

ANALYSIS OF THE BENEFITS UNDER TITLE II OF THE
SOCIAL SECURITY ACT AMENDMENTS OF 1950

By

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FOREWORD

The extensive amendments to the old-age and survivors insurance system enacted in 1950 represent a continued advance and building on the framework established by the 1939 Amendments, while at the same time adjusting the benefit level for the changes in wage levels and cost of living in the war and postwar periods.

The thorough analysis of the benefit relationships under these amendments which Mr. Wilcox has made is primarily quantitative and mathematical, showing the various benefit relationships developing. The tables of illustrative benefits for the new formula should prove very useful. Some of the mathematical analyses, particularly those concerned with the conversion of benefits under the previous law to increase the benefit amounts, would appear to show peculiarities and inconsistencies in some instances. However, these are only of minor importance since the number of such cases and the amounts involved will be relatively small, but they should be carefully noted and recognized as being present. In a broad social insurance program it is both undesirable and virtually impossible to obtain exact individual equity. However, it can be fairly stated that a very high degree of consistency has on the whole been obtained in these amendments, considering the complexity involved in converting the benefits and bringing under coverage new employment categories.

This Actuarial Study is, in effect, the third of a series. Actuarial Study No. 8 made a somewhat similar analysis for the 1935 Act, while Actuarial Study No. 14 dealt similarly with the 1939 Amendments. The present actuarial study does not set forth the estimated costs of the 1950 Amendments; these are available in "Actuarial Cost Estimates for the Old-Age and Survivors Insurance System as Modified by the Social Security Act Amendments of 1950," July 27, 1950, Committee on Ways and Means.

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ANALYSIS OF THE BENEFITS UNDER TITLE II OF THE
SOCIAL SECURITY ACT AMENDMENTS OF 1950

A. Introduction

A substantial increase in the level of benefits was one of the major changes which the Social Security Act Amendments of 1950^{1/} produced in the Old-Age and Survivors Insurance (OASI) system. For current beneficiaries as well as for those becoming eligible in the near future, this increase is largely effected by means of a "conversion table" appearing in the Amendments. For beneficiaries becoming eligible later, a considerable part of the increase is attributable to a new benefit formula (including a new start average wage) and the use of a larger maximum wage as a basis for benefits.

The monthly benefits, expressed as a percentage of a retired worker's benefit, which are payable to some beneficiary categories have also been increased. Whereas, under the old Act, a parent's benefit was 50% of the primary insurance benefit, it has now been increased to 75%. Similarly, the benefit payable to each surviving child of a deceased insured individual has been increased from the former 50% to the sum of (a) 50% plus (b) 25% divided equally among the eligible surviving children; for the family as a whole, this is equivalent to stating that the first child gets 75% and each additional child 50%.

This study is concerned primarily with the mathematical relationships existing between individual and family benefits, and between benefits and the average wages used for determining them. In discussing these, it has sometimes been considered advisable to deal with topics which are not strictly within the scope of this study, in order to avoid excessive use of references to the Act and the Amendments.

Although the interpretations included herein are thought to be accurate, this study is not to be taken as final authority, which of necessity, lies in the law itself and in the official regulations and rulings already existing or to be made hereafter.

^{1/} Public Law 734 (81st Congress, second session)

B. Insured Status

While this study is concerned primarily with the relationships between wages and benefits, it will be appropriate to include a brief summary of the requirements regarding duration and recency of covered employment, or insured status, for those individuals with wage records.

An individual dying before September 1, 1950 is considered to have been "fully insured" if he had not less than one quarter of coverage^{2/} for each two of the quarters elapsing after 1936, or after the quarter in which he attained the age of twenty-one, whichever is later, and up to but excluding the quarter in which he attained retirement age, or died, whichever first occurred, with a minimum of six quarters of coverage required.

For deaths after August 1950, an individual is fully insured if he has not less than

- (a) 1 quarter of coverage, regardless of when acquired, for each 2 of the quarters elapsing after 1950, or after the quarter in which he attained age 21, whichever is later, and up to but excluding the quarter in which he attained age 65 or died, whichever first occurred, with a minimum of 6 quarters of coverage required; or,
- (b) 40 quarters of coverage.

^{2/} In general, a quarter of coverage means a calendar quarter in which an individual has been paid \$50 or more in covered wages, or for which, after 1950, he has been credited with \$100 or more of self-employment income. Exceptions to this general rule are:

- (1) For years prior to 1951, in the case of an individual who was paid wages of \$3000 or more in any year, each quarter of that year following his first quarter of coverage is deemed to be a quarter of coverage, except the quarter of death or entitlement to a primary insurance benefit, and subsequent quarters.
- (2) For years after 1950, (a) if the wages paid to an individual in a calendar year equal or exceed \$3600, each quarter of such year is a quarter of coverage (subject to Clause (c)); (b) if an individual has self-employment income and if his wages plus self-employment income for a taxable year equal \$3600, each quarter, any part of which falls in such taxable year is a quarter of coverage (subject to clause (c)); and (c) no quarter is counted as a quarter of coverage prior to the beginning of such quarter, and no quarter after the quarter of death is a quarter of coverage.

When the number of elapsed quarters is odd, such number is reduced by one before calculating the number of quarters of coverage required. It should be emphasized that the required quarters of coverage can be obtained at any time and need not be obtained during the period used for determining the required number. For instance, a person attaining age 21 in 1952 has his requirement measured from then but can obtain the needed quarters of coverage at any time--before 1952 (back to 1937), between ages 21 and 65, and after age 65.

A currently insured individual is one who has not less than six quarters of coverage during the 13-quarter period ending with (1) the quarter in which he died or (2) the quarter in which he became entitled to old-age insurance benefits, which, before the Amendments, were known as primary insurance benefits.

Chart I indicates the insured status required of an individual in order for benefits to be paid, on the basis of his coverage, to the various categories of beneficiaries.

In general terms, the chief eligibility requirements other than those dealing with insured status, for the categories of beneficiaries referred to in Chart I are as follows:

Old-Age insurance benefits are payable to a worker who has reached age 65.

Wife's insurance benefits are payable to the wife of a worker entitled to old-age benefits if she has reached age 65, or if she has in her care a child entitled to a child's insurance benefit based on her husband's wage record.

Husband's insurance benefits are payable to the husband of a worker entitled to old-age benefits if he reached age 65 and was receiving at least half of his support from the worker at the time she became entitled to old-age insurance benefits.

Child's insurance benefits are payable to the child of a deceased worker or of a worker entitled to old-age insurance benefits, if the child is unmarried and under age 18, and if the child was dependent on the worker at the time the worker died or became entitled to old-age insurance benefits, as the case may be. (Such dependency is presumed to exist for certain male workers and currently insured women.)

Widow's or widower's insurance benefits are payable when such surviving spouse has reached age 65 and has not remarried. Further, for widower's benefits to be payable, the individual must have been either receiving husband's insurance benefits or receiving at least half of his support from his wife at the time of her death.

Chart I

INSURED STATUS OF WAGE EARNER REQUIRED FOR BENEFITS IN VARIOUS BENEFICIARY CATEGORIES

	<u>Fully Insured</u>	<u>Fully or Currently Insured</u>	<u>Fully and Currently Insured</u>	<u>Entitled to Old-Age Insurance Benefits</u>	<u>Entitled to Old-Age Insurance Benefits and Currently Insured</u>
Old-Age Insurance Benefits	*****				
Wife's Insurance Benefits				*****	
Husband's Insurance Benefits					*****
Child's Insurance Benefits					
(1) Supplementary				*****	
(2) Survivor		***** <u>a/</u>			
Widow's Insurance Benefits	***** <u>a/</u>				
Widower's Insurance Benefits			***** <u>b/</u>		
Mother's Insurance Benefits		***** <u>a/</u>			
Parent's Insurance Benefits	***** <u>a/</u>				
Lump-Sum Death Payments		***** <u>b/</u>			

a/ This benefit available for insured deaths occurring after 1939.

b/ This benefit available for all insured deaths occurring after August 1950. For insured deaths occurring after 1939 and prior to September 1950, lump-sum death payments are available only if there is no survivor who is eligible for monthly benefits for the month in which death occurs.

Mother's insurance benefits are payable to a worker's widow if she has not remarried and has in her care a child of such worker entitled to a child's insurance benefit.

Parent's insurance benefits are payable to the parent of a deceased worker who did not leave an eligible widow, widower, or child, and if the parent has reached age 65, was receiving at least half of his support from the worker at the time of his death, and has not remarried since such worker's death.

All types of beneficiary payments are expressed in terms of the primary insurance amount. Thus, a retired worker's monthly benefit is equal to his primary insurance amount, the monthly benefit of the eligible wife of a retired worker is equal to one-half of her husband's primary insurance amount, and so forth. A restriction on the amount of monthly benefits payable under a specific beneficiary category arises in cases of simultaneous entitlement to benefits. For example, an individual entitled to an old-age insurance benefit and to a larger widow's insurance benefit would, in effect, receive the larger widow's benefit (actually, the full old-age benefit would be paid plus a widow's benefit equal to the excess).

Chart II illustrates how various combinations of beneficiaries build up various multiples of an individual's primary insurance amount. There are certain limits on the total amount of monthly benefits which may be paid out on the basis of a single wage record, and for individuals affected by these limits Chart II will not be applicable. This is discussed more fully hereafter in the section dealing with maximum benefits.

In addition to the monthly benefit payments referred to above, a lump-sum death payment is available when a fully or currently insured individual dies. This is payable to the surviving widow or widower if such surviving spouse was living with such individual at the time of his death. If there is no such widow or widower, payment is made to the person paying the burial expenses, but not to exceed such expenses.

Chart II

BENEFICIARY CATEGORIES ACCORDING TO TOTAL AMOUNT OF BENEFITS PAYABLE

<u>Total Benefits as % of Primary Insurance Amount</u>	<u>Beneficiary Category^{a/}</u>
75%	1 survivor child; widow; dependent widower or parent
100	old-age beneficiary
125	2 survivor children
150	old-age beneficiary and wife; old-age beneficiary and 1 child; old-age beneficiary and dependent husband
175	1 survivor child and mother; 1 survivor child and widow; 1 survivor child and dependent widower; 2 dependent parents
200	3 survivor children
200	old-age beneficiary, wife, and 1 child; old-age beneficiary and 2 children; old-age beneficiary and 1 child and dependent husband
225	2 survivor children and mother; 2 survivor children and widow; 2 survivor children and dependent widower
225	4 survivor children; 3 dependent parents; widow, mother, and 1 child (where mother is a former wife divorced)
300	lump-sum death payment

1
9
1

^{a/} All monthly beneficiaries except mother and child (under 18) must be age 65 or over.

Note: Because of maximum provisions, 225% of primary insurance amount is largest family benefit payable when all beneficiaries are drawing their full individual percentage of primary insurance amount. See text for further explanation.

C. Method of Determining Primary Insurance Amount

An individual's primary insurance amount is determined by one of two methods. One method involves the use of the new benefit formula or "new start" formula, while the other is based on the old benefit formula or a modification thereof, with the resulting benefit being increased by entering the conversion table set forth in the Amendments. The new start formula is used for determining the primary insurance amount of those individuals who attain or would attain age 22 after 1950 (i.e. born after 1928) and who have at least 6 quarters of coverage after 1950.

For retired workers entitled to a monthly benefit for any month prior to September 1950, or for beneficiaries of a worker dying before that time, the primary insurance amount is determined by entering the conversion table with the primary insurance benefit calculated by the old formula. For other individuals who do not have 6 quarters of coverage after 1950, the primary insurance benefit used for entering the conversion table is based on a modification of the old formula without the 1 percent "increment" for years after 1950. This "increment" is referred to at greater length below in connection with the calculation of the primary insurance amount by the old formula in conjunction with the conversion table.

Finally, there is another group of individuals--those who attained age 22 prior to 1951 and who have at least 6 quarters of coverage after 1950. For these individuals, the primary insurance amount is calculated by whichever of the methods referred to above produces the larger primary insurance amount.

The new benefit formula, like the old one, is expressed in terms of the average monthly wage. Determination of this average monthly wage is therefore necessary before the primary insurance amount can be calculated.

D. Calculation of Average Monthly Wage for Use with New Formula

The average monthly wage used with the new formula is found by dividing (a) the total of all wages and self-employment income after an individual's starting date and prior to his wage and self-employment closing dates, respectively, by (b) the number of months after his starting date and prior to his divisor closing date, excluding the months in any quarter which was prior to the quarter in which he attained age 22 and which was not a quarter of coverage. If the computed number of elapsed months in (b) is less than 18, such number is increased to 18.

By "starting date" is meant either December 31, 1950 or, if later, the day preceding the quarter in which the individual attained the age of 22, whichever produces the higher average monthly wage.

In view of the definition of "starting date" it is apparent that only wages and self-employment income for years after 1950 may be used with the new start formula. Furthermore, wages and self-employment income credited in any one calendar year will not exceed a total of \$3600 (except under unusual circumstances involving taxable years which are not calendar years).

The "wage closing date" is the first day of the second quarter preceding the quarter in which an individual dies or becomes entitled to old-age insurance benefits, whichever occurs first.

An individual's "self-employment income closing date" is the first day following the quarter in which his last taxable year ends, provided such year ends before the month in which he died or became entitled to old-age insurance benefits (whichever occurred first) and provided he derived some self-employment income during that year. For purposes of computing an individual's average monthly wage, no self-employment income is to be considered for taxable years ending in or after the month in which he died or became entitled to old-age insurance benefits, whichever first occurred. This provision, section 215(b)(4), is necessary only in instances where an individual's taxable year does not end at the end of a calendar quarter, since in other cases the previous closing date provision accomplishes the same results. For example, suppose an individual's taxable year ends on January 31, 1955, and the individual dies on March 15, 1955; self-employment income in the taxable year ending January 31 would be credited but not that in the subsequent $1\frac{1}{2}$ -month taxable year. In this case, the foregoing exclusion clause is necessary in order to adhere to the general principle that for benefit computation purposes (although not necessarily for eligibility purposes) self-employment income in the taxable year of death or entitlement is not to be counted because of the difficulty of promptly obtaining the necessary reports.

The "divisor closing date" is the later of an individual's wage closing date and his self-employment income closing date. It may be possible for the period used in the denominator of the expression for the average monthly wage to extend beyond the period used in the numerator for determining which income is to be included. For example, an individual with self-employment income and with taxable years coinciding with calendar years, who dies or retires in the last quarter of a year, will have a self-employment income closing date of January 1, but his divisor closing date will be April 1 since it is based on the later wage closing date, regardless of whether he had wages as such. In drafting the amendments, it was believed that such very minor anomalies would be preferable to the complexity inherent in a completely consistent treatment.

For any individual who does not apply for his old-age insurance benefit as soon as he is eligible, because he continues working after attaining age 65 and acquiring fully insured status, application of the foregoing rules would serve to reduce his average monthly wage if his wages and self-employment income after becoming eligible were less than they had been before becoming eligible. Therefore, there is the further provision that when an individual becomes entitled to an old-age benefit or dies (without prior entitlement) after the first quarter in which he both was fully insured and had attained retirement age, his closing dates shall be determined in the same manner as if he had been entitled to old-age insurance benefits in such first quarter, provided that use of such earlier closing dates results in a higher average monthly wage.

Inasmuch as an individual's wage closing date will be from 6 to 9 months before the date of his death, or retirement, it is apparent that in some cases a sizeable amount of earnings may be excluded in the calculation of the average monthly wage. This is particularly serious when the number of months used in the denominator of the average wage formula is increased to the minimum of 18 mentioned above. The reason for so providing is to speed up the calculation of benefits without the necessary delay involved in ascertaining the amount of wages paid to the individual in the months immediately preceding death or retirement since such data are not generally available under normal operating procedures. However, upon application at least 6 months after a wage-earner's death or entitlement to monthly benefits, a recomputation will be made, taking into account those wages known as "lag wages", which were previously disregarded (up to the quarter of death or entitlement), and any increase in monthly benefits will be retroactive to the first payment under the current beneficiary category of the person making application. There is no similar provision applicable in the case of self-employment income, which is on an annual basis corresponding to the individual's taxable year.

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It will be noted that wages and self-employment income earned prior to the quarter in which age 22 is attained may be included in the numerator of the expression for average wage, whereas in the denominator, months in such quarters which are not quarters of coverage are excluded. Thus, it may be possible for an individual's average monthly wage to exceed \$300 (i.e., 1/12th of the taxable maximum of \$3600) although in the benefit calculation no more than \$300 may be used. More commonly, such income earned before age 22 may serve to increase the average monthly wage, when under \$300, based on earnings after that age.

Chart III indicates the various closing dates corresponding to the calendar quarter in which death or retirement occurs. After an individual's average monthly wage has been determined as described above, if it does not happen to be a multiple of \$1, it is reduced to the next lower multiple of \$1 before being used in the calculation of the primary insurance amount.

Chart III

CLOSING DATES USED IN CALCULATION OF AVERAGE MONTHLY WAGE

<u>Closing Date</u>	<u>Quarter of Death or Entitlement to Old-Age Insurance Benefits</u>			
	<u>January-March</u>	<u>April-June</u>	<u>July-September</u>	<u>October-December</u>
For Initial Computation				
Wages	July 1 of previous year	October 1 of previous year	January 1	April 1
Self-Employment Income	January 1	January 1	January 1	January 1
Divisor	January 1*	January 1*	January 1	April 1
For Lag Wage Recomputation				
Wages	January 1	April 1	July 1	October 1
Self-Employment Income	January 1	January 1	January 1	January 1
Divisor	January 1	April 1	July 1	October 1

* Unless individual did not have any self-employment income in previous calendar year, in which case divisor closing date is same as wage closing date.

Note: This chart applicable to self-employment income only when taxable year coincides with calendar year.

E. Calculation of Average Monthly Wage for Use with
Old Formula and Conversion Table

For those individuals who die or become entitled to old-age insurance benefits after August 1950, and whose benefits are to be determined on the basis of the conversion table, the average monthly wage will be computed in the same manner as outlined above, except that the starting date will be December 31, 1936. Thus, calculations based on the conversion table will include all credited wages before 1951 and all wages and self-employment income credited after 1950, the total being averaged over the entire period, starting with 1937, omitting quarters after 1936 which are prior to the quarter of attainment of age 22 if such quarters are not quarters of coverage.

As in the case of average wages for use with the new start formula, wages and self-employment income credited in any year after 1950 will not exceed a total of \$3600 in almost all instances; for 1940-50, the maximum wage creditable for any one year is \$3000. In any event, the average monthly wage so determined may not exceed \$250 for benefit computation purposes.

F. Calculation of Primary Insurance Amount by New Start Formula

The primary insurance amount of an individual from whose wages benefits are to be calculated by the new formula is as follows:

<u>Average Monthly Wage</u>	<u>Primary Insurance Amount</u>
\$30 or less	\$20
31	21
32	22
33	23
34	24
35 to 49	25
50 and over	50% of first \$100 of average monthly wage plus 15% of any balance not exceeding \$200

This formula is straightforward for average monthly wages of up to \$100, but can be put into a more simplified form for calculations where average wages exceed that amount. By an algebraic transformation, the primary insurance amount for average monthly wages of over \$100 may be expressed as:

\$35 plus 15% of average monthly wage (not exceeding \$300)

The results produced by this transformed statement of the formula are of course identical with those obtained by taking 50% of the first \$100 of average monthly wage and adding 15% of the excess over \$100, but the calculation is somewhat simpler than if the steps taken exactly parallel the wording of the Act.

G. Calculation of Primary Insurance Amount by Old Formula in
Conjunction with Conversion Table

When the primary insurance amount is not calculated directly by application of the new formula, it is determined by first calculating the "primary insurance benefit" and then using this benefit to determine the primary insurance amount by means of a conversion table. In this case, the primary insurance benefit is found by following the old formula, according to which the primary insurance benefit is composed of the two parts (a) 40% of the first \$50 of average monthly wage plus 10% of any balance not exceeding \$200, and (b) 1% of the amount computed in (a) multiplied by the number of years prior to 1951 in which \$200 or more of wages were credited. It may be noted that the largest average monthly wage which may be used with the old formula is \$250 even when the calculated average wage exceeds that amount. Part (b) of this formula is generally referred to as the "increment". If the primary insurance benefit as calculated is less than \$10, it is raised to \$10.

As in the case of the new start formula, an algebraic transformation can be made here which will simplify the calculation in part (a) of the formula. For wages of over \$50, the amounts produced by application of part (a) may be duplicated by finding the sum of \$15 plus 10% of the average monthly wage, not exceeding \$250.

The second part of this formula, (b), provides an increase in benefit for each year prior to 1951, in which \$200 or more of covered wages were earned, which follows the corresponding provision of the Social Security Act prior to the 1950 Amendments. Omission of this "increment" from the new start formula mentioned above produces benefits which are independent of the actual number of years in covered employment, although the proportion of an individual's working lifetime after the starting date spent in covered employment is taken into account in computing the average wage. This means that with the new formula, benefits for those becoming eligible in future years will be more nearly level (aside from possible fluctuations due to changes in wage level) than if the increment had been retained.

After the primary insurance benefit is determined, the corresponding primary insurance amount is found by means of the conversion table appearing in the Amendments. A portion of this conversion table is reproduced in Table 1.

Table 1

EXTRACT FROM CONVERSION TABLE IN 1950 AMENDMENTS

<u>Primary Insurance Benefit</u>	<u>Primary Insurance Amount</u>	<u>Average Monthly Wage for Computing Maximum Benefits</u>
\$10	\$20.00	\$40.00
11	22.00	44.00
12	24.00	48.00
13	26.00	52.00
14	28.00	56.00
15	30.00	60.00
16	31.70	63.40
17	33.20	66.40
18	34.50	69.00
19	35.70	71.40
20	37.00	74.00
25	46.50	93.00
30	54.00	126.60
35	59.20	161.30
40	64.00	195.00
45	68.50	250.00

H. Illustrative Benefits under the Two Methods

When the calculated primary insurance amount is not a multiple of ten cents, it is raised to the next higher multiple of ten cents. Similarly, monthly benefits for categories of beneficiaries other than retired wage earners are also raised to the next higher multiple of ten cents when the calculated amount is not such a multiple. If total monthly benefits exceed the maximum amount permissible (referred to hereafter), this rounding to the next higher multiple of ten cents is done after benefits have been reduced so as to conform to the maximum limits. Some results produced by rounding of benefits are discussed later in this study.

Table 2 indicates for specimen average wages, the primary insurance amounts produced by the new start formula and by the old formula with conversion table. In this table, it has been assumed that the individual was steadily in covered employment since 1936, with the primary benefit used in the conversion table based on 14 increment years.

It is apparent that both methods of calculating primary insurance amounts are of the "bent" type, that is, relatively larger benefits are paid for the lower average monthly wages.

The comparisons in Table 2 indicate the extent to which the conversion table will be applicable in future years. Obviously, for any newly covered individuals the new formula will almost always be applicable, as discussed later. In effect, these comparisons can relate approximately to individuals who were not steadily covered in the past, and whose earnings were of such amounts as to produce a very low average wage for 1937-50.

The illustrative figures shown in Table 2a are based on assumed average monthly wages for the two periods, 1937-50 and after 1950, for an individual dying or retiring at the beginning of 1953. As indicated above, individuals with only a small amount of covered employment in the past may have a very low average wage for 1937-50. It should be noted that not all of the various combinations of assumed wages shown in the tables are equally likely. Thus, the more likely situation, because of extension of coverage and even more so because of rising wage trends is where there is a relatively low wage for 1937-50 with a higher wage after 1950. For example, in a typical case, the 1937-50 average monthly wage might be \$100, with the average wage after 1950 being \$200. Tables 2b, 2c, and 2d deal with deaths and retirements in later years.

Table 2a

COMPARISON OF PRIMARY INSURANCE AMOUNTS UNDER CONVERSION TABLE
AND UNDER NEW START FORMULA FOR INDIVIDUALS STEADILY COVERED
SINCE 1936 DYING OR RETIRING AT BEGINNING OF 1953

<u>Assumed Average Monthly Wage</u>		<u>Computed Average Monthly Wage for 1937 on</u>	<u>Primary Insurance Amount</u>		<u>Ratio of Conversion Table to New Formula</u>
<u>1937-50</u>	<u>After 1950</u>		<u>Conversion Table</u>	<u>New Formula</u>	
\$25	\$25	\$25	\$22.80	\$20.00	114%
25	50	28	25.60	25.00	102
25	100	34	30.90	50.00	62
25	200	46	38.50	65.00	59
25	300	59	44.20	80.00	55
\$50	\$25	\$46	\$38.50	\$20.00	192%
50	50	50	41.80	25.00	167
50	100	56	43.30	50.00	87
50	200	68	46.30	65.00	71
50	300	81	48.90	80.00	61
\$100	\$25	\$90	\$50.60	\$20.00	253%
100	50	93	51.10	25.00	204
100	100	100	52.20	50.00	104
100	200	112	53.90	65.00	83
100	300	125	55.50	80.00	69
\$150	\$25	\$134	\$56.60	\$20.00	283%
150	50	137	57.00	25.00	228
150	100	143	57.60	50.00	115
150	150	150	58.40	57.50	102
150	200	156	59.10	65.00	91
150	300	168	60.50	80.00	76
\$250	\$25	\$221	\$66.10	\$20.00	330%
250	50	225	66.50	25.00	266
250	100	231	67.10	50.00	134
250	200	243	68.40	65.00	105
250	250	250	68.50	72.50	94
250	300	256	68.50	80.00	86

Table 2b

COMPARISON OF PRIMARY INSURANCE AMOUNTS UNDER CONVERSION TABLE
AND UNDER NEW START FORMULA FOR INDIVIDUALS STEADILY COVERED
SINCE 1936 DYING OR RETIRING AT BEGINNING OF 1960

Assumed Average Monthly Wage		Computed Average Monthly Wage for 1937 on	Primary Insurance Amount		Ratio of Conversion Table to New Formula
1937-50	After 1950		Conversion Table	New Formula	
\$25	\$25	\$25	\$22.80	\$20.00	114%
25	50	34	30.90	25.00	124
25	100	54	42.90	50.00	86
25	200	93	51.10	65.00	79
25	300	132	56.40	80.00	70
\$50	\$25	\$40	\$34.80	\$20.00	174%
50	50	50	41.80	25.00	167
50	100	69	46.50	50.00	93
50	200	108	53.40	65.00	82
50	300	147	58.10	80.00	73
\$100	\$25	\$70	\$46.70	\$20.00	234%
100	50	80	48.70	25.00	195
100	100	100	52.20	50.00	104
100	200	139	57.20	65.00	88
100	300	178	61.60	80.00	77
\$150	\$25	\$101	\$52.30	\$20.00	262%
150	50	110	53.60	25.00	214
150	100	130	56.10	50.00	112
150	150	150	58.40	57.50	102
150	200	169	60.60	65.00	93
150	300	208	64.80	80.00	81
\$250	\$25	\$162	\$59.80	\$20.00	299%
250	50	171	60.80	25.00	243
250	100	191	63.00	50.00	126
250	200	230	67.00	65.00	103
250	250	250	68.50	72.50	94
250	300	269	68.50	80.00	86

Table 2c

COMPARISON OF PRIMARY INSURANCE AMOUNTS UNDER CONVERSION TABLE
AND UNDER NEW START FORMULA FOR INDIVIDUALS STEADILY COVERED
SINCE 1936 DYING OR RETIRING AT BEGINNING OF 1970

<u>Assumed Average Monthly Wage</u>		<u>Computed Average Monthly Wage for 1937 on</u>	<u>Primary Insurance Amount</u>		<u>Ratio of Conversion Table to New Formula</u>
<u>1937-50</u>	<u>After 1950</u>		<u>Conversion Table</u>	<u>New Formula</u>	
\$25	\$25	\$25	\$22.80	\$20.00	114%
25	50	39	34.30	25.00	137
25	100	68	46.30	50.00	93
25	200	125	55.50	65.00	85
25	300	183	62.20	80.00	78
\$50	\$25	\$35	\$31.70	\$20.00	158%
50	50	50	41.80	25.00	167
50	100	78	48.30	50.00	97
50	200	136	56.80	65.00	87
50	300	193	63.20	80.00	79
\$100	\$25	\$56	\$43.30	\$20.00	216%
100	50	71	46.90	25.00	188
100	100	100	52.20	50.00	104
100	200	157	59.20	65.00	91
100	300	215	65.50	80.00	82
\$150	\$25	\$78	\$48.30	\$20.00	242%
150	50	92	50.90	25.00	204
150	100	121	55.00	50.00	110
150	150	150	58.40	57.50	102
150	200	178	61.60	65.00	95
150	300	236	67.60	80.00	84
\$250	\$25	\$120	\$54.90	\$20.00	274%
250	50	134	56.60	25.00	226
250	100	163	59.90	50.00	120
250	200	221	66.10	65.00	102
250	250	250	68.50	72.50	94
250	300	278	68.50	80.00	86

Table 2d

COMPARISON OF PRIMARY INSURANCE AMOUNTS UNDER CONVERSION TABLE
AND UNDER NEW START FORMULA FOR INDIVIDUALS STEADILY COVERED
SINCE 1936 DYING OR RETIRING AT BEGINNING OF 1980

Assumed Average Monthly Wage		Computed Average Monthly Wage for 1937 on	Primary Insurance Amount		Ratio of Conversion Table to New Formula
1937-50	After 1950		Conversion Table	New Formula	
\$25	\$25	\$25	\$22.80	\$20.00	114%
25	50	41	35.40	25.00	142
25	100	75	47.80	50.00	96
25	200	143	57.60	65.00	89
25	300	210	65.00	80.00	81
\$50	\$25	\$33	\$30.20	\$20.00	151%
50	50	50	41.80	25.00	167
50	100	83	49.30	50.00	99
50	200	151	58.60	65.00	90
50	300	218	65.80	80.00	82
\$100	\$25	\$49	\$40.90	\$20.00	204%
100	50	66	45.80	25.00	183
100	100	100	52.20	50.00	104
100	200	167	60.40	65.00	93
100	300	234	67.50	80.00	84
\$150	\$25	\$65	\$45.60	\$20.00	228%
150	50	82	49.10	25.00	196
150	100	116	54.40	50.00	109
150	150	150	58.40	57.50	102
150	200	183	62.20	65.00	96
150	300	251	68.50	80.00	86
\$250	\$25	\$98	\$51.90	\$20.00	260%
250	50	115	54.30	25.00	217
250	100	148	58.20	50.00	116
250	200	216	65.60	65.00	101
250	250	250	68.50	72.50	94
250	300	283	68.50	80.00	86

In all of these tables there are instances where the conversion table is more favorable, but these are generally cases where the future average wage is lower than (or the same as) the past wage, which will be an unusual situation. For more normal cases, where there is a substantial rise in the average monthly wage, the new start formula is more favorable than the conversion table by as much as 80% (i.e. the "ratio of conversion table to new formula" is 55%).

There will be some few cases where, for newly covered individuals, the conversion table will produce larger primary insurance amounts than the new formula. This results from the fact that, for some of the smaller average monthly wages, the primary insurance amount corresponding to a given wage, obtained by entering the conversion table, exceeds the primary insurance amount obtained by application of the new formula to a somewhat greater wage. For example, an individual dying in January 1953 with total wages of \$50 credited in each month after 1950 and prior to July 1952 (and therefore an average monthly wage after 1950 of \$50) would have a primary insurance amount of \$25 according to the new formula. If this individual had attained age 22 in July 1950 (with no covered employment prior to 1951), his average monthly wage over the period starting with the quarter in which he attained age 22 would be \$37. With no increment years, this would yield a primary insurance benefit of \$14.80 and a primary insurance amount, using the conversion table, of \$29.60.

Table 3 compares the primary insurance amounts at retirement age under the two computation methods for new entrants at various ages on January 1, 1951. Those who are close to age 65 on that date will in all cases use the new benefit formula. For those with very low wages who are relatively young at the present time, the conversion table method will be used since it produces a somewhat higher benefit. For instance, for a person age 25 at the beginning of 1951 the conversion table method produces a \$10 larger benefit for a "new start" average wage of \$50, while for average wages of \$100 or more the new formula will be more favorable. It will be noted that for this latter case the reduction in the average wage is very slight because only 3 years of zero wages are included for the period prior to 1951.

Table 4 indicates, for individuals with 2, 10, and 14 increment years, the lowest average wage after 1950, which using the new formula, will produce a larger primary insurance amount than will the specimen average wage used with the conversion table. For example, an individual with 14 increment years and an average wage since 1936 of \$100 would have a larger primary insurance amount using the conversion table than he would using the new start formula unless his average wage since 1950 was \$115 or more.

Table 3

COMPARISON OF PRIMARY INSURANCE AMOUNTS UNDER TWO COMPUTATION METHODS FOR
PERSONS HAVING NO WAGE CREDITS PRIOR TO 1951

Assumed "New Start" Average Wage	Corresponding "Old Start" Average Wage ^{a/}	Primary Insurance Amount on		Ratio
		"New Start" Average Wage	"Old Start" Average Wage	
For Person Attaining Age 65 and Retiring on January 1, 1961				
\$50	\$20	\$25.00	\$20.00	125%
100	41	50.00	32.30	155
150	62	57.50	38.90	148
200	83	65.00	43.00	151
250	104	72.50	47.20	154
300	125	80.00	50.80	157
For Person Attaining Age 65 and Retiring on January 1, 1971				
\$50	\$29	\$25.00	\$23.20	108%
100	58	50.00	38.20	131
150	88	57.50	44.10	130
200	117	65.00	49.50	131
250	147	72.50	53.70	135
300	176	80.00	56.80	141
For Person Attaining Age 65 and Retiring on January 1, 1981				
\$50	\$34	\$25.00	\$27.20	92%
100	69	50.00	40.10	125
150	104	57.50	47.20	122
200	139	65.00	52.70	123
250	174	72.50	56.60	128
300	209	80.00	60.20	133
For Person Attaining Age 65 and Retiring on January 1, 1991				
\$50	\$46	\$25.00	\$35.00	71%
100	93	50.00	45.10	111
150	139	57.50	52.70	109
200	186	65.00	57.80	112
250	232	72.50	62.40	116
300	279 ^{b/}	80.00	64.00	125

^{a/} Based on "new start" average wage prior to rounding being exact amount shown in the first column.

^{b/} \$250 used.

Table 4

LOWEST AVERAGE MONTHLY WAGE FOR USE WITH "NEW START" FORMULA WHICH PROVIDES LARGER PRIMARY INSURANCE AMOUNT THAN WAGE SHOWN FOR USE WITH CONVERSION TABLE

Wage Used with Conversion Table	Lowest Wage Used with "New Start" Formula which Yields Larger PIA than under Conversion Table with Increments for		
	<u>2 Years</u>	<u>10 Years</u>	<u>14 Years</u>
\$25	\$41	\$45	\$46
50	76	81	84
75	85	93	96
100	95	106	115
125	111	129	137
150	132	149	157
175	150	167	176
200	167	185	194
225	184	202	211
250	199	218	224

Tables 5 and 6 indicate the total monthly benefits based on the new start formula which will be payable to family groups of various sizes when expressed as percentages of the primary insurance amount. For the larger family groups, the total benefits are limited in some cases by the maximum provisions--discussed in the next section. Table 5 relates to monthly wages, while Table 6 is in terms of weekly wages. The composition of these groups has been set forth previously in Chart II.

Table 5

MONTHLY BENEFITS PAYABLE UNDER "NEW START" FORMULA FOR VARIOUS
BENEFICIARY CATEGORIES

Average Monthly Wage	Beneficiary Category ^{a/}							
	75%	100%	125%	150%	175%	200%	225%	250% ^{b/}
Total Benefits								
\$25	\$15.00	\$20.00	\$25.00	\$30.00	\$35.10	\$40.00	\$40.00	\$40.00
50	18.80	25.00	31.40	37.60	40.20	40.00	40.00	40.00
75	28.20	37.50	47.00	56.40	60.00	60.10	60.00	60.00
100	37.50	50.00	62.60	75.00	80.10	80.00	80.00	80.00
125	40.40	53.80	67.40	80.80	94.20	100.10	100.00	100.00
150	43.20	57.50	72.00	86.40	100.80	115.20	120.00	120.00
175	46.00	61.30	76.80	92.00	107.40	122.80	138.00	140.00
200	48.80	65.00	81.40	97.60	114.00	130.20	146.40	150.00
225	51.60	68.80	86.00	103.20	120.60	137.60	150.00	150.00
250	54.40	72.50	90.80	108.80	126.90	145.20	150.00	150.00
275	57.30	76.30	95.40	114.60	133.80	150.10	150.00	150.00
300	60.00	80.00	100.00	120.00	140.10	150.10	150.00	150.00

Total Benefits as Percentage of Average Monthly Wage

\$25	60%	80%	100%	120%	140%	160%	160%	160%
50	38	50	63	75	80	80	80	80
75	38	50	63	75	80	80	80	80
100	38	50	63	75	80	80	80	80
125	32	43	54	65	75	80	80	80
150	29	38	48	58	67	77	80	80
175	26	35	44	53	61	70	79	80
200	24	32	41	49	57	65	73	75
225	23	31	38	46	54	61	67	67
250	22	29	36	44	51	58	60	60
275	21	28	35	42	49	55	55	55
300	20	27	33	40	47	50	50	50

^{a/} See Chart II. for beneficiaries included in each group.

^{b/} Including all categories in excess of 250%.

Note: Total benefits may vary slightly with composition of beneficiary groups due to rounding of benefits. For example, total benefits of \$114.60 in the 150% column with an average monthly wage of \$275 are based on the sum of two 75% benefits of \$57.30 each. If the 150% benefit is made up of an old-age benefit plus an additional benefit of 50% of the primary insurance amount, the total benefit would be \$114.50, that is, \$76.30 plus \$38.20.

Table 6

MONTHLY BENEFITS PAYABLE UNDER "NEW START" FORMULA FOR VARIOUS
BENEFICIARY CATEGORIES

Average Weekly Wage ^{b/}	Beneficiary Category ^{a/}							
	75%	100%	125%	150%	175%	200%	225%	250% ^{c/}
\$10	\$16.20	\$21.50	\$27.00	\$32.40	\$37.80	\$40.00	\$40.00	\$40.00
15	24.40	32.50	40.80	48.80	52.20	52.10	52.00	52.00
20	32.30	43.00	53.80	64.60	69.00	68.80	68.80	68.80
25	38.40	51.20	64.00	76.80	86.40	86.40	86.40	86.40
30	40.90	54.50	68.20	81.80	95.40	104.00	104.00	104.00
35	43.40	57.80	72.40	86.80	101.40	115.80	121.60	121.60
40	45.80	61.00	76.40	91.60	106.80	122.20	137.60	138.40
45	48.30	64.30	80.40	96.60	112.80	128.70	144.80	150.00
50	50.70	67.60	84.60	101.40	118.50	135.30	150.00	150.00
55	53.10	70.70	88.40	106.20	123.90	141.50	150.00	150.00
60	55.50	74.00	92.60	111.00	129.60	148.10	150.00	150.00
65	58.00	77.30	96.80	116.00	135.30	150.10	150.00	150.00
70 or over	60.00	80.00	100.00	120.00	140.10	150.10	150.00	150.00

^{a/} See Chart II. for beneficiaries included in each group.

^{b/} Weekly wage corresponding to average monthly wage as calculated in accordance with Act.

^{c/} Including all categories in excess of 250%.

Note: Total benefits may vary slightly with composition of beneficiary groups due to rounding of benefits. For example, total benefits of \$106.20 in the 150% column with an average weekly wage of \$55 are based on the sum of two 75% benefits of \$53.10 each. If the 150% benefit is made up of an old-age benefit and an additional benefit of 50% of the primary insurance amount, the total benefit would be \$106.10, that is, \$70.70 plus \$35.40.

I. Maximum Benefits under the New Start Formula
and the Conversion Table

As mentioned previously, there are certain limits on the amount of monthly benefits which may be paid on the basis of an individual's wage record. The maximum total monthly benefit which may be so paid is as follows:

<u>Average Monthly Wage</u>	<u>Maximum Benefit</u>
\$50 and under	\$40
\$51 - \$187	80% of average wage
\$188 and over	\$150

The upper limit of \$150 represents an increase of 76% over the old Act's maximum of \$85. A further restriction was included in the old Act, to the effect that total benefits could not exceed twice the primary benefit, but no corresponding provision is included in the 1950 Amendments.

One point of interest in connection with these limits is that whereas, under the old Act, the limits applied to the total benefits of all beneficiaries, regardless of whether all such benefits were actually payable or had been suspended in part pursuant to the "work clause" or for some other specified reason, under the 1950 Amendments the limits are applied only to those benefits actually being paid for a particular month.

The limits referred to above apply in the case of all benefits whether calculated by the new formula or by the conversion table. In this conversion table, part of which is reproduced in Table 1, there is a column which indicates the average monthly wage, corresponding to each primary insurance benefit, which is to be used for the purpose of fixing the maximum benefits. Within the range where the maximum total benefits depend on the average monthly wage, the average monthly wage has been so determined that application of the new start formula thereto will produce the new primary insurance amount shown.

Maximum family benefits under the new start formula, expressed as a percent of average monthly wage, start off at a maximum of 160% for an average wage of \$25 and decrease thereafter to 80% for average wages of \$50 to \$187 and then to a low of 50% for an average wage of \$300. Values of these percentages (as well as for maximum benefits expressed as percents of primary insurance amounts) are shown for specimen values of average wage in Table 7.

Table 7

COMPARISON OF MAXIMUM FAMILY BENEFITS WITH PRIMARY INSURANCE AMOUNTS
AND AVERAGE MONTHLY WAGES ACCORDING TO "NEW START" FORMULA

Average Monthly Wage	Primary Insurance Amount	Maximum Family Benefits	Maximum Benefits as Percent of	
			Primary Insurance Amount	Average Monthly Wage
\$25	\$20.00	\$40.00	200%	160%
50	25.00	40.00	160	80
75	37.50	60.00	160	80
100	50.00	80.00	160	80
125	53.80	100.00	186	80
150	57.50	120.00	209	80
175	61.30	140.00	228	80
200	65.00	150.00	231	75
225	68.80	150.00	218	67
250	72.50	150.00	207	60
275	76.30	150.00	197	55
300	80.00	150.00	188	50

The ratios of maximum family benefits based on the new start formula to primary insurance amounts start off at 200% for an average wage of \$30 or less and drop to a level of 160% which continues for average wages of \$35 through \$100. As the average wage exceeds \$100, the percentages make a sharp and steady rise to 237%, corresponding to average wages of \$187 and \$188, after which point there is a steady drop to 188% at the maximum creditable average monthly wage of \$300. In terms of number of beneficiaries, the 237% figure indicates that for a typical survivor family composed of a widowed mother and children, the largest possible number of eligible children all able to draw full benefit is 2, while if there is a third child, the additional amount payable is only a partial benefit.

For average monthly wages of \$141 through \$266, maximum family benefits exceed twice the primary insurance amount. In this wage range, therefore, maximum family benefits are larger than they would have been had the 1950 Amendments retained the former limit on maximum monthly benefits of twice the primary benefit.

Table 8 compares some primary insurance benefits with primary insurance amounts under the conversion table. It also indicates the relationship between the new maximums on family benefits and the maximums in force prior to the 1950 Amendments.

For primary insurance benefits of \$10 to \$15, the increase in benefit is a flat 100%. Thereafter, the increase is somewhat lower, reaching a minimum of 83% for primary insurance benefits of \$21-23, then rising slightly to 86% for primary insurance benefits of \$25-26, and then slowly and steadily dropping off to an increase of 50% for a primary insurance benefit of \$45.60, which is the largest possible primary insurance benefit (based on an average monthly wage of \$250 and 14 increment years). The over-all increase in existing benefits produced by the conversion table when the 1950 Amendments became effective was a rise of approximately 77½% in the average benefit for retired workers.

For some ranges of primary insurance benefits, the maximum family benefit under the old act varied with the amount of increment, whereas in other cases where the maximum was double the primary insurance benefit, or \$85, there was no such variation. For instance, a \$15 primary insurance benefit could have resulted, on the one hand, from an average monthly wage of \$32.89 and a 14% increment, or a somewhat higher average monthly wage and a lower increment, the maximum being different in each case, because it was 80% of wage. The column in Table 8 showing the maximum benefit prior to the 1950 Amendments was determined on the basis of only 2 assumed increments so as to yield, in effect, the highest average monthly wage, and thus, the highest maximum benefit. (In a few rare cases an individual might

Table 8

COMPARISON OF PRIMARY AND MAXIMUM BENEFITS UNDER CONVERSION TABLE

<u>Primary Insurance Benefit</u>	<u>Maximum Family Benefit Prior to 1950 Amendments^{a/}</u>	<u>New Primary Insurance Amount</u>	<u>New Maximum Family Benefit</u>	<u>Percentage Increase</u>	
				<u>Primary Benefit</u>	<u>Maximum Benefit</u>
\$10	\$20.00	\$20.00	\$40.00	100%	100%
15	29.41	30.00	48.00	100	63
20	39.22	37.00	59.20	85	51
25	50.00	46.50	74.40	86	49
30	60.00	54.00	101.28	80	69
35	70.00	59.20	129.04	69	84
40	80.00	64.00	150.00	60	88
45	85.00	68.50	150.00	52	76

^{a/} Assuming, where necessary, that the primary insurance benefit is based on only 2 increment years.

have qualified for a very low primary insurance benefit with less than 2 increment years; for instance, with no increment years, by having 3 quarters with wages of \$50 in both 1939 and in 1940.) However, in this table this variable maximum benefit for a given primary insurance benefit applies only where the primary insurance benefit is \$20 or less.

The maximum benefit arising under the conversion table is 100% higher than the old maximum for a \$10 primary insurance benefit. As the primary insurance benefit becomes larger, the percentage increase drops off reaching a trough at 46% for a primary insurance benefit of \$22. Following this, there is a gradual rise until for a primary insurance benefit of \$39, the increase in the maximum benefit is 92%. Thereafter, the percentage increase becomes smaller until for a primary insurance benefit of \$43 or over, it is 76%.

In using the conversion table it will be noted that there are a number of instances where the actual average monthly wage (used for determining the primary insurance benefit) is larger than the average monthly wage used for computing maximum benefits (as determined from the conversion table). It might be expected that the conversion table, which always increases the primary benefit would likewise always increase the average wage used for determining maximum benefits. This situation will be of some interest until such time as the "new start" formula, under which the two average monthly wages are, of course, the same, comes into general use.

As indicated hereafter, no beneficiary will be at a disadvantage in using the conversion table as compared with the previous law, since, despite the use of a lower average monthly wage for determining the maximum benefit (under the 80% rule), the resulting maximum is higher because of the elimination of the previous maximums of \$35 and twice the primary insurance benefit. Moreover, if both the average wages are over \$187 it is immaterial whether one is higher than the other since the \$150 maximum is applicable.

Table 9 illustrates an interesting point in connection with the increased benefits produced by the conversion table, namely, that the percentage increase in benefits payable to an individual beneficiary or group of beneficiaries depends on the beneficiary category as well as on the amount of old benefits. For example, a retired worker drawing a monthly benefit of \$40.00 under the old Act has his benefit increased by 60% to \$64.00, while a retired worker and eligible wife drawing the same total amount of \$40.00 under the old Act (based on a primary insurance benefit of \$26.67) have their benefits increased by 86% to a total of \$74.30. This is of course due to the fact noted in Table 8 that the larger percentage increases occur for the lower values of primary benefits. An additional factor which must be considered in interpreting the figures in Table 9 is the increase in child survivor benefits expressed as a

percentage of the primary benefit; this increase being relatively greater for one-child families than for two-children families, and so forth.

Table 10 shows the average monthly wage used for determining maximum benefits corresponding to various actual average monthly wages (used for determining primary insurance benefits) for 2, 10, and 14 increment years. It is apparent that for the smaller values of actual wages, the actual wage is well below the average wage for maximum benefits. At the upper end of the table, the actual wage is generally somewhat larger, with the two exceptions shown corresponding to 14 increment years.

One factor which will serve to reduce the number of cases where this anomaly of the two wages is present is that a large part of the benefits determined by the conversion table in the future will be based on the larger numbers of increment years, where the actual average wage used for determining the primary insurance benefit most frequently exceeds the average wage used for determining maximum benefits. Also important is the \$150 limit on family benefits, which applies if the average wage for maximum benefits is over \$187. This will further reduce the area in which the relative size of the two wages is of any concern; for example, with 10 increment years the range within which total benefits are affected by this inverse relationship will only be for actual average wages of \$144 to \$204.

In every instance the new maximum benefits will exceed the old by a considerable margin. This relationship between benefits is of prime importance in the conversion table, rather than the relationship between average wages used for determining such benefits.

Referring back to the conditions under which a particular method of calculating benefits is to be used, it will be remembered that for those individuals with at least 6 quarters of coverage after 1950 who attained age 22 before 1951, benefits are to be calculated by the new start formula or by the conversion table, depending on which method results in the larger primary insurance amount. Also, it may be seen from either Table 2 or Table 4 that only very rarely will a given average monthly wage produce exactly the same primary insurance amount under the conversion table as under the new start formula. In considering the subject of maximum family benefits the question may therefore arise as to whether in any case it is possible for the conversion table to produce the higher primary insurance amount, with the new start formula producing the higher maximum family benefit, or vice versa. This inconsistency cannot occur, since, if the average monthly wage used for determining maximum benefits in the conversion table is less than \$188 (at which point the maximum family benefit becomes a

Table 10

COMPARISON OF AVERAGE MONTHLY WAGE USED FOR CALCULATING PRIMARY
INSURANCE BENEFITS WITH AVERAGE MONTHLY WAGE
USED FOR DETERMINING MAXIMUM BENEFITS

<u>Average Wage For Primary Insurance Benefit</u>	<u>Average Wage for Maximum Benefits^{a/}, when Primary Benefit based on Increments for</u>		
	<u>2 Years</u>	<u>10 Years</u>	<u>14 Years</u>
\$25	\$40.80	\$44.00	\$45.60
50	75.20	80.40	83.60
75	84.24	92.04	95.59
100	94.98	105.20	114.47
125	110.69	128.60	136.63
150	131.34	148.00	155.94
175	149.32	166.66	175.14
200	165.99	184.66	195.00
225	183.22	213.20	227.60
250	208.20	240.00	250.00

^{a/} According to conversion table in 1950 Amendments.

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constant \$150), the conversion table is so constructed that the primary insurance amounts shown therein are the same (aside from slight differences introduced by rounding) as those produced by applying the new start formula to the average monthly wage used for purposes of computing maximum benefits.

J. Rounding of Benefits

In order to facilitate administration, the 1950 Amendments provide for a considerable amount of rounding in the benefit computations. These rounding conditions which have been referred to above are quite thoroughly spelled out in the law, and it is of interest to see how they work out in particular cases. The following discussion relates generally to the "new start" formula, although it is largely applicable to individuals whose primary insurance amounts are determined under the conversion table.

As a specific example, we may consider an individual who has a "new start" average monthly wage falling between \$111.00 and \$111.99 as initially calculated. It is first provided that this amount shall be rounded down to the next lower multiple of a dollar, that is, to \$111. According to the benefit formula, the primary insurance amount is computed to be \$51.65, which in turn, is rounded to the next higher multiple of ten cents, or \$51.70. The maximum family benefit is 80% of the average wage or \$88.80.

It may be noted that for the "new start" benefit provisions, because of the rounding of the average wage, there will not be a primary insurance amount corresponding to each multiple of ten cents; in other words, there will be some "impossible" values. For instance, there can never be a primary insurance amount of \$51.60, as indicated in the following table:

<u>Average Monthly Wage</u>	<u>Primary Insurance Amount</u>
\$110	\$51.50
111	51.70
112	51.80

Turning back to the individual with the \$111 average monthly wage, a \$51.70 primary insurance amount, and an \$88.80 family benefit maximum, let us consider how survivor benefits are calculated if he leaves a widow and children. First, as indicated in the first three columns of Table 11, the benefits for each beneficiary are obtained by applying to the primary insurance amount the appropriate benefit proportion, that is, 75% for the widow and 50% for each child plus an extra percentage for each child equal to 25% divided equally among the child beneficiaries.

If the resulting total family benefits are less than the maximum, as is the case only for the first group shown in Table 11, then each of the individual benefits is rounded up to the next dime. However, where the total is greater than the maximum, each benefit is

Table 11

ILLUSTRATIONS OF CALCULATION OF SURVIVOR BENEFITS FOR AVERAGE MONTHLY WAGE OF \$111
BY "NEW START" FORMULA

Beneficiary Group	Prior to Maximum or Rounding			After Maximum but Prior to Rounding ^{a/}			After Maximum and Rounding		
	Widow	Each Child	Total Family	Widow	Each Child	Total Family	Widow	Each Child	Total Family
Widow and 1 Child	\$38.78	\$38.78	\$77.56	*	*	*	\$38.80	\$38.80	\$77.60
Widow and 2 Children	38.78	32.31	103.40	\$33.30	\$27.75	\$88.80	33.30	27.80	88.90
Widow and 3 Children	38.78	30.16	129.26	26.64	20.72	88.80	26.70	20.80	89.10
Widow and 4 Children	38.78	29.08	155.10	22.20	16.65	88.80	22.20	16.70	89.00
Widow and 5 Children	38.78	28.44	180.98	19.03	13.95	88.78	19.10	14.00	89.10
Widow and 6 Children	38.78	28.00	206.78	16.65	12.02	88.77	16.70	12.10	89.30
Widow and 7 Children	38.78	27.70	232.68	14.80	10.57	88.79	14.80	10.60	89.00
Widow and 8 Children	38.78	27.47	258.54	13.32	9.44	88.84	13.40	9.50	89.40
Widow and 9 Children	38.78	27.29	284.39	12.11	8.52	88.79	12.20	8.60	89.60
Widow and 10 Children	38.78	27.14	310.18	11.10	7.77	88.80	11.10	7.80	89.10

* Maximum not applicable.

^{a/} Differences between total family benefit indicated and maximum of \$88.80 are due to taking each individual benefit to nearest whole cent.

reduced proportionately in the ratio of the maximum benefit to the preliminary total family benefits. (If there is a benefit payable to a retired worker, his amount is not reduced, but rather all others are reduced sufficiently to bring the total down to the maximum total benefit.) The second group of three columns shows these proportionately reduced figures. It may be noted that in some instances the total differs slightly from the maximum of \$88.80 because of the necessity of rounding each benefit to the nearest cent. (In practice, amounts of exactly $\frac{1}{2}$ cent or more are rounded up, and all other amounts are rounded down).

Finally, as shown in the last three columns, each of the resulting reduced benefits obtained previously which is not a multiple of ten cents is rounded up to the next higher ten cents. It will be observed that the total family benefits will frequently exceed, by small amounts, the actual calculated maximum. Thus, in this particular case, such excess ranges from 10 cents to as much as 80 cents for a very large family.

This results in a minor peculiarity which may have been noted previously in Table 5, namely, that in certain instances, smaller families will get slightly larger benefits than some larger families. For instance, in one case considered in Table 11 the benefit for a 6-child family is 30 cents larger than for a 7-child family.

Also there might be a slight question concerning that section of the Amendments^{3/} which provides that if the maximum is applicable, and the work clause is operating against one or more of the family group, the payments (either reduced or unchanged, as required) shall be continued to those who work rather than be suspended with a corresponding increase to the other beneficiaries. This, of course, is desirable for administrative simplicity. It would therefore seem both against the purpose of the law and against reasonable administrative procedure in such cases, for the benefits to be varied to reflect the small differences indicated in the last column of Table 11 for families of different size. In other words, specifically for the case indicated, in a 7-child family the total family benefits of \$89.00 would be payable so long as the widow and at least 2 children were not affected by the work clause.

One further point of interest which may be noted in this connection is that for different groups of beneficiaries which each add

^{3/} Sec. 203(h) provides that deductions because of the work clause shall be made from the benefits to which an individual is entitled only to the extent that they reduce the total amount which would otherwise be paid, on the basis of the same wages and self-employment income, to him and the other individuals living in the same household.

up to the same total percentage of primary insurance amount, the total monthly benefits may differ by small amounts due to the effects of rounding individual benefits. For example, in Chart I, it is shown that a retired worker and eligible wife will draw a total benefit of 150% of the primary insurance amount, while a surviving widow and child will be entitled to the same percentage. For an average monthly wage of \$150 used with the new start formula, the retired worker and wife will receive a total monthly benefit of \$86.30, while the widow and child, entitled to the same total percentage of primary insurance amount, will receive \$86.40, the difference in the total amount resulting from rounding of the individual benefits.

Further, it may be of interest to consider the actual exact maximum family benefit when the \$40 maximum is applicable (for average wages of \$50 and less) and when the \$150 maximum is applicable (for average wages of \$188 or more). In each of these two groups, there is the same maximum family benefit--regardless of the average wage or the primary insurance amount. The following table indicates the particular maximums for a widow and various numbers of children:

Beneficiary Group	Family Benefit Where \$40 Maximum is Applicable	Family Benefit Where \$150 Maximum is Applicable
Widow and 2 Children	\$40.00	\$150.10
Widow and 3 Children	40.20	150.00
Widow and 4 Children	40.00	150.30
Widow and 5 Children	40.10	150.20
Widow and 6 Children	40.50	150.60
Widow and 7 Children	40.30	150.30
Widow and 8 Children	40.40	150.50
Widow and 9 Children	40.60	150.10
Widow and 10 Children	40.00	150.80

It will be observed that as in the previous specific case, the total family benefit will exceed the particular exact maximum by small amounts which, of course, are never greater than 10 cents per beneficiary.

Section 215(c)(3) provides that for the purpose of facilitating the use of the conversion table in computing any of the monthly benefits, it may be assumed that the primary insurance benefit from which such monthly benefits are derived is one or two cents more or less than its actual amount. This was included since, as a practical matter, it was desirable to calculate the increased benefits directly from the amounts payable to individual beneficiaries, without reference to the wage records or primary insurance benefits on which such amounts were based.

Complete tables for converting primary insurance benefits into primary insurance amounts have been prepared, which indicate the range of PIB's which can produce any given PIA. These tables make use of the provision referred to above. For example, the conversion table in the Amendments shows PIA's of \$31.70 and \$33.20 corresponding to PIB's of \$16.00 and \$17.00, respectively. By interpolation, a PIB of \$16.05 or \$16.06 would produce a PIA of \$31.80 after rounding to the next higher multiple of ten cents, while a PIB of \$16.07 would give a PIA of \$31.90. Now, suppose a widow had been receiving a monthly benefit of \$12.05; this might have been derived from a PIB of either \$16.06 or \$16.07 so that it is desirable to have the same PIA for each. Similarly, a child's benefit of \$8.03 might have been based on a PIB of \$16.05 or \$16.06.

After using the conversion table, the widow's and child's benefits based on the same individual's wage record should be equal, since each benefit is now equal to 75% of the PIA. Therefore, in the complete tables, PIB's of \$16.05 and \$16.06 were thrown in with the group of PIB's starting with \$16.07, producing a PIA of \$31.90 and consequently consistency as to widow's and child's benefits as indicated by the following table:

Under Old Law			Under Amendments			
			Prior to Sec. 215(c)(3)		After Sec. 215(c)(3)	
PIB	Widow	Child	PIA	Widow or Child	PIA	Widow or Child
\$16.04	\$12.03	\$8.02	\$31.80	\$23.90	\$31.80	\$23.90
16.05	12.04	8.03	31.80	23.90	31.90	24.00
16.06	12.05	8.03	31.80	23.90	31.90	24.00
16.07	12.05	8.04	31.90	24.00	31.90	24.00

K. Earliest Date on which Maximum Old-Age Benefit
of \$80 per Month will be Paid

The maximum individual benefit of \$80 a month for a retired worker is available more or less immediately under the new benefit formula. Considerable interest attaches as to when this amount will first actually be payable as well as at what time the new benefit formula itself will first become applicable. A number of technical features of the law are important in this respect, namely, the requirements for using the "new start" average wage^{4/}, the provision in regard to lag wages, the provisions in regard to using self-employment income of the year of retirement^{5/}, and the special rule applicable for those with \$3600 of credited wages and self-employment income^{6/}.

Since the requirement for using the new benefit formula is 6 quarters of coverage after 1950, the normal wage-earner could first acquire the 6th quarter of coverage in April 1952, and, hence, could retire in May 1952 and receive benefits under the new formula. In a few instances the 6th quarter of coverage can be obtained in April 1952, and yet benefits will be paid for that month (i.e. if wages in April 1952 are exactly \$50.00 or if the individual is age 75 or over). However, these benefits would be reduced because of the minimum divisor of 18 months for the average wage and the fact that wages in the quarter of retirement are not counted; further, there would be a temporary reduction which would be made up retroactively because of the lag wage provision.

Thus, specifically, consider an individual who earns \$300 per month for the period January 1951 up to and including April 1952. He could retire and receive benefits for May 1952, but if under 75, not for April since he would be ruled out by the work clause. His benefit under the lag wage provision would be computed using only wages in the period January 1951 through September 1951, or a total of \$2700, which would yield an average monthly wage of \$150 and a primary

^{4/} i.e., at least 6 quarters of coverage after 1950.

^{5/} See previous section dealing with calculation of average monthly wage for discussion of lag wages and of self-employment income in year of retirement.

^{6/} When an individual is credited with \$3600 of wages in a calendar year, each quarter is considered a quarter of coverage. An individual with wages and self-employment income totalling \$3600 in a taxable year is credited with one quarter of coverage for each calendar quarter any part of which falls in such taxable year. However, in no case may a quarter be counted as a quarter of coverage prior to the beginning of such quarter.

insurance amount of \$57.50. However, beginning 6 months later, his benefit could be recomputed, using in addition his wages in the period October 1951 through March 1952, yielding total wages of \$4500, which produces an average monthly wage of \$250 and a primary insurance amount of \$72.50. (It will be noted that the wages earned in April 1952 are used for determining the number of quarters of coverage, but are not included in the calculation of average monthly wage). At the same time an additional payment would be made to represent the difference of \$15 per month between the preliminarily determined amount and the final amount. In fact, in the case just outlined, it is quite possible that if the individual had substantial insured employment prior to 1951 his primary insurance amount would be computed under the conversion table method for the preliminary amount, with the final amount being determined under the new formula, so that the difference might not be so great as indicated.

Next, consider when the normal wage earner could first receive a full \$80 check. The \$300 per month man who retires in the 3rd quarter of 1952 will have a final amount of \$80 after recomputation, with retroactive payments to make up the difference between \$80 and the smaller preliminary amount resulting from initial nonuse of the lag wages. However, a \$300 per month man retiring in January 1953 would—despite the lag wage provisions—receive the full \$80 check for January 1953.

In an extreme case, the situations described previously for the normal wage earner would not apply to the very highly-paid wage earner. An extreme case might involve an individual over age 65 in 1950 who had at least 6 quarters of coverage prior to 1951, who earned \$3600 in 1951 but did not work in October of that year, and who then earned \$3600 in the first quarter of 1952. Upon filing application in April 1952, he will be fully insured with 6 quarters of coverage after 1950, and thus the new benefit formula will be applicable. Because of the 6-month retroactive provision for payment of benefits, he will receive a benefit payment for October 1951, since he was fully insured at that time. Originally, this payment will be reduced in accordance with the lag wage provision, but in October 1952 it may be recomputed, with retroactive payments being made so that, in effect, he will eventually receive a full \$80 payment for October 1951. A modification of this case might involve an individual over age 75, in which case the work clause would not prevent payment of benefits for months in which credited wages exceed \$50.

For self-employed persons with no wages, the earliest possible date for use of the new start formula will involve cases in which the taxable year coincides with the calendar year. Income in the year of retirement is not creditable for benefit purposes although it is creditable for insured status. Accordingly, such an individual may retire and use the new benefit formula as early as May 1952 (or, in fact, April 1952 if he had \$3600 of self-employment income in the first quarter of 1952, or if he was age 75 or over). However, the maximum

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benefit payable would be based on \$3600 of total self-employment income in 1951, yielding an average monthly wage of \$200 and a primary insurance amount of \$65.

In order for a self-employed individual to receive a primary insurance amount of \$80 at the earliest possible date, he would have to retire in January 1953 after having had self-employment income of \$3600 in both 1951 and 1952.

L. Level Premium Costs of Individual Benefits

In concluding this discussion of the relationships between benefits and wages, it is appropriate to compare taxes payable with the value of the benefits for individual cases. Under a program of social insurance, it is not unexpected that some categories of individuals will contribute to the cost of benefits payable to other categories. In other words, it is not a necessary characteristic of such a system that all participants receive benefits at least equal in value to contributions paid by their employers and themselves. It is of interest, however, to see to what extent the value of benefits approaches the cost of such benefits for several broad classes of individuals.

Table 12 shows the net level premium cost of benefits, expressed as a percentage of an assumed constant monthly wage for individuals entering covered employment at ages 20, 30, 40, and 50, the new start formula being assumed applicable in all instances. No allowance for administrative expenses is included in these costs. In the case of the married male worker who enters at age 20, it is assumed that he marries at age 24; the wife is 5 years younger than the male worker in each of the illustrations. For married male workers with one child, the child is assumed to be born at the worker's age 25; for 2-children families births occur at the worker's ages 25 and 30; and for 3-children families at his ages 25, 30, and 35. U.S. White Male and U.S. White Female 1939-41 mortality are assumed applicable to adults; mortality of children is ignored. Termination of mother's and widow's benefits upon remarriage is taken into account using for this purpose, the 150% American Remarriage Table 1939-41^{7/}, which is reasonably consistent with recent OASI experience with these benefits. Interest is at 3%; use of a lower rate would materially increase the percentages shown here as would the use of lower mortality rates. Reduction of benefits for reasons other than the maximum limits on benefits has been disregarded as has the cost of dependent parent's benefits. The worker's wife is assumed not to be an old-age beneficiary in her own right.

It will be noted that deferment of retirement to age 68 produces a substantial reduction in costs as compared with costs based on retirement at age 65. At the present time the average age of individuals being awarded old-age insurance benefits is in the neighborhood of 69 years.

The reduction in cost as the average monthly wage increases from \$100 to \$300 is approximately 47% in all cases, any slight deviations from this figure being due to the maximum benefit limits. This

7/ "Further Remarriage Experience" by Robert J. Myers, Proceedings of the Casualty Actuarial Society, Vol. XXXVI, 1950

reduction arises from the bent nature of the benefit formula, and might have been determined, of course, by considering only the ratios of primary insurance amount to average wage.

Table 12 indicates the extent to which the over-all cost of benefits under the OASI system is influenced by individuals who come in under the new start provision at the older ages. In a number of instances, the level premium cost of benefits, expressed as a percentage of wage, greatly exceeds the combined employer-employee ultimate tax rate of $6\frac{1}{2}\%$. This is offset by the lower level premium cost for younger entrants.

Table 12

LEVEL PREMIUM COSTS^{a/} OF BENEFITS AS A PERCENTAGE OF ASSUMED LEVEL MONTHLY WAGE

Dependency Status	Retirement Age 65			Retirement Age 68		
	\$100 Wage	\$200 Wage	\$300 Wage	\$100 Wage	\$200 Wage	\$300 Wage
Age 20 at Entry into System						
Single male	3.64%	2.36%	1.94%	2.60%	1.69%	1.39%
Single female	4.49	2.92	2.40	3.28	2.14	1.75
Married male-0 children	5.95	3.86	3.17	4.87	3.16	2.59
Married male-1 child	6.71	4.36	3.58	5.61	3.65	2.99
Married male-2 children	7.21	4.76	3.88	6.11	4.04	3.29
Married male-3 children	7.61	5.06	4.10	6.50	4.34	3.51
Age 30 at Entry into System on 1/1/51						
Single male	5.77%	3.75%	3.08%	4.08%	2.65%	2.17%
Single female	7.06	4.59	3.77	5.10	3.31	2.72
Married male-0 children	9.43	6.13	5.03	7.62	4.96	4.07
Married male-1 child	10.04	6.52	5.35	8.21	5.34	4.38
Married male-2 children	10.78	7.10	5.80	8.94	5.90	4.82
Married male-3 children	11.83	7.85	6.36	9.95	6.63	5.36
Age 40 at Entry into System on 1/1/51						
Single male	10.07%	6.54%	5.37%	6.94%	4.51%	3.70%
Single female	12.13	7.88	6.47	8.54	5.55	4.55
Married male-0 children	16.10	10.47	8.59	12.67	8.23	6.76
Married male-1 child	16.13	10.49	8.61	12.69	8.25	6.77
Married male-2 children	16.47	10.70	8.78	13.00	8.46	6.94
Married male-3 children	17.86	11.67	9.55	14.33	9.37	7.67
Age 50 at Entry into System on 1/1/51						
Single male	21.31%	13.85%	11.36%	13.85%	9.00%	7.39%
Single female	25.02	16.26	13.34	16.57	10.77	8.83
Married male-0 children	33.69	21.90	17.97	24.94	16.21	13.30
Married male-1 child	33.69	21.90	17.97	24.94	16.21	13.30
Married male-2 children	33.69	21.90	17.97	24.94	16.21	13.30
Married male-3 children	33.79	21.96	18.02	25.03	16.27	13.35

^{a/} Based on U.S. White Lives 1939-41 mortality, 150% American Remarriage Table remarriage rates, and 3% interest.

Note: Cost of survivor benefits based on death of wage earner before retirement is included where applicable. See text for demographic assumptions.