of the noncontributory. For earlier optional retirement age the corresponding figures are 12% and 7%, respectively.

The 3 plans which have no provisions for early optional retirement are noncontributory. However, the noncontributory plans are generally less stringent as regards early retirement. For example, a slightly lower proportion conditions early retirement on age and service and a higher percentage, on age alone. Furthermore, relatively twice as many noncontributory (9%) as contributory (4%) have special provisions in case of disability. On the other hand, the earliest optional retirement age is in excess of 55 in only 1% of the contributory as compared with 5% of the noncontributory (in all such plans the earliest optional retirement age is only 5 years before the normal retirement age). Both types follow somewhat the same pattern in requiring the employer's consent or in permitting the employee election of early retirement.

Deferment beyond normal retirement age is mentioned in 83% of the noncontributory booklets and in 78% of the contributory. Benefits are deferred until actual retirement in 51% of the noncontributory plans mentioning later retirement and in 52% of the contributory. Where deferred, the benefit is increased in 14% of the former as compared with 21% of the latter.

Comparison with Plans of Previous Study

Age 65 appears as the normal retirement age for men in 98% of the plans of this study as compared with 97% in the previous one. In both studies 55 is the earliest age selected by the bulk of the plans for optional retirement--93% currently in contrast with 88%; there is no age requirement in 2% of those currently as against 8% of those previously analyzed. In the present study a smaller percentage, 12% as against 15%, show a sex differential in normal retirement age. The corresponding percentages for early optional retirement age are 11% and 14%, respectively.

The trend of plans in more recent years has been to postpone annuity payments until actual retirement. Of the current plans mentioning later retirement, 52% postpone payments as against 24% of the previous study. Where benefits are deferred, 18% of the current and 23% of the previous plans increase the amount. Thus, in both of these respects the plans of the current study appear more restrictive, possibly indicating a difference in principle. Under plans which do not postpone benefits, a salary adjustment is mentioned in 7% of the booklets currently analyzed and in 12% of those in the former study.

F. RETIREMENT BENEFITS

In both the definite benefit and the money purchase types of group annuities, the method of providing retirement benefits involves the annual purchase of small paid-up annuities, deferred to normal retirement date. The total retirement benefit is the sum of all such units. As previously explained in Section C, Types of Plans, the employee contribution rate is fixed in the former type and the employer contribution is the balance needed to purchase the deferred annuity representing the benefit for that particular year of service. In the latter, both employee and employer contribution rates are predetermined with the benefit purchased at any time varying according to sex and attained age. The type of automatic (normal) annuity provided differs depending on the terms of the plan and will be discussed under Section H, Death and Cash Withdrawal Benefits.

With respect to future service benefits, definite benefit plans account for 330 and money purchase for 16 of the plans analyzed. Recognizing benefit formulas for money purchase plans as functions of contribution formulas, there are 182 different benefit formulas among the 346 plans. Benefits are based on both years of credited service and on credited earnings in 333 plans; on years of credited service only, in 9 plans; and on earnings only in 4 plans. One of the 9 plans basing benefits upon years of service varies the benefit according to the age of entrance, in such a way that with continuous employment the total dollar benefit at normal retirement age for those entering below age 49 is the same; for those entering at age 49 or above, the benefit per year of service is the same regardless of age at entrance.

About 88% (303) of the plans analyzed give recognition for some or all of the service rendered prior to the inauguration of the plan. In a few plans benefits are credited retroactively for the waiting period on a past service basis--especially pertinent to new employees. Past service benefits are a given percent of earnings per year of credited past service in 289 of the plans which recognize past service. In only 1 plan are past service benefits on a money purchase basis; in 5 plans they are a stated dollar amount per year of credited past service; in 2 more the past and future service benefits are an over-all percentage of annual earnings; in 3 others the formula is not given; while the remaining 3 plans are miscellaneous in this respect and will be discussed later.

Unit Annuity Plans

These 318 plans provide a percentage of earnings per year of credited service, formulas for which appear in Tables A and B of the appendix. In general, the percentage is applied to the mid-point of an earnings bracket with the result that the benefit for those in the lower portion of the bracket is a slightly higher percentage, and for those in the upper portion a slightly lower percentage, than that shown in the tables. Many of this type vary the benefit formula, giving a higher rate on that portion of the benefit based on earnings above \$3000 (the maximum upon which OASI benefits were based prior to the 1950 amendments). This is particularly true of future service benefit formulas.

Past service benefits are generally based on the earnings rate as of the established date of the plan and are financed entirely by the employer. Future service benefits are determined with respect to each year and are almost always based on the current rate of earnings. This unit method of purchase results in aggregate future service benefits approximately equal to a percentage of average future earnings times the number of years of future service. A few plans base benefits upon earnings near retirement age, which involves the purchase of an additional annuity at retirement when the average wage near that time is higher than the average wage over the credited service period.

The most common unit benefit formulas expressed as a percentage of earnings for each year of credited service are as follows:

<u>Future Service</u>		<u>Past Service</u>		<u>Number of Plans</u>	<u>Percent of 318 Plans</u>
<u>First \$3000</u>	<u>Excess</u>	<u>First \$3000</u>	<u>Excess</u>		
1%	1%	$\frac{3}{4}\%$	$\frac{3}{4}\%$	21	7%
1	2	1	1	18	6
1	1	1	1	17	5
$\frac{3}{4}$	$1\frac{1}{2}$	$\frac{3}{4}$	$\frac{3}{4}$	14	4

This table indicates how few plans are alike even with respect to a single factor, the retirement benefit formula. When various other factors such as periods of service not included and maximum and minimum benefits are taken into consideration, a much greater variety of benefit provisions is indicated. Only 3 of the plans analyzed appear to be alike in all details --and these are for companies in the same industry classification.

Considering future service only, the most common benefit rates per year of credited service related to annual earnings are:

<u>First \$3000^{a/}</u>	<u>Excess</u>	<u>Number of Plans</u>	<u>Percent of 318 Plans</u>
1%	1%	60	19%
$\frac{3}{4}$	$1\frac{1}{2}$	51	16
1	2	50	16
1	$1\frac{1}{2}$	47	15

^{a/} Or major portion thereof.

With respect to the first \$3000 of annual earnings, future service benefits are 1% per year of service in 143 of the plans; 25 others provide 1% on the greater portion of \$3000, but have modifications either in the form of a disregard of the first \$600, or of a lower or higher percentage on a smaller portion of the first \$3000. Thus, as related to the first \$3000 of annual earnings, 168 or 54% of the 314 unit annuity plans which provide

benefits with respect to such earnings (4 plans recognize earnings in excess of \$3000 only) may be classified as "1% plans". The next most popular rate is $\frac{3}{4}\%$, found in 71 plans (22%). About 14% provide more than 1% with respect to the first \$3000, 6% provide between $\frac{3}{4}\%$ and 1%, and 4% provide less than $\frac{3}{4}\%$.

The most common formulas per year of credited past service related to annual earnings in the 289 plans providing such benefits on a unit annuity basis are:

<u>First \$3000^{a/}</u>	<u>Excess</u>	<u>Number of Plans</u>	<u>Percent of 289 Plans</u>
$\frac{3}{4}\%$	$\frac{3}{4}\%$	66	23%
1	1	55	19
$\frac{1}{2}$	1	31	11
$\frac{1}{2}$	$\frac{1}{2}$	31	11

a/ Or major portion thereof.

There are 285 plans providing past service benefits on a unit annuity basis, which base at least a part of the past service benefit on the first \$3000 of annual earnings. Disregarding modifications on a minor portion of such earnings, where such modifications exist, the formula for the first \$3000 is $\frac{3}{4}\%$ per year of credited past service in 102, or 36%, of the 285 plans; 1% applied in 75 plans (26%); and $\frac{1}{2}\%$ in 62 plans (22%). The rate is less than $\frac{1}{2}\%$ in 14 plans, and more than 1% in 10 plans. For the remaining 22 plans the rate varies from $\frac{3}{5}\%$ to $\frac{4}{5}\%$.

The following table gives the averaged rate of benefit as a percentage of earnings per year of credited service according to type of plan (in each case the calculation is based on the total number providing benefits based on the earnings under consideration:

<u>Type of Plan</u>	<u>Future Service</u>		<u>Past Service</u>	
	<u>First \$3000</u>	<u>Excess</u>	<u>First \$3000</u>	<u>Excess</u>
Contributory	.98%	1.52%	.72%	.90%
Noncontributory	.95	1.33	.84	.98
Total	.97	1.48	.76	.92

As to future service, the averaged rate on the excess is about 1.5 times that on the first \$3000 while for past service the corresponding ratio is 1.2. There is, of course, a greater variation among plans with non-uniform formulas. For such plans the averaged future service rate is .94% on the first \$3000 (or major portion thereof) and 1.65% on the excess. Thus, the rate on the excess among these plans averages about $1\frac{3}{4}$ times that on the first \$3000. The corresponding rates for past service are .75% and 1.00% respectively, the latter being only about $1\frac{1}{3}$ times the former.

Only 28 (9%) of the unit annuity plans use a uniform formula throughout (for earnings below and above \$3000 and for future and past service benefits). These involve 4 rates, most frequently 1%. In the following table future and past service benefit formulas have been treated separately. Using as a base the number of plans providing such benefits, the percentage of plans which retain the same formula for the excess as for the first \$3000 of annual earnings is as follows:

<u>Type of Plan</u>	<u>Future Service</u>	<u>Past Service</u>
Contributory	24%	50%
Noncontributory	50	65
Total	32	54

Thus, a uniform formula is used more frequently for past service benefits than for future service benefits.

In plans where past service benefits are provided, the past and future service benefit formulas are the same in the following percentages of such plans:

<u>Type of Plan</u>	<u>On First \$3000</u>	<u>On Excess</u>
Contributory	23%	11%
Noncontributory	55	30
Total	31	16

This indicates more variation between future and past service benefit formulas with regard to the first \$3000 than with respect to the excess. For future service the averaged benefit formula is 1.53 times as generous for the excess as for the first \$3000, while for past service only 1.21 times as generous.

Money Purchase Plans

Of the 16 money purchase plans, 4 are noncontributory--of which 3 do not provide for past service. Only 1 of the noncontributory plans provides for employer contributions on the usual basis of a percentage of wage for each participant, in this case 10%. Of the others, 1 is on a profit-sharing basis, with benefits purchased yearly from each participant's share of profits. Under another, the employer contributes 3% of the total earnings of all participants to which are added refunds due to terminations in service before vesting requirements are met and any policy dividends, with equal amounts of annuity purchased each year for all active participants. In addition, past service annual benefits of \$12 per year of past service are provided. Thus, the benefits under this plan are independent of the attained age, a

rather unusual feature for a money purchase plan. Under the fourth non-contributory plan the employer contributes \$100 per year with respect to each employee.

Under 1 of the 12 contributory plans, the money purchase feature applies only to the employee contribution-- $1\frac{1}{2}\%$ to \$3000, and 3% above. The benefit provided by the employer is on a unit annuity basis doubled for future service on that portion of earnings above \$3000, but with a uniform formula for past service. Four plans which provide no past service benefits purchase those for future service from a 2% annual contribution each from employer and employee; of these, 3 base contributions and, hence, benefits on only the first \$3000 of annual earnings. In the 9 plans providing for employee contributions on earnings above \$3000, the rate in 5 plans is double that applicable to earnings below \$3000, and in 4 plans it is the same.

The employer contribution rate for future service is on a money purchase basis in 11 of the contributory plans; of these his rate is the same as that of the employee in 5 plans; in 2 he contributes $1\frac{1}{2}$ times as much; in 3, twice as much; and, finally, in 1 plan the employer contributes 3 times as much on earnings up to \$3000 and at the same rate as the employee on earnings in excess of \$3000. In the latter plan the total contributions for future service are uniformly 10% of earnings but with the employer bearing a larger proportion of the cost up to \$3000. The organization is of recent origin and no past service benefits are provided. The averaged employee contribution rates under the 12 contributory money purchase plans are 2.2% on the first \$3000 and 3.1% on the excess. The averaged employer rates for future service benefits only are 3.5% and 4.1%, respectively, under the 11 contributory plans where the employer contribution is on a money purchase basis.

In all, only 5 of the 16 money purchase plans provide for past service benefits. This is in contrast with 90% of the 330 definite benefit plans. In 3 plans the past service benefits are on a unit annuity basis, with rates of $\frac{3}{8}\%$, $\frac{1}{2}\%$, and $\frac{3}{4}\%$ of earnings per year of credited past service. One plan provides for past service benefits on a money purchase basis, and the other, as previously noted, provides a flat amount per year of past service.

Miscellaneous Plans

Although all of the 12 plans classified as miscellaneous are of the definite benefit type, only 1 provides unit annuity benefits per year of service. This exception is classified as miscellaneous merely because the benefit for the first 10 credited years of service is high, $3-1/5\%$ of average final earnings (5 years), reducing to $1/5\%$ for additional credited years. Two plans provide for 50% of average earnings as of age 60. Another which requires 20 years of service before retirement age gives a flat 20% of average final earnings (10 years) with respect to the first \$3000, but provides an additional unit annuity of 1% for each year of credited past and future service, based on the portion of earnings above \$3000. The basic benefit (on first \$3000) is on a noncontributory basis, the additional on a contributory basis. Still another provides a total annual benefit of \$120 plus 6% of average earnings.

Benefits are based on credited years of service only in 6 plans with annual benefits per year of credited service varying from \$12 to \$48. One of these, which conditions benefits on 15 years of service, deducts the full OASI old-age benefit after 25 years of service, and makes prorata reduction with from 15 to 25 years of service. The annual benefit before deduction is \$36 times years of service. The plans providing \$12 and \$48 give no credit for past service. Finally, one plans provides a flat annual benefit of \$480 for those entering before age 49 and continuing to retirement age, with a stated annual benefit of \$28 per year of participation for those entering at age 49 or above.

Most of these miscellaneous plans were underwritten during the latter part of the period. The trend away from the unit method may reflect labor-management negotiations. All except 3 are noncontributory. In 4 plans benefits are based on other than average earnings (or for past service on earnings other than those at the inception of the plan). In one of these, the benefit is based on the final 10-year average and in another on the final 5-year average. The other 2 use earnings at age 60 as the base.

Limitations in Determination of Credited Past Service

It is usual in providing past service benefits to exclude a portion of the past service period. The purposes of the exclusion are probably two-fold: (1) To more nearly equalize the amount of excluded service of present and future employees; and (2) To decrease the cost for accrued liability.

Past service is not indicated in 43 plans, or 12%, of the total analyzed. However, separate plans provide benefits for older workers in a number of these cases. In 6 plans the booklets give incomplete information as to limitation in crediting past service. All past service is included in 31 plans (and in another with respect to that portion of benefits based on annual earnings below \$3000). These plans represent 11% of those with past service recognition or 9% of the total analyzed.

The diversity in the provisions for limitations of credited past service is set forth in Table 8. It will be noted that 139 plans, 40% of total plans or 46% of the 303 plans granting past service benefits, use an age in conjunction with years of service as the exclusion; that is all service before a specified age and also before the first n years of service is excluded. Less restrictive provisions than these appear in 97 plans (28%), in that the only exclusion under 73 plans (21%) is the first n years of service, and under 24 plans (7%) is service before a given age. On the other hand, in addition to the age and/or service requirement, 29 plans (9%) carry a further stipulation, excluding all service beyond a maximum number of years or before a specified date. Of the 10 plans with the latter conditions, half of them confine past service to that subsequent to a date during the 1930-38 period, while one sets the dividing line as early as 1909. Three other plans with no age or service stipulation limit the total number of credited years of past service. The maximum number of years of past service which will be credited (under 18 plans) ranges from

Table 8

DISTRIBUTION OF PLANS BY TYPE OF PAST SERVICE EXCLUSION

<u>Type of Exclusion</u>	<u>Number</u>			<u>Percent</u>		
	<u>Con- tributory</u>	<u>Noncon- tributory</u>	<u>Total</u>	<u>Con- tributory</u>	<u>Noncon- tributory</u>	<u>Total</u>
Age and Service	101	38	139	39%	43%	40%
Service Only	57	16	73	22	18	21
Age Only	18	6	24	7	7	7
Age and/or Service with Further Limitations	22	7	29 ^{a/}	9	8	9
Past Service-no exclusion	18	14	32 ^{b/}	7	16	9
Past Service-no data	6	-	6	2	-	2
Total, with Past Service	222	81	303	86	92	88
No Past Service indicated	36	7	43	14	8	12
Total	258	88	346	100	100	100

a/ 19 plans limit credited past service to a maximum number of years and 10 to that after a specified date.

b/ Includes 3 plans which do not base benefits on years of service, 3 which limit credited past service to a maximum number of years and 1 which has an age and service exclusion on wages above \$3000 only.

10 to 35 years, commonly 10 years (5 plans) and 30 years (4 plans). Four other plans set a limit for total (past and future) credited service, ranging from 20 to 40 years.

The most common exclusion provision links age and early years of service. This method is found in 159 plans, or 64% of the 265 plans with known limitations. The distribution of such provisions is shown in Table 9. The most usual practice is to exclude the first 5 years of past service and any prior to age 30 (36 plans). In addition 34 plans exclude the first 5 years, but have no age exclusion. Age 30 is not only the most typical age limitation in the 5-year service exclusion group, but in all other categories as well. It occurs in nearly 50% of the 185 plans having a known age exclusion or in 30% of the 303 plans with past service benefits. It is more usual to have no age limitation, 112 or 37% of the 303 plans falling in this category.

Disregarding types of limitations other than the first n years, the most usual exclusion is 5 years observed in 34% of the plans providing past service, or in 44% of the plans with a known service exclusion. There is no provision for excluding the first n years in 58 plans, or 19% of those granting past service benefits.

Although considerably more than half of the plans classified have similar provisions both for eligibility requirements for participation in the plan and for past service exclusions, a number of exceptions appear. For example, among the plans with past service exclusions, 50 have a service requirement and 10 have an age requirement for eligibility but with no similar exclusion for past service groups. This situation is somewhat reversed in 27 plans which have an age exclusion for past service but with no such requirement for eligibility among new employees. The minimum age for past service credits is higher in 33 plans and the past service exclusion is longer in 7 plans than the corresponding eligibility requirements. Finally, of the 32 plans which include all past service there are 27 which have eligibility requirements. However, 6 of these give retroactive past service credit for the waiting period of the eligibility provisions, and 3 do not base benefits on years of service.

Minimum Benefit Provisions

The majority of group annuity plans use a relatively broad first earnings bracket. This results in a form of minimum benefit in that it is considerably above that which would be obtained by applying the percentage benefit rate to the actual earnings of those in the lower portion of the bracket; for instance, the formula is often applied to \$1200 (or \$1500) in determining the benefit for those in the first earnings bracket. This type of minimum is found in all 4 plans which provide benefits based on earnings above \$3000 only; as an example, in a plan where earnings are below \$3480 (but above \$3000) the formula is applied to \$480.

Table 9

DISTRIBUTION OF PLANS BY PROVISIONS FOR AGE
AND SERVICE EXCLUSION OF PAST SERVICE

<u>Service Excluded</u> <u>(Years)</u>	<u>Service excluded before age:</u>						<u>Total</u>	
	<u>No Age</u> <u>Exclusion</u>	<u>25</u> <u>and</u> <u>Under</u>	<u>30</u>	<u>35</u>	<u>40</u>	<u>Data</u> <u>Not</u> <u>Available</u>	<u>Number</u>	<u>Percent</u>
None	32 ^{a/}	5	8	11	2	-	58	19%
1 and under	17	9	10	9	1	-	46	15
2	10 ^{b/}	5	14	3	1	-	33	11
3	18 ^{c/}	8	21	5	1	-	53	18
4	1	-	1	1	-	-	3	1
5	34	5	36 ^{d/}	22	7	-	104	34
Data not available	-	-	-	-	-	6	6	2
Total with past service	112	32	90	51	12	6	303	100
Percent	37%	10	30	17	4	2	100	-

a/ 1 plan excludes first 3 years of service and any prior to age 35 on earnings above \$3000.

b/ Represents exclusion in 1 plan for salaried employees. 5 years are excluded for hourly workers.

c/ Represents exclusion in 1 plan if hired on or prior to age 40; if hired between ages 40 and 50, 2 years are excluded; and after age 50, 1 year.

d/ Represents exclusion in 1 plan if hired on or prior to age 50; if hired after age 50, 1 year and any service prior to age 55 are excluded.

Specific minimum benefit provisions are becoming more common in group annuities. Among the 346 plans of this study, 27 provide for such a minimum. These vary in importance; in some the effect is largely to provide a minimum for those with very short periods of service while in others largely for those with low earnings. The normal benefit formula is important in evaluating the liberality of the minimum benefit.

The minimum includes the OASI old-age benefit in 6 of the 27 plans with minimum provisions. In 4 of these, the highest "minimum total benefit" is \$100 a month. These plans may be classified as follows:

<u>Minimum Monthly Benefit</u>	<u>Years of Service for</u>	
	<u>Highest Minimum</u>	<u>Prorata Minimum</u>
\$100	15	1 to 15
100	20	1 to 20
100	20	None provided
100	25	15 to 25

Of the above 3 offset plans with prorata features, 2 prorate the total minimum benefit (e.g. where the service is $\frac{3}{4}$ the amount needed for the highest minimum, the applicable minimum is \$75), while in the other only the portion payable from the group annuity is prorated, thus giving a more liberal minimum than if the total minimum benefit were prorated. The minimum monthly benefit per year of service under the fifth offset plans is \$4, with no limit as to the number of years to which it will apply. The remaining plan with offset has a minimum of 40% of earnings as of the most recent date of employment, with a reduction of 2% for each year of age at hiring in excess of 45. This is one of 2 plans among the 27 with specific minimums which base the minimum upon earnings.

Among the 21 plans which do not include the OASI old-age benefit in the minimum, are 11 which impose a service requirement before entitlement thereto. Of these, the minimum varies according to the number of years of service in 5 plans. The most generous plan provides a minimum of \$100 a month after 20 years of service, with a prorata minimum for fewer years. In 2 plans the highest minimum is \$50 a month after 25 years of service (one provides a prorata minimum for fewer years of service, and the other for years between 13 and 25). Another provides a minimum of \$40 a month after 25 or more years of service (10 or more of which must be past service) reduced by \$2 a month for each year less than 25. In the fifth plan, covering office workers only, the highest minimum (after 15 years of service and 10 years of participation) is 15% of the first \$250 and 30% of the excess of the average monthly earnings during participation. This is double that which would be provided under the benefit formula for that length of service and participation. Proportionate reductions are applied if the service and participation requirements are not met. One purpose of this rather complicated minimum provision appears to be that of recognition of past service (there is no past service benefit as such).

Among the 6 plans which require a certain length of service to obtain the minimum but do not vary the minimum according to length of service is 1 with a minimum of \$112 a month (or 25% of earnings, if less) after 20 years of service; 4 with a minimum of \$50 after 20 years of service; and 1 with a minimum of \$20 after 15 years of service. In this latter plan (which is noncontributory) the minimum would be effective only for those with average monthly earnings below \$200.

Of the 10 plans which have a flat minimum benefit regardless of amount of years of service, 1 specifies a monthly amount of \$40; 3 of \$20; 1 of \$12; and 5 of \$10. The one with \$12 as a minimum has a further provision which might raise this minimum considerably. If the benefit as determined from the formula is less than the amount which would be provided on a money purchase basis from a 5% employer contribution, an additional amount will be purchased at retirement to raise the benefit to this amount. The younger employees will benefit most from this provision--they have the advantage of the money purchase basis without its disadvantages.

In a number of plans, the minimum is taken into consideration in determining the discounted early retirement benefit and in at least 1 plan in determining the vested deferred benefit.

Maximum Benefit Provisions

Many plans limit benefits, either through a maximum benefit provision or through restricting the amount of annual earnings on which benefits are based. As shown in Table 10, the annuity which may be credited is limited in 55 plans (16%), with maximum benefits varying from \$600 to \$25,000 per year, the most common being \$10,000. The average maximum is about \$8,900. In one plan the maximum is 50% of average earnings during the period of participation, and in another the maximum of \$2400 includes the GASI old-age benefit.

The benefit is limited through use of an upper limiting wage or salary as the basis in 53 plans (15%), the most usual being \$10,000 a year, with a range from \$3,000 to \$30,000 (see Table 11). Included in the above are 7 plans which limit both the earnings base and the annuity, no two of which have identical limitations. One or both forms of limitations appear in 29% of the plans studied.

The following table shows the distribution according to the type of limitation in the current and previous studies:

<u>Type of Limitation</u>	<u>Number of Plans in Current Study</u>	<u>Percent</u>	
		<u>Current</u>	<u>Previous</u>
Maximum annuity only	48	14%	38%
Maximum credited earnings only	46	13	13
Both types	7	2	5
No maximum	<u>245</u>	<u>71</u>	<u>44</u>
Total	346	100%	100%

Table 10

PLANS CLASSIFIED BY MAXIMUM ANNUAL BENEFIT AMOUNT

Maximum Amount	Number		Total
	Contributory	Non-Contributory	
Less than \$3,000	1 ^{a/}	6 ^{b/}	7
\$3,000 - 3,600 inclusive	3	3 ^{c/}	6
5,000	1 ^{d/}	2	3
6,000	3 ^{d/}	2	5
6,720 - 9,600 inclusive	6 ^{d/}	4	10
10,000	12 ^{d/}	2	14
12,000 - 12,500 inclusive	4	1	5
20,000	2	-	2
25,000	1	- ^{e/}	1
Amount not specified	-	2 ^{e/}	2
Total	33	22	55

a/ Represents a maximum annual benefit of \$1,800.

b/ 1 plan has a maximum annual benefit of \$600; 1 of \$1200; 2 of \$1800; and 2 of \$2400 (1 of the latter includes OASI Old-Age Benefits).

c/ 1 plan limits past service benefits to \$1800 per annum.

d/ 1 plan limits past service benefits to \$3000 per annum.

e/ 1 plan limits benefits to 50% of average annual earnings during period of participation; data not available for the other plan.

Table 11

PLANS CLASSIFIED BY MAXIMUM ANNUAL CREDITED SALARY^{a/}

Amount	Number		Total
	Contributory	Non-Contributory	
\$3,000	6 ^{b/}	2	8
4,800	1	1	2
5,000	3	1	4
6,000 - 9,000	2	3	5
10,000	6	8	14
12,000	3	2	5
15,000	7	1	8
20,000	5	-	5
25,000	-	1	1
30,000	1	-	1
Total	34	19	53

a/ Maximum amount used in computation of future service benefits.

b/ In 1 plan, maximum applies to salaries; no limitation on hourly earnings.

Comparison of Contributory and Noncontributory Plans

As between definite benefit and money purchase types of plans, the distribution of the contributory and noncontributory is the same--about 5% of each are of the money purchase type. It was found necessary among the definite benefit plans to classify a larger proportion of the noncontributory plans as miscellaneous (11% as compared with 1%). This is not surprising, since under definite benefit contributory plans there is nearly always a direct ratio between employee contribution rates and benefit rates, rather automatically placing them in the unit annuity classification.

About 86% of the contributory plans provide for past service benefits as compared with 92% of the noncontributory. This is not a significant difference, especially since 3 plans which do not base benefits on years of service were included in the latter. A higher proportion of the noncontributory type (16%) than contributory (7%) give credit for all service prior to the established date of the plan. In both types 5 years is the most common service exclusion (in 35% of the contributory and in 33% of the noncontributory providing past service benefits) and age 30 is the most common age before which service is not credited. However, 37% of the noncontributory plans exclude all service before age 30 as compared with 27% of the contributory. Under both types it is more usual to have no age exclusion (contributory, 37%, and noncontributory, 38%).

There is considerably more uniformity in benefit formulas among noncontributory than among contributory plans. Uniform benefit rates (on earnings above and below \$3000 and for future and past service) apply in 23% of the noncontributory unit annuity plans as compared with 5% of the noncontributory. The future service benefit formula is the same on earnings below \$3000 as on the excess in 50% of the noncontributory in contrast with 24% of the contributory unit annuity plans. The corresponding proportions for past service benefit formulas are 65% and 50%. The formulas are the same for past and future service benefits as related to the first \$3000 of earnings in 55% of the noncontributory and in 23% of the contributory plans providing for past service benefits. The corresponding percentages for earnings in excess of \$3000 are 30% and 11% respectively. These data indicate according to type relatively less variation in past service than in future service benefits. The averaged future service benefit rates are slightly higher for contributory plans than for noncontributory; the reverse being true of the averaged past service benefit rates.

Relatively more of the noncontributory than of the contributory provide a definite minimum benefit (16% as against 5%). The 6 which include part or all of the OASI old-age benefit in the minimum are noncontributory. Exclusive of this type, the 2 plans with the most generous minimums are noncontributory. A smaller proportion of the noncontributory plans with minimums provides for a low definite minimum regardless of years of service and/or earnings (28% as compared with 46%).

Likewise a larger proportion of the noncontributory than of the contributory provides for maximums through either or both methods of limitations (45% as compared with 25%). Furthermore, the maximums tend to be considerably lower under the noncontributory. Where the maximum annual benefit is a stated amount, the average is about \$5,000 under noncontributory plans and \$11,500 under the contributory. The maximum annual credited salary is in excess of \$10,000 in only 10% of the noncontributory having this form of limitation as compared with 47% of the contributory. The most common maximum for contributory plans is \$15,000 and for noncontributory, \$10,000.

Comparison with Plans of Previous Study

Relatively more of the plans of the current study are of the unit annuity type and the averaged future service unit annuity rates are somewhat higher than in the earlier study. The formulas tend, on the whole, to be more uniform in the plans of this study. No distinction is made between the first \$3000 of earnings and the excess in determining future service benefits in 32% of the plans of the current study, as compared with 24% of those previously analyzed. On the other hand, past and future service benefits with respect to the first \$3000 are alike in 31% of the plans currently analyzed in contrast with 47% of the plans of the earlier period. The variation is due partly to a much larger proportion of noncontributory plans in the earlier study, this type tending to be more uniform than the contributory. In both studies 9% of the plans treat all earnings alike and use the same formula for future and past service.

The popularity of various benefit formulas showed considerable difference. The 4 most common formulas were selected in each study. The most popular in the current study was not among the first 4 of the previous study, while the one in fourth place stood first in the former study (see table on page 21).

The most common are:

<u>Study</u>	<u>Future Service</u>		<u>Past Service</u>		<u>Percent of Total Plans</u>
	<u>First \$3000</u>	<u>Excess</u>	<u>First \$3000</u>	<u>Excess</u>	
Current	1%	1%	$\frac{3}{4}\%$	$\frac{3}{4}\%$	6%
Previous	$\frac{3}{4}$	$1\frac{1}{2}$	$\frac{5}{4}$	$\frac{3}{4}$	9

In comparing these it will be noted that the most popular of the current study is more generous as regards future service for the first \$3000 of annual earnings and less so for the excess. As regards future service on the first \$3000 of annual earnings, 54% of the unit annuity type are "1% plans" as compared with 46% in the earlier study. The corresponding figures for " $\frac{3}{4}\%$ plans" are 23% and 34%, respectively. The averaged future service benefit formula in the current study is 1.0% of the first \$3000, and 1.5% of the excess; corresponding averaged rates for the previous study are .9% and 1.4% respectively.

The proportion of plans giving credit for past service is 88% in this study and 90% in the previous. The variation is entirely accounted for by the fact that a smaller percent of the money purchase plans of this study provide past service benefits, 31% as compared with 73%.

The trend appears to be away from a maximum benefit provision, since it occurs in only 29% of the plans currently analyzed as compared with 56% in the previous study. Furthermore, where a stated maximum is used, the tendency is toward a larger amount. By far the most common in the previous study is \$6,000 compared with \$10,000 in the current. As to the maximum credited salary, the most common in each study is \$10,000 a year.

G. EMPLOYEE CONTRIBUTIONS

Table C in the appendix gives the employee contribution rates found in the 258 contributory plans. Of these, 255 provide benefits based on part or all of the first \$3000 of annual earnings and 251 on earnings above \$3000. The distribution of the plans according to the employee contribution rate on the first \$3000 of earnings is shown in Table 12, together with the distribution of 196 corresponding plans of the previous study. With the exception of money purchase plans, the employer rate of contribution is not fixed, the employer bearing the balance of the cost for future service benefits and the entire cost of past service benefits, where provided.

There are 69 different employee contribution rate formulas, with 70 corresponding future service benefit formulas among the 258 plans. Our previous study showed 68 different employee contribution formulas with 84 future service benefit formulas among 217 contributory plans. This seems to indicate a somewhat higher degree of uniformity among plans of the present study.

Of the 11 plans where contributions are based upon earnings above \$3000 only (\$4000 in 1 plan), 8 provide benefits within the group annuity contract on earnings both above and below \$3000. In another there are no employee contributions on that portion below \$1200. Such plans are sometimes designated as "partial contributory." The majority of the 7 plans which base both contributions and benefits on the first \$3000 of annual earnings only, have a separate plan covering the higher portion of earnings, funded through individual or group permanent insurance.

The same employee contribution formula is used both above and below \$3000 in 53 of the 258 contributory plans (21%). Contribution rates are twice as high on the excess as on the first \$3000 in 97 plans (38%), and $1\frac{1}{2}$ times as high in 43 plans (17%). In only 13 plans is the rate for the excess more than double that on the lower portion.

The most common employee contribution rate formulas are as follows:

<u>On First \$3000</u>	<u>On Excess</u>	<u>Number of Plans</u>	<u>Percent of 258 Plans</u>
2%	4%	49	19%
3	3	21	8
$2\frac{1}{2}$	5	21	8
2	2	15	6
3	$4\frac{1}{2}$	12	5

The employee contribution rate on the first \$3000 (or major portion thereof) averaged for the 246 plans with such contributions related to earnings is 2.6%; the rate on earnings above \$3000 averaged for 250 applicable plans is 4.0%. Roughly, it may be said that the employee contribution rate on the portion of earnings in excess of \$3000 averages $1\frac{1}{2}$ times that on the portion below \$3000. Considering only plans with nonuniform formulas, the ratio is about 1.7. The highest employee contribution rate on earnings below \$3000 is 6% (1 plan), and in this case there is no contribution on the first \$600 so that the effective rate is at most 4.8%. The highest rate on the excess is 8% (2 plans).

In 221 of the 246 definite-benefit type plans there is a uniform ratio (above and below \$3000) of aggregate employee contributions to annual future service benefits, averaging 2.5. The most prevalent ratio is 2 to 1, meaning that within 2 years after retirement the future service benefits received will be equal to the total contributions of the employee (past service benefits will be additional). The following table shows the distribution of these plans by uniform ratios:

<u>Uniform Ratio</u>	<u>Number of Plans</u>	<u>Distribution</u>	
		<u>Present Study</u>	<u>Previous Study</u>
2	73	33%	33%
3	65	29	16
$2\frac{2}{3}$	29	13	24
$2\frac{1}{2}$	21	10	6
$3\frac{1}{3}$	17	8	14
Other*	16	7	7
Total	221	100	100

* Varies from 1 to 4; average 2.6 in each study.

Under 3 contributory plans there is no definite relation between the employee contribution rate and the future service benefit rate, and in 22 plans the ratios vary within the plan. For instance, in 4 plans the ratio is 2 to 1 for the first \$3000 of earnings and $3\frac{1}{3}$ to 1 for earnings above \$3000. In 9 other of the 22 plans, the ratio is higher for earnings above \$3000.

The remaining 12 contributory plans are money purchase plans under which the relationship of employee contributions to benefits depends upon attained age and, therefore, will vary from year to year by attained age. The relation of employee and employer contributions under this type has been discussed in Section F, Retirement Benefits.

Table 12

DISTRIBUTION OF PLANS BY EMPLOYEE CONTRIBUTION RATES^{a/}
IN CURRENT AND PREVIOUS STUDY

Contribution Rate ^{a/}	Number		Percent of Plans	
	Current	Previous	Current	Previous
None	8	5	3%	3%
1 1/2% or less	14	16	5	8
2	97	79	38	40
2 1/4	13	9	5	4
2 2/5	12	-	5	-
2 1/2	31	19	12	10
3	53	29	21	15
4	5	5	2	3
Over 4	5	7	2	3
Other ^{b/}	17	27	7	14
Total	255	196	100	100

a/ On first \$3000 of annual earnings, or major portion thereof, for contributory plans providing benefits on part or all of this amount.

b/ Between 1 1/2% and 4% but not at one of the rates listed; including 1 plan with flat annual contribution.

Considering the employee contribution rates and the unit annuity benefit rates jointly, combinations appearing most frequently among the 246 contributory definite-benefit plans are as follows:

Employee Contribution Rate		Benefit Rate per Year of Service				Number of Plans
First \$3000	Excess	Future Service		Past Service		
First \$3000	Excess	First \$3000	Excess	First \$3000	Excess	
2%	4%	1	2	1	1	10
2 2/5	4 1/2	4/5	1 1/2	2/5	4/5	9
3	3	1	1	1	1	6
2	2	1	1	3/4	3/4	6
2 1/2	5	1	2	1/2	1	4
2	4	3/4	1 1/2	1/2	1/2	4

Comparison with Plans of Previous Study.

In this study 75% of the plans call for employee contributions as compared with 58% of the plans of the previous study. The most frequent employee contribution formula is the same in both studies, 2% of the first \$3000 of annual earnings and 4% on the excess. This occurs in 19% of the contributory plans currently analyzed and in 22% of those of the previous study. There are, however, relatively fewer employee contribution formulas among plans currently analyzed, and a larger percentage show a uniform ratio of employee contributions to future service benefits (86% vs. 64%).

The same employee contribution formula applies both above and below \$3000 in 21% of the contributory plans of this study in contrast with 17% of those of the previous study. The averaged contribution rate is slightly higher on the first \$3000 of annual earnings in the current study (2.6% vs. 2.5%); for earnings above \$3000 it remains the same—4.0%.

H. DEATH AND CASH TERMINATION BENEFITS

In general, death benefits after retirement, and occasionally before, depend upon the form of annuity in effect. The normal retirement benefit under contributory plans is most commonly of the form known as a modified cash refund annuity. This provides a life annuity and in addition a death benefit equal to the accumulated contributions of the employee (in most cases with interest to normal retirement date, actual retirement date, or death, whichever first occurs) less any retirement benefits received prior to death. The death benefit is a decreasing amount and expires within a few years after retirement. The most usual normal form for noncontributory plans is the straight life annuity with no death benefit either before or after retirement. The normal form of benefit under a considerable number of each type of plan analyzed in this study is a life annuity with payments guaranteed for a stated period measured from date of retirement (5 or 10 years) if death occurs during such period.

Optional forms of benefits are available--typically a joint and survivor annuity with the reduced annuity payable so long as either the retired employee or the beneficiary lives. The joint and survivor annuity generally follows the normal form (modified cash refund, annuity with guarantee, or straight annuity). Where the normal form does not provide a death benefit, the employee may elect another form with a death benefit after retirement but with lower annuity. Where the normal benefit has a refund feature, the employee may usually elect the larger straight life annuity in lieu thereof.

In considering death benefits it is to be noted that probably most of the companies included in this study also provide for group life insurance. In addition, benefits in the form of periodic payments are provided the beneficiaries of these employees under OASI.

Death Benefits under Contributory Plans

Exceptions to the modified cash refund retirement benefit as the normal form appear in 26 of the 258 contributory plans. Under 12 of these, the death benefit before retirement is the accumulated employee contributions plus interest; after retirement the annuity is guaranteed for a given number of years (10 years in 1 plan and 5 years in 11 plans), with payments continued to the beneficiary for the balance, if any, of the period following death. In 5 others, the death benefits are similar except that if death occurs before retirement but after the earliest optional retirement date, benefits are paid for a guaranteed period corresponding to that provided under the plan for retirement benefits (10 years in 3 plans and 5 years in 2 plans). The annuity to the beneficiary is of the same magnitude as that which would have been paid to the employee had he retired as of the date of death. Since the employee's accumulated contributions fail to provide the benefit for the guaranteed period, the balance is contributed by the employer.

Two plans which are contributory only with respect to earnings above \$3000 a year have as the normal form a straight annuity with no death benefits on the portion based on the first \$3000 of earnings; on the balance the death benefit before retirement is the accumulated contributions plus interest; after retirement, payments are guaranteed for 5 years. Still 3 others use a modified cash refund benefit for the group annuity portion; the supplemental plan which provides additional benefits based on earnings above \$3000 is on the group permanent life form combining life insurance and retirement benefits, the latter with payments guaranteed for 10 years if death occurs after retirement. Under another plan instead of deducting from the accumulated employee contributions the sum of all annuities received, only that portion provided by his own contributions is deducted in determining the lump-sum death payment. In effect, this provides a combination of a full cash refund annuity and a straight annuity--of slightly higher actuarial value than the modified cash refund form. Two plans provide a death benefit before normal retirement date equal to the annual wage at time of death (up to \$20,000) or the employee's accumulated contributions plus \$1000, whichever is greater. Finally, most unusual is a plan which provides for a lump-sum death benefit beginning with 110% of the employee's contributions (without interest) after 1 year of participation and increasing to 200% of his total contributions after 10 or more years of participation.

Death Benefits under Noncontributory Plans

In 8 of the 88 noncontributory plans, the normal retirement benefit (as determined by the formula) is not of the straight life annuity form. In 5 of these, the normal benefit is a life income with guaranteed payments for a stated number of years (10 years in 3 plans and 5 years in 2 plans), of which 4 provide for death benefits before retirement. Under 2 such plans, the death benefit before retirement is payable only if the employee dies after the earliest optional retirement date, in which case the beneficiary is entitled to the same monthly payments as the worker would have received had he retired at such date, with benefits payable for a period corresponding to the guaranteed period for the employee benefit. The death benefit before retirement under the third such plan consists of the employer contributions with interest. The fourth such plan, which in case of death after retirement pays the beneficiary only $\frac{1}{2}$ of the annuity for the guaranteed period, provides a lump-sum death benefit before retirement of 25 times the monthly pay (this plan provides $\frac{1}{2}$ of the retirement benefit under a group annuity having no death benefit and the balance of the retirement benefit under an individual policy having death benefits).

The other 3 plans among the exceptions provide death benefits before and after retirement. Two money purchase plans provide a full cash refund annuity as the automatic benefit. That is, in case of death a sum equal to the total employer contributions less any annuity payments prior to death is payable to the beneficiary (in 1, interest is added up to death or retirement date). An unusual and interesting provision occurs in the third plan under which it seems to be assumed that employee contributions

of 2% on the first \$3000 of annual earnings and 4% on the excess to \$5000 are paid by the employer, together with the balance needed to provide the benefits. The automatic benefit is then of the modified cash refund form, the refund relating to the assumed contributions of the employee (but paid by the employer).

In addition to the above 8 plans is one which provides that, if an employee dies while working beyond normal retirement age, his beneficiary will receive in a lump-sum all annuities, together with interest, which would have been paid had the employee retired at normal retirement age. (The retirement benefit of this plan is increased if the employee is retired after normal retirement date). Of course, these annuity payments so received would have the effect of reducing the "standard" lump-sum refund death benefit.

Cash Termination Benefits

At termination of service before retirement age, benefits may be of 2 types: (1) cash withdrawal benefits, or (2) deferred annuities. The latter are discussed under Section I, Vesting. Termination cash benefits under contributory plans are similar to death benefits before retirement. These usually consist of a lump-sum equal to the employee's accumulated contributions with interest. Under 11 plans (4%) no interest is allowed. One plan provides for an additional lump-sum beginning with 10% of his contributions after 1 year of participation and increasing to two times his accumulated contributions after 10 or more years of service. In general, the employee who is entitled to a cash benefit may, in lieu thereof, elect an annuity deferred to normal retirement age. In addition, if vesting requirements have been met, he is entitled to part or all of the annuities purchased by the employer's contributions.

Under the 88 noncontributory group annuities of this study, only 3 provide for a cash termination benefit. Under 1, which is of the money-purchase type, the cash benefit is equal to the employer's contributions with interest (less a surrender charge of 8.8%), which if taken would eliminate any annuity benefit. Under another the benefit is determined in accordance with the profit-sharing trust agreement. Under the third, after vesting requirements have been met, the terminating employee may elect to receive in cash an amount equal to the accumulation of 2% of the first \$3000 of annual earnings plus 4% of the excess up to \$5000 during participation, the balance of the vested interest to be used in providing a straight deferred annuity.

Comparison with Plans of Previous Study

As compared with the plans of the previous study, cash termination and death benefits before retirement under the contributory plans show very little difference. Relatively fewer of the noncontributory plans of the current study provide such benefits. As to death benefits after retirement, the annuity with guaranteed period as the normal form is gaining in popularity. In the previous study only 3% had this feature in contrast with 8% in this study.

I. VESTING

Vesting in group annuities refers to the right of an employee who terminates service before retirement date to all or part of the deferred annuities purchased from contributions made in his behalf by the employer. Such vested rights are provided under 326 plans (94%) of the study (see Table 13). Retention of these deferred annuities is permitted only if the terminating employee at no time elects a cash refund of his own contributions. Under the remaining 20 plans (6%) no annuities vest; under the 12 of these which are contributory, the employee withdrawing from service prior to his normal retirement age is entitled, either to retain the paid-up annuity purchased with his own contributions or to receive a cash return of his accumulated contributions.

Among the 326 plans with vesting rights, 80% (261 plans) provide for full vesting, and the remainder have graded vesting. Under the former type, the terminating employee acquires full title to all deferred annuities purchased if he has met certain specified conditions. Under the graded type, only a portion of the annuities vest upon meeting the minimum requirements, with the stated percentages usually increasing on a sliding scale to 100% if termination takes place after further requirements are met. The minimum requirement has been used in classifying the vesting provisions for the tabulation.

Of the 326 plans, 151 (46%) combine an age requirement with one of service and/or of participation as a condition for vesting. Another 144 (44%) with no age requirement stipulate a period of service and/or of participation as the condition. A definite period of service or participation, either alone or in combination with other conditions, is required in 307 plans (94% of those with vesting provisions). Twelve of these plans are classified as alternates in Table 13. In 5 plans (2%) no condition is imposed.

The most common requirements before initial vesting (either graded or full) takes place are as follows:

<u>Requirement</u>	<u>Number of Plans</u>		
	<u>Full Vesting</u>	<u>Graded Vesting</u>	<u>Total</u>
5 years of participation, any age	20	11	31
10 years of service, any age	13	15	28
20 years of service, age 55	23	1	24
10 years of participation, any age	14	8	22
5 years of service, any age	8	14	22

Table 13

DISTRIBUTION OF PLANS BY TYPE OF VESTING REQUIREMENTS IN CURRENT AND PREVIOUS STUDY

<u>Type of Requirements</u>	<u>Current Study, 1946-50</u>						<u>Total Plans Percent</u>	
	<u>Number with Vesting</u>			<u>Percent with Vesting</u>			<u>Current Study</u>	<u>Previous Study</u>
	<u>Full</u>	<u>Graded</u>	<u>Total</u>	<u>Full</u>	<u>Graded</u>	<u>Total</u>		
Service Only	44	33	77	17%	51%	24%	22%	24%
Participation Only	37	22	59	14	34	18	17	20
Age Only	9	-	9	3	-	3	3	2
Age and Service	91	5	96	35	8	29	28	22
Age and Participation	27	3	30	10	5	9	9	6
Service and Participation	7	1	8	3	1	2	2	7
Age, Service, Participation	24	1	25	9	1	8	7	5
Alternates	17	-	17	7	-	5	5	6
Immediate Full Vesting	5	-	5	2	-	2	1	1
Total, with Vesting	261	65	326	100	100	100	94	93
No Vesting							6	7
Total, All Plans							100	100

Of the 261 plans with full vesting, about $\frac{1}{3}$ require the attainment of a specified age and completion of a definite period of service. Vesting is based solely on meeting a service condition in 17% and on a participation condition only in 14%. Next in importance are 10% which combine requirements of age and of participation and 9% which combine age, service and participation. The vesting provisions under 4 plans are unique in that vesting is provided when the number of years of service plus the attained age is equal to 75. In addition to those shown above, common provisions found among plans with initial full vesting include a requirement of 20 years of service (16 plans) and attainment of age 55 with 15 years of service (15 plans). Appendix Tables D-1, D-2, and D-3 set out certain combinations of provisions for full vesting.

Of the 65 plans providing for graded vesting, 85% (55 plans) use years of service or of participation as the criterion, while 12% combine age with years of service or of participation. Considerable variation exists in the length of service or membership required for partial vesting (see Appendix Tables E-1 and E-2). The period for initial partial vesting ranges from 1 to 20 years (typically 10), with vesting complete at from 10 to 38 years (typically 20). Furthermore, the relative amount of employer contributions initially vested ranges from 5 to 50%, with the latter the most frequent. The most common provisions under graded vesting are:

Provision	Number of Plans
25% vests at 5 years of service, complete at 20 years	9
25% vests at 5 years of participation, complete at 20 years	8
50% vests at 10 years of service, complete at 20 years	6
50% vests at 10 years of participation, complete at 20 years	5

In several plans the rate at which employer contributions vest is not uniform. In 2 plans it is restricted to 50% after 10 but less than 20 years of continuous service, with complete vesting taking place after 20 years. Under a third plan, an employee having attained age 45 and having participated in the plan from 10 to 15 years, is entitled on termination of employment to 50% of the deferred annuities purchased with the employer contributions, while at age 50 after 15 years of membership, he is entitled to the full amount deferred to his normal or earlier retirement date. In another plan complete vesting is not attainable--20% vests after 10 years of service increasing by 5-year intervals to 50% after 25 or more years of service.

In addition to the 17 plans identified as alternates, 2 plans with somewhat similar provisions are classifiable in other categories. Although the vesting provisions of these 19 plans vary considerably (see Appendix Table D-3), several generalizations may be made. In the majority of the plans, age is used in conjunction with service or with participation as the vesting provision, with the alternate requirement increasing the number of years required and eliminating the age condition. One of the most

Table 14

DISTRIBUTION OF PLANS BY MINIMUM AGE REQUIREMENT UNDER VESTING PROVISIONS

<u>Minimum Age Requirement</u>	<u>Percentage Distribution</u>				<u>Total Plans</u>	
	<u>Con-tributory</u>	<u>Noncon-tributory</u>	<u>Full Vesting</u>	<u>Graded Vesting</u>	<u>Number</u>	<u>Percent</u>
None	50%	51%	42%	86%	165 ^{a/}	51%
35	1	1	1	-	2	1
40	7	10	9	3	26	8
45	14	9	14	6	42	13
50	9	8	10	3	28	8
55	16	20	21	2	56	17
55 (F50)	1	-	1	-	2	1
60	2	1	2	-	5	1
Total, with Age Requirement	50	49	58	14	161	49
Total, with Vesting	100	100	100	100	326	100

a/ Includes 15 plans with age a requirement in an alternate provision.

flexible provides vesting after 15 years of participation or at age 50 after 10 years of participation; with each successive 5-year age increase (not to exceed age 60), the required years of participation decrease by a similar number. In 3 plans either an age condition or a period of service is required; while in 2 others vesting is contingent on either a period of service or a shorter period of participation.

Table 14 points out that about $\frac{1}{2}$ of the plans (161) with vesting provisions require the attainment of a minimum age with or without auxiliary stipulations. The most common ages are 55 and 45 used in 17% and 13% of the plans, respectively. Of the plans which provide for full vesting 58% have an age requirement, while of those with graded vesting only 14% have such a requirement. Furthermore, plans with graded vesting tend to begin vesting at a lower age than those with full vesting.

In Table 15, for purposes of analysis, the required period of participation before vesting takes place has been converted to a service period by adding thereto the eligibility period for membership. Where there is no participation or service requirement in the vesting provisions, the eligibility period has been used as the minimum. On this basis the most usual period of service required before employer contributions vest is 10 years, applicable in 29% of the plans with vesting. Of the plans with full vesting 50% use a service period in excess of 10 years, whereas only 27% of those with graded vesting require such longer period before initial vesting.

As indicated under Section E, Retirement Age, 4 plans provide deferred annuities in event of termination of service due to disability. The usual vesting requirements are then waived, and the employee receives full title to the deferred benefits.

Thus far the analysis has pointed out the vesting provisions applicable to employer contributions for future service only. In 245 plans or approximately $\frac{3}{4}$ of those with vesting, the provisions are the same with respect to employer contributions for past service; in 7% (22 plans) they differ and in the remaining 18% (59 plans), 39 do not provide past service benefits, and 20 vest only the future service employer contributions. For the 22 plans which differentiate between past and future service vesting, the most typical provision (8 plans) calls for vesting of future service benefits after 10 years of participation and of past service benefits at age 45 after 15 years of participation. Two plans have unusual provisions; in one future service contributions vest fully after a period of 5 years of participation, while only 50% of past service vests initially (with the remaining portion vesting after 5 additional years). In the other plan future service vests after 20 years of service, while past service vests at the rate of 10% for each year of participation.

Table 15

DISTRIBUTION OF PLANS BY MINIMUM SERVICE REQUIREMENT UNDER VESTING PROVISIONS a/

Minimum Service Requirement ^{a/} (Years)	Full Vesting			Graded Vesting			Total Plans
	Con- tributory	Noncon- tributory	Total	Con- tributory	Noncon- tributory	Total	
Number of Plans							
None	1	1	2	-	-	-	2
Less than 5	8	4	12	1	-	1	13
5	21	5	26	10	5 ^{b/}	15	41
6-9	16	3	19	5	4 ^{b/}	9	28
10	61 ^{c/}	10 ^{d/}	71	9	14	23	94
11-14	14	4	18	3	4	7	25
15	41	14	55	6	1	7	62
16-19	4	2	6	-	-	-	6
20	41	7	48	1	2	3	51
25 and over	4	-	4	-	-	-	4
Total	211	50	261	35	30	65	326

Percentage Distribution of Plans

None		2%	1%	-	-	-	1%
Less than 5	4 ^{e/}	8	5	3%	-	1%	4
5	10	10	10	29	17%	23	12
6-9	8	6	7	14	13	14	8
10	29	20	27	26	47	35	29
11-14	7	8	7	8	13	11	8
15	19	28	21	17	3	11	19
16-19	2	4	2	-	-	-	2
20	19	14	18	3	7	5	16
25 and over	2	-	2	-	-	-	1
Total	100	100	100	100	100	100	100

a/ As determined in conjunction with eligibility requirements.

b/ 1 plan waives service requirement in event of disability.

c/ In 4 plans service requirement varies with attained age; 2 waive service requirement in event of disability.

d/ Represents service requirement of 1 plan for salaried employees, 13 years required for hourly workers.

e/ Less than $\frac{1}{2}$ %.

The bulk of the plans with vesting indicate that the employee severing employment before his normal or earlier retirement date is entitled to that portion of past service annuities which has been purchased at time of termination. About 6% provide that he is entitled to the full past service benefits whether or not they have been purchased before termination. In other words the employer will continue the purchase of past service benefits on his behalf after termination of employment; such vested annuities are payable at the normal retirement date. Slightly more than $\frac{1}{3}$ of the plans indicate that reduced annuities payable at the earliest optional retirement date may be elected.

Comparison of Contributory and Noncontributory Plans

A higher proportion of the contributory (95%) than of the noncontributory (91%) provide for vesting. Furthermore, of those with vesting only 14% of the former in contrast with 38% of the latter begin with partial vesting. There is little difference in age restrictions as between the two types (see Table 14).

A service or participation requirement appears in 94% of the contributory plans with vesting and in 92% of the noncontributory. The service requirement tends to be slightly more restrictive under the contributory. Considering vesting requirements in conjunction with eligibility requirements, a minimum period of more than 10 years is required in 46% of the contributory with vesting as compared with 42% of the noncontributory. The requirement is 20 years or more in 19% of the former as against 11% of the latter. Full vesting is effective immediately after meeting the eligibility requirements in 4% of the noncontributory plans having vesting and in less than 1% of the contributory. Most of the variation as between the 2 types may be explained by the relatively greater frequency of initial partial vesting (with less restrictive provisions than for full vesting) among the noncontributory plans.

Comparison with Previous Study

In the current study 94% of the plans provide for vesting as compared with 93% in the earlier study. Full vesting has gained at the expense of graded vesting. This can be explained by the smaller proportion of noncontributory plans (among which graded vesting is more common) in the present study. The distribution of all plans analyzed is as follows:

<u>Provision</u>	<u>Current Study</u>	<u>Previous Study</u>
Full vesting	75%	70%
Graded vesting	19	23
No vesting	6	7
Total	100	100

Of those with full vesting there are no age, service, or participation requirements (other than those for membership) to be met in 1½% of the plans of each study; in other words these plans provide for full immediate vesting.

The two most common conditions, service alone and combined age and service, used by approximately ½ of the plans with vesting in each study remain the same. The latter has gained in popularity in that 24% of those with vesting in the previous study have a service requirement only, in contrast with 29% in the current study. Vesting is conditioned on a minimum age (as at least one of the requirements) in 49% of the plans with vesting, as compared with 37% in the earlier study. The distributions according to minimum age are as follows:

<u>Minimum Age</u>	<u>Current Study</u>	<u>Previous Study</u>
45 or less	72%	82%
46-54	9	8
55 and over	19	10
Total with vesting	100	100

The service requirements seem somewhat longer in the current study. In the following table the minimum years of service have been obtained by considering the vesting provisions in conjunction with the waiting period of the eligibility provision:

<u>Minimum Years of Service</u>	<u>Current Study</u>	<u>Previous Study</u>
10 or less	55%	63%
11 to 19	28	27
20 or over	17	10
Total	100	100

Different provisions for vesting of future and past service benefits are more frequent in this study than in the previous one.

In summary, while a slightly higher proportion of the plans of the current study provide for vesting, more of them begin with partial vesting, and the requirements tend to be somewhat more restrictive than under plans of the previous study. In each study 5 years of participation with no auxiliary requirement is the most common vesting provision.

J. INTEGRATION WITH SOCIAL SECURITY RETIREMENT BENEFITS

The retirement income provided by the 346 plans of the study is supplemental to benefits payable under the OASI program of the Social Security Act. Although these are independent of each other, there is a degree of correlation between them in the majority of cases. Since contributions and benefits under the Federal program were based on only the first \$3000 of annual earnings at the time the plans in this study were adopted (i.e. prior to September 1950), many plans provide for lower rates with respect to the first \$3000 than for the excess. The maximum applicable under OASI since 1950 is \$3600; the limited experience to date seems to indicate that for plans established after 1950, a few use the former \$3000 "breaking point" and others use \$3600, while most revisions of plans in effect prior to 1951 did not include as an amendment any change in this point (when it was present). A number of plans also recognize the relatively higher OASI benefit rate applicable to the first \$600 of annual earnings (effective prior to the 1950 Amendments; currently, at \$1200). In other plans the benefits under the group annuity are a uniform percentage of all earnings.

According to Table 16, 240 plans of the study (69%) have direct integrating features. The most common form, used by 183 plans (53%), has a uniform benefit rate on the first \$3000 of annual earnings with a higher rate on the excess amount. An intermediate change occurs below \$3000 in 47 plans (14%). Among these, 28 plans, in computing benefits, use one rate up to a point somewhat below \$3000, then a higher rate up to \$3000, and then a still higher rate; 19 of such plans use \$1200 as the first point of change. An example of a formula of this type is 1% of the first \$1200, plus $1\frac{1}{2}\%$ of the next \$1800, plus 2% of the excess over \$3000; for an individual earning \$3000 or more this is equivalent to 1.3% of the first \$3000 plus 2% of the excess. In the other 19 plans, a portion of the first \$3000 is disregarded in benefit calculations, and there is an increase in rate at \$3000; in all but 2 such plans, the first \$600 of annual earnings is omitted. An example of a formula of this type is nothing on the first \$600, 1% of the next \$2400, plus $1\frac{1}{2}\%$ of the excess over \$3000; for an individual earning \$3000 or more this is equivalent to .8% of the first \$3000 plus $1\frac{1}{2}\%$ of the excess. These intermediate changes result, for all wage levels, in a total benefit including the OASI old-age benefit which is a more nearly uniform percentage of wages than the OASI benefits considered alone.

Among the remaining 10 plans with direct integration, 5 disregard annual earnings below the first \$3000 in computing benefits. In the 3 plans classified as miscellaneous, the point of change varies, with no change at \$3000. In 2 plans, the OASI benefit is recognized as an integral part of total benefits in that the latter are offset by the full amount of the old-age benefit.

Table 16

DISTRIBUTION OF PLANS BY METHOD OF INTEGRATING FUTURE SERVICE BENEFITS WITH
OLD-AGE AND SURVIVORS INSURANCE IN CURRENT AND PREVIOUS STUDY

Formula as Related to Annual Earnings	Current Study, 1946-50			Previous Study 1942-46	
	Number		Percent	Percent	
	Con- tributory	Noncon- tributory	Total	Total	Percent
Changes at \$3000 only	153 ^{a/}	30	183	53%	52%
Changes below and at \$3000	24 ^{b/}	4 ^{c/}	28	8	9
Omits first \$300, changes at \$3000	1	-	1	d/	-
Omits first \$600, changes at \$3000	12 ^{e/}	5	17	5	3
Omits first \$1500, changes at \$3000	1	-	1	d/	1 ^{f/}
Omits first \$3000	3	2	5	1	9
Miscellaneous	2 ^{g/}	1 ^{h/}	3	1	2
Plans with nonuniform formula	196	42	238	68	76
OASI offset in normal benefit	-	2 ^{i/}	2	1	d/
No Integration in Future Service formula	62	44 ^{j/}	106	31	24
Total	258	88 ^{k/}	346	100	100

a/ 1 plan changes at \$3600.

b/ 4 plans change at \$600; 15 at \$1200; 1 at \$1440; 3 at \$1560; and 1 at \$1800.

c/ Change at \$1200.

d/ Less than 1/2%.

e/ 2 plans have an additional change below \$3000.

f/ Includes 3 plans which omit first \$1200.

g/ 1 plan changes at \$1200, and the other omits the first \$600, with neither changing at \$3000.

h/ Omits the first \$600 and does not change at \$3000.

i/ 1 plan has prorata offset for years of service, 15 to 25 years (benefits conditioned on 15 years of service).

j/ 1 plan decreases the rate at \$5000.

k/ Offset of OASI old-age benefits in minimum provision of 5 plans and in both minimum and maximum provision of another plan.

There are 106 plans (31%) with no integrating features, and in all except one the future service benefit formula is uniform for all credited wages. Included are 6 plans which credit only the first \$3000 of annual earnings. Also included in this group with no integration, are those plans utilizing the most common benefit formula of the study-1% for future service and $\frac{3}{4}$ % for past service.

Thus far the analysis has emphasized the integrating features of future service benefits. For past service, the benefit formulas have a higher degree of uniformity, and benefits a lesser degree of integration, than for future service. Among the 297 plans which provide past service formulas (43 plans make no provision for past service and 6 provide it under previous agreements), 125 (43%) have direct integrating features, whereas the remaining 172 (57%) with one exception have uniform benefit formulas; corresponding percentages for future service are 69% and 31% respectively. Of the 125 plans with integration of past service and OASI benefits, 106 shift to a higher benefit rate after the first \$3000 of annual earnings in benefit calculations-89 plans have a rate change at \$3000 only and 17 have an additional intermediate change with 9 of them increasing the benefit rate after \$1200 (or some other portion of earnings below \$3000) and 8 omitting the first \$600. The same 5 plans which disregard the first \$3000 of annual earnings in computing future service benefits likewise omit them in past service calculations. The past and future service is combined in calculating benefits for the 2 plans with the full offset of the OASI old-age benefits.

In 5 plans with normal retirement age for women below age 65, the employer provides an additional benefit equal to the estimated OASI old-age benefit payable until the latter becomes effective at age 65. One of these also provides similar benefits for men retiring under the earlier optional provision but after attainment of age 60 and with 20 years of service.

Among the plans providing stipulated minimum benefits, are 6 which include the OASI old-age benefits in their minimums. In 2 of these the benefit formula is nonuniform changing to a higher rate at the \$3000 annual wage level (1 changes at \$1200 also). In 4 of them, the benefit rate is uniform for all earnings, with 1 having a full offset of the OASI old-age benefits. Such benefits are also included in the maximum benefit of 1 of these plans.

A form of coordination not included in the benefit formulas is identified as the "Social Security Adjustment Option", (see page 15 for explanation). Over $\frac{1}{2}$ of the plans have such a provision which, if elected, results in a total benefit including the OASI old-age benefit which is practically uniform throughout the retirement period regardless of age at retirement.

A number of plans point out that if OASI is amended, their plans will also be revised. For example, 1 plan indicates that if any change is made in the amount of earnings to be taxed for OASI purposes, future contributions and benefits will be revised accordingly (e.g. the point of change in the formula will be raised from \$3000). Another one states

that no revisions will be made in the provisions of the plan with respect to those participants who have completed 20 years of service and attained age 55. A plan with the full offset of OASI old-age benefits provides that if such benefits are increased, then total benefits will be raised by a similar amount.

Comparison of Contributory and Noncontributory Plans

Integration of the group annuity benefits with those of OASI is considerably more prevalent among contributory than noncontributory plans. Slightly more than $\frac{3}{4}$ of the former, as compared with $\frac{1}{2}$ of the latter, have such features. Among plans with integration, the bulk of both types (78% contributory as against 67% noncontributory) use a uniform future service benefit formula on the first \$3000 of annual earnings and a higher rate on the excess. On the other hand, relatively twice as many of the non-contributory (18%) as of the contributory (9%) omit all or a portion of the first \$3000 of annual earnings.

Comparison with Plans of Previous Study

The trend away from integration of group annuity and OASI benefits, observed in previous studies, still continues. In the current study 31% of the plans as compared with 24% of the previous one had no such integrating features (the corresponding percentage for prewar plans is 5%). The difference between the 2 most recent studies is attributed principally to the decrease in the percentage of plans which omit the first \$3000 of annual earnings in computing benefits. The present study has only 5 such plans (2%), whereas 32 plans (9%) under the previous one disregard such earnings.

K. COMPARISON OF PLANS WITH THOSE UNDERWRITTEN IN EARLIER PERIODS

A comparison of certain features of the group annuity plans inaugurated during 3 periods is of interest. Actuarial Study No. 25 reports on those of 1942-46. A less comprehensive analysis was made of 382 group annuities underwritten in 1938-42, but no formal report was prepared.

The following table shows some of the variations, giving the proportion of the total plans containing the particular feature:

Feature	Period Adopted		
	1938-42	1942-46	1946-50
Contributory	95%	58%	75%
Money purchase	33	11	5
Covering only annual earnings above \$3000	11	9	2
Eligibility requirement of more than 1 year of service	17	63	65
Eligibility requirement of age 30 or above	31	27	37
Normal retirement age of 65 for men	98	97	98
Sex differential in normal retirement age	14	15	12
Provision for maximum benefit ^{a/}	62	56	29
Provision for vesting	92	93	94
No integration of future service benefits with OASI	5	24	31

a/ Either through limitation of total annuity or of earnings used in benefit computation.

A larger proportion of the plans inaugurated during World War II were of the noncontributory type than of those inaugurated before and after the war. Money purchase plans have been steadily decreasing in popularity. Beginning at about the opening of World War II, the service requirements for membership tended to increase, and there has been no reversal since the war. An age stipulation is becoming more common.

No noticeable change has occurred in the normal retirement age; the proportion using the same age for men and women is increasing. Practically all plans provide for optional earlier retirement. It is becoming more common to indicate a definite minimum age for such earlier retirement--the intermediate study shows 92%, while in the current study the proportion is 98%. Of the plans which specify a minimum age, 93% in the intermediate and 95% in the current study stipulate age 55. When retirement is deferred

beyond the normal retirement age, the most recent plans show a greater tendency to defer the benefits until actual retirement--52% as compared with 24% among plans adopted in the 1942-46 period.

In all 3 periods the most popular employee contribution rate is 2% of the first \$3000 of earnings (or major portion thereof) plus 4% of the excess. The averaged employee contribution rates for the 3 periods are:

<u>Period</u>	<u>On First \$3000 (or Major Portion)</u>	<u>Above \$3000</u>
1938-42	2.1%	4.3%
1942-46	2.5	4.0
1946-50	2.6	4.0

The averaged future service benefit rates are as follows for plans of the unit annuity type:

<u>Period</u>	<u>On First \$3000 (or Major Portion)</u>	<u>Above \$3000</u>
1938-42	.8%	1.6%
1942-46	.9	1.4
1946-50	1.0	1.5

While the averaged future service benefit formulas are higher in the current study than in the intermediate one, the averaged past service benefits are correspondingly lower and in about the same degree. In plans under which there is a uniform relationship between the employee contribution rate and the future service benefit rate, the averaged number of years of future service retirement benefits required for a full return of employee contributions is 2.5 years in the last 2 studies as compared with 2.8 years in the earlier period. This indicates a larger proportion of cost of future benefits from employer contributions in the later plans. For noncontributory plans the straight annuity with no death benefit and for contributory plans the modified cash refund annuity are still preponderant although the annuity with a definite guaranteed period (5 or 10 years) is gaining in popularity as the normal form of retirement benefit.

A smaller percent of the plans set a maximum benefit. It has sometimes been said that the higher paid employees now have less opportunity to provide adequately for themselves due to the increased income tax rates and this trend may be in recognition thereof.

Vesting of employer contributions continues to be very common; however, the conditions are becoming somewhat more restrictive. Integration with OASI benefits is less prevalent than in the early years of the Social Security program but is still noted in 69% of the 1946-50 plans.

Table A

UNIT OF ANNUITY EXPRESSED AS PERCENT OF EARNINGS PER YEAR OF CREDITED SERVICE,
CONTRIBUTORY (243 PLANS)

Future Service		Past Service		Number of Plans
First \$3,000	Excess	First \$3,000	Excess	
2	2	----	----	1
1 1/2	2 1/2	1	1 3/4	1
1 1/2 ^{a/}	2	1 1/2	1 1/2	1
1 1/2 ^{b/}	2	1 1/4 ^{b/}	1 1/2	2
1 1/2 ^{a/}	2	1 ^{c/}	1 1/2	2
1 1/2 ^{d/}	2	1 ^{d/}	1 1/4	1
1 1/2	2	----	----	1
1 1/2	1 1/2	1 1/4	1 1/4	1
1 1/2 ^{e/}	1 1/2	1 ^{e/}	1	4
1 1/2	1 1/2	2/3	2/3	1
1 1/2 ^{a/}	1 1/2	---- ^{f/}	---- ^{f/}	6
1 1/3	2	1	1 1/2	1
1 1/3 ^{g/}	2	----	----	3
1 1/3	1 1/3	1 1/3	1 1/3	1
1 1/3	1 1/3	2/3	2/3	1
1 1/4	2 1/2	----	----	1
1 1/4	2	1 1/10	1 1/2	1
1 1/4	2	1	1 3/5	1
1 1/4	2	3/4	3/4	1
1 1/4 ^{h/}	1 3/4	1	1	2
1 1/4 ^{i/}	1 1/2	1 ^{i/}	1 1/5	1
1 1/4	1 1/4	1	1	1
1 1/5	2	1/2	1/2	1
1 1/5	1.92	3/4	1 1/4	1
1	2	2 ^{j/}	2 ^{j/}	1
1	2	1	1 3/4	1
1	2	1	1 1/2	2
1 ^{k/1/}	2	1 ^{1/}	1	16
1	2	3/4	1 1/2	4
1	2	3/4	1 1/4	1
1	2	3/4	3/4	5
1	2	2/3	2/3	2
1	2	1/2	1	5
1	2	----	----	4
1	1 4/5	1	1 1/4	1 ^{m/}
1 ^{k/}	1 3/4	3/4 ^{k/}	1 1/4	1
1 ^{k/}	1 2/3	3/4 ^{k/}	1 1/4	1
1 ^{n/}	1 1/2	1 ^{n/}	1 1/2	1
1 ^{c/k/}	1 1/2	1 ^{k/}	1	5
1	1 1/2	3/4	1 1/8	2

See footnotes at end of table.

(Continued)

Table A (continued)

Future Service		Past Service		Number of Plans
First \$3,000	Excess	First \$3,000	Excess	
<u>1c/o/</u>	1 1/2	3/4 ^{o/}	1	7
<u>1h/</u>	1 1/2	3/4 ^{p/}	3/4	11
1	1 1/2	3/5	4/5	1
<u>1q/</u>	1 1/2	1/2	1	3
1	1 1/2	3/8	9/16	1
1	1 1/2	3/8	1/2	1
<u>1r/</u>	1 1/2	<u>f/</u>	<u>f/</u>	5
1	1 2/5	3/5	21/25	1
1	1 1/4	5/8	5/8	1
1	1	1	1	9
<u>1k/</u>	<u>1s/</u>	3/4 ^{k/}	3/4 ^{s/}	17
1	1	2/3	2/3	2
1	1	1/2	1/2	5
1	1	1/2 ^{t/}	---	1
1	1	---	---	2
1	---	3/4	---	1
1	---	1/2	---	3
9/10 ^{n/}	1 1/4	7/10	7/10	1
4/5	2	1/2	1	1
4/5	1 3/5	1/2	1	3
4/5	1 1/2	2/5	4/5	9
4/5	1 1/2	---	---	2
4/5 ^{k/}	1 1/5	1/2	1/2	1
3/4	1 3/4	3/4	3/4	1
3/4	1 3/4	---	---	2
3/4	1 1/2	<u>1k/</u>	1	2
3/4	1 1/2	3/4	1 1/4	1
3/4	1 1/2	3/4	1	4
3/4	1 1/2	3/4	3/4	8
3/4	1 1/2	2/3 ^{v/}	1	2
3/4	1 1/2	5/8	5/8	1
3/4	1 1/2	1/2	1	9
3/4	1 1/2	1/2	3/4	3
3/4	1 1/2	1/2	1/2	5
3/4	1 1/2	3/8	3/8	1
3/4	1 1/2	---	---	4
3/4	1 1/4	3/4	1 1/4	1
3/4	1 1/4	3/5	1	1
3/4	1 1/4	1/2	1/2	2
3/4	3/4	3/4	3/4	2

See footnotes at end of table.

(Continued)

Table A (continued)

Future Service		Past Service		Number of Plans
First \$3,000	Excess	First \$3,000	Excess	
3/4	3/4	1/2	1/2	2
3/4	---	1/2	---	1
2/3	1 1/3	1/2	1/2	1
2/3	1 1/6	1/2	1	1
2/3	2/3	1/2	1/2	1
3/5 ^{w/}	1 1/2	3/5	1 1/2	1
3/5	1 1/2	1/2	3/4	1
3/5 ^{w/}	1 1/2	f/	f/	1
3/5	1 1/5	3/5	4/5	1
3/5	1 1/5	1/2	1	1
3/5	1 1/5	1/2	1/2	1
1/2	1 1/4	---	---	1
1/2	1/2	1/2	1/2	1
---	1 1/2	---	3/4	3

a/ 1% to \$1,200 - 1 plan.

b/ On first \$1,200 future service 1% - both plans; past service 1% and 3/4%.

c/ 3/4% to \$1,200 - 1 plan.

d/ On first \$600 future service 1%; past service 3/10%.

e/ First \$600 disregarded, 3/4% from \$600 to \$1,920 - 1 plan.

f/ Separate plan for past service - 1 plan.

g/ 1% first \$1,560 - 2 plans.

h/ 3/4% to \$1,200 - 2 plans.

i/ 5/8% to \$1,440.

j/ Deduct up to \$150 from total annual past service benefit.

k/ First \$600 disregarded - 1 plan.

l/ First \$1,500 disregarded - 1 plan.

m/ From \$1,800 to \$3,000 past service 4/5%; 1.65% future service on total salary for those with salaries of \$12,000 or more.

n/ 1/2% to \$600.

o/ 1/2% to \$1,200 for future service - 2 plans; for past service - 3 plans.

p/ Past service 1/2% to age 35 - 3 plans.

q/ 1/2% to \$1,200 - 1 plan.

r/ First \$600 disregarded - 3 plans.

s/ Supplemented by insurance annuity providing 20% of annual earnings above \$3,600 - 1 plan.

t/ On first \$2,400 only.

u/ 7/10% to \$1,200 - 1 plan.

v/ First \$600 disregarded - 2 plans.

w/ 9/20 to \$600.

Table B

UNIT OF ANNUITY EXPRESSED AS PERCENT OF EARNINGS PER YEAR OF CREDITED SERVICE,
NONCONTRIBUTORY (75 Plans)

Future Service		Past Service		Number of Plans
First \$3,000	Excess	First \$3000	Excess	
2 1/4 ^{a/}	2	2 ^{a/}	1 1/2	1
1 3/4	1 3/4	1 1/4	1 1/4	1
1 1/2 ^{b/}	2	1	1 1/2	1
1 1/2 ^{b/}	2	1 ^{c/}	1	1
1 2/5	1 2/5	1 2/5	1 2/5	1
1 3/10 ^{b/}	1 1/2	1	1	1
1 1/4 ^{c/}	1 1/2	1 ^{c/}	1 1/4	1
1	2	1	1 1/2	2
1	2	1	1	4
1	2	3/4	1 1/2	2
1	2	---	---	1
1 ^{c/}	1 2/3	4/5 ^{c/}	1 1/3	1
1 ^{c/}	1 1/2	1 ^{c/}	1 1/2	3
1 ^{c/}	1 1/2	1	1	2
1	1 1/2	4/5	1 1/5	1
1 ^{d/}	1 1/2	3/4	1	2
1 ^{c/}	1 1/2	3/4 ^{c/}	3/4	2
1 ^{c/}	1	1 ^{c/}	1	10 ^{e/}
1	1	4/5	4/5	1
1	1	3/4	3/4	8 ^{f/}
1	1	3/5	3/5	1
1	1	1/2	1/2	3
1	1	---	---	1
1	---	1/2	---	1
4/5	1 1/5	4/5	1 1/5	1
3/4	1 1/2	3/4 ^{g/}	1 1/2	3
3/4	1 1/2	3/4	1	1
3/4	1 1/2	3/4	3/4	6
3/4	1 1/2	1/2	1	1
3/4	1	1/2	3/4	1
3/4	3/4	3/4	3/4	5
3/4	3/4	1/2	1/2	2
3/4	---	3/4	---	1
1/2	1	1/2	1/2	1
1/2	1/2	1/2	1/2	1
---	1	---	3/4	1

a/ On first \$5000.

b/ 1% to \$1200.

c/ First \$600 disregarded - 1 plan.

d/ 3/4% to \$1200 - 1 plan.

e/ Based on final 10 year average, includes OASI - 1 plan; 1/2% for past service to 6-15-33 - 1 plan.

f/ Benefit increased by 25% of average annual earnings above \$3000 during 10 year period prior to age 60 - 1 plan; benefit increased by 2 1/4% of annual wage at date of entrance - 1 plan.

g/ 1 1/2% for period prior to 10-1-36 - 1 plan.

Table C

EMPLOYEE CONTRIBUTIONS EXPRESSED AS PERCENT OF EARNINGS (258 PLANS)

<u>First \$3,000</u>	<u>Excess</u>	<u>Number of Plans</u>	<u>First \$3,000</u>	<u>Excess</u>	<u>Number of Plans</u>
6% ^{a/}	6%	1	2 1/4%	2 1/4%	2
4 1/2 ^{b/}	6	1	2 1/5	3 3/10	1
4 1/2 ^{b/}	4 1/2	2	2	6	2
4 1/6 ^{c/}	5	1	2	5	7
4	8	2	2 ^{a/}	4 1/2	2
4	4	3	2	4	49
3 3/4 ^{d/}	5 1/4	1	2 ^{k/}	3 1/2	1
3 3/5	4 4/5	1	2 ^{a/1/}	3	16
3 1/2	3 1/2	1	2	2	15
3 1/3 ^{a/}	5	1	2	-	5
3 1/3 ^{a/}	4 2/3	1	1 7/8	3 3/4	1
3 ^{e/}	6	5	1 4/5	4 1/5	1
3	5	2	1 4/5 ^{m/}	2 1/2	1
3 ^{f/}	4 1/2	16	1 3/4	3 1/2	1
3 ^{g/}	4	6	1 3/5	4	2
3	3 3/4	1	1 3/5	3 1/5	2
3	3	21	1 1/2 ^{n/}	4 1/2	1
3	-	2	1 1/2	3 1/2	2
2 7/10	4.32	1	1 1/2	3	7
2 2/3 ^{h/}	4	1	1 1/2	2 1/2	1
2 1/2	5	21	1 1/2	1 1/2	1
2 1/2 ^{i/}	4 1/2	1	1.44 ^{o/}	3 3/5	1
2 1/2	4	1	1	1 ^{p/}	1
2 1/2	3 3/4	1	-	6	2
2 1/2 ^{i/}	3 1/2	1	-	5 1/4	1
2 1/2	2 1/2	6	-	5	4
2 2/5	4 1/2	11	-	4	2
2 2/5 ^{a/}	3 3/5	1	-	3	2
2 1/4	4 1/2	9			
2 1/4	3 3/4	2	Miscellaneous		19/

a/ None on first \$600 in 1 plan.

b/ 3% to \$1,200 in 1 plan.

c/ 2 1/12% to \$1,440.

d/ 2 1/4% to \$1,200.

e/ None on first \$600, 2% from \$600 to \$1,800 in 1 plan.

f/ None on first \$600 in 2 plans; 1 1/2% to \$600 in 1 plan; 2% from \$600 to \$1,800 in 1 plan.

g/ None on first \$1,200 in 1 plan; 2% to \$1,200 in 3 plans; 2% to \$600 in 1 plan.

h/ \$24 for first \$1,200.

i/ 3 1/2% \$1,800 to \$3,000.

j/ 1 1/2% to \$1,200.

k/ First \$1,500 covered under previous plan.

l/ 1 1/2% to \$1,200 in 2 plans; 1% to \$1,200 in 4 plans.

m/ 1 2/5% to \$1,200.

n/ 3% \$1,600 to \$3,000.

o/ 1% to \$1,200.

p/ Salaried employees covered for first \$3,000 only.

q/ Flat \$30 per year.

Table D-1

PLANS WITH INITIAL FULL VESTING HAVING SERVICE OR SERVICE AND PARTICIPATION CONDITIONS, DISTRIBUTED BY AGE AND SERVICE REQUIREMENTS a/

<u>Years of Service</u>	<u>Age Requirement</u>					<u>Total</u>
	<u>None</u>	<u>40</u>	<u>45</u>	<u>50</u>	<u>55 and over</u>	
None	<u>a/</u>	-	-	-	<u>9b/</u>	9
5	<u>9c/</u>	<u>2d/</u>	3	-	-	14
10	<u>14e/</u>	8	12	2	<u>7b/</u>	43
11-13	-	3	-	-	-	3
15	12	3	9	10	<u>16b/f/</u>	50
16-17	-	-	1	-	<u>1f/</u>	2
20	16	1	-	10	<u>24b/g/</u>	51
25	-	-	-	-	2	2
30	-	-	-	-	1	1
Total	51	17	25	22	60	175 <u>h/</u>

a/ In addition to the plans shown here, there are 5 plans with no age, service, or participation conditions.

b/ 1 plan has 60 as the age requirement.

c/ 1 plan requires 6 years of service and 1 increases the requirement to 10 years if termination is for cause.

d/ 1 plan has 35 as the age requirement.

e/ Represents service requirement in 1 plan for salaried employees, 13 years required for hourly, and 15 years if termination is for cause.

f/ 1 plan lowers the age 5 years for women.

g/ In 4 plans service decreases 1 year with a similar increase in age.

h/ 31 plans also require a period of participation--5 years in 24 plans and 10 years in 7 plans.

Table D-2

PLANS WITH INITIAL FULL VESTING HAVING PARTICIPATION BUT NO SERVICE CONDITIONS,
DISTRIBUTED BY AGE AND PARTICIPATION REQUIREMENTS

<u>Years of Participation</u>	<u>Age Requirement</u>					<u>Total</u>
	<u>None</u>	<u>40</u>	<u>45</u>	<u>50</u>	<u>55 and over</u>	
5	20 ^{a/}	5 ^{b/}	5	2	-	32
7	-	1	-	-	-	1
10	13	3	6	1	2 ^{c/}	25
12	1	-	-	-	-	1
15	2	-	-	1	-	3
20	1	-	-	-	-	1
Total	37	9	11	4	2	63

a/ 2 plans waive the requirement in event of disability.

b/ 1 plan has 35 as the age requirement.

c/ 1 plan has 60 as the age requirement.

Table D-3

PLANS WITH ALTERNATE PROVISIONS FOR FULL VESTING

Requirement	Number of Plans
Age 50; <u>or</u> 10 years of service	3
Age 55; <u>or</u> 20 years of service	2
Age 60; <u>or</u> 20 years of service	1
Age 45, 5 years of service; <u>or</u> 15 years of service	1
Age 45, 10 years of service; <u>or</u> 15 years of service	1
Age 50, 20 years of service; <u>or</u> 15 years of participation	1
Age 55, 15 years of service; <u>or</u> 10 years of participation	1
Age 60 (F55), 15 years of service; <u>or</u> 25 years of service	1
Age 45, 15 years of service, 5 years of participation; <u>or</u> age 60	1
Age 45, 5 years of participation; <u>or</u> 10 years of participation	1
Age 55, 5 years of participation; <u>or</u> 10 years of participation	1
Age 45, 10 years of participation; <u>or</u> age 55, 5 years of participation	1
Age 50, 10 years of participation; <u>or</u> age 55, 5 years of participation; <u>or</u> age 60; <u>or</u> 15 years of participation	1
Age 55 after 15 years of participation; <u>or</u> after 25 years of participation (40% vesting after 10 years of participation)	1 ^{a/}
20 years of service; <u>or</u> 10 years of participation	1
25 years of service; <u>or</u> 10 years of participation	1
Total	19

^{a/} Classified in the study as graded vesting--included in Table E-2.

Table E-1

PLANS WITH GRADED VESTING PROVISIONS CONDITIONED ON SERVICE OR
SERVICE AND PARTICIPATION

Service Required for Initial Vesting (Years)	Service Required for Complete Vesting							Total
	<u>10</u>	<u>12</u>	<u>15</u>	<u>20</u>	<u>25</u>	<u>30</u>	Other	
5	3	-	1	9 ^{a/}	1 ^{b/}	-	-	14
6	-	1	-	-	-	-	-	1
10	-	-	-	12 ^{c/}	5 ^{d/}	2 ^{e/}	-	19
15	-	-	-	1	-	-	2 ^{f/}	3
20	-	-	-	-	-	3 ^{g/}	-	3
Total	3	1	1	22	6	5	2	40

^{a/} 1 plan waives requirement in event of disability.

^{b/} Vesting complete after 24 years.

^{c/} 1 plan also requires 5 years of participation; 1, the attainment of age 40 for initial and age 50 for complete vesting; and 2, age 45 for initial and ages 55 and 60 respectively for complete vesting.

^{d/} 1 plan provides that no more than 50% of contributions vest.

^{e/} In 1 plan, vesting is complete after 29 years.

^{f/} 1 plan requires 38 years for complete vesting; 1 requires attainment of age 50 and 5 years of participation for initial and age 60 for complete vesting.

^{g/} 1 plan requires attainment of age 55 for initial vesting.

Table E-2

PLANS WITH GRADED VESTING PROVISIONS CONDITIONED ON PARTICIPATION BUT
NOT ON SERVICE

Participation Required for Initial Vesting (Years)	Participation Required for Complete Vesting				Total
	<u>10</u>	<u>15</u>	<u>20</u>	<u>25</u>	
1	1	-	-	-	1
5	-	3 ^{a/}	8	-	11
6	-	2	-	-	2
10	-	2 ^{b/}	7 ^{c/}	2 ^{d/}	11
Total	1	7	15	2	25

^{a/} 1 plan waives requirement in event of disability.

^{b/} Attainment of age 45 for initial and age 50 for complete vesting is also required.

^{c/} 1 plan requires attainment of age 40 for initial vesting.

^{d/} 1 plan also provides full vesting at age 55 after 15 years of participation.