### COMPARISON OF THE PRESENT FEDERAL OLD-AGE INSURANCE PLAN WITH PROPOSED PLAN AC-1

Prepared by W.R. Williamson and R. J. Myers

Actuarial Study No. 4

Office of the Actuary Social Security Board Washington D.C.

These tables are preliminary and subject to revision. They are not intended for general distribution.

The purpose of this brief report is to present data in regard to Plan AC-1 as compared (1) with the present Title II and (2) with the present Title II modified by the proposed age 65 amendment. In this brief foreword there will be presented a summary of the provisions of Plan AC-1 and a discussion of the limitations involved in the cost estimates presented.

Under Plan AC-1 a new formula is substituted for the present formula. In order to pay the additional allowances for wives and widows of annuitants without too great an increase in cost, the benefit formula was revised as follows:

Present Title II	Plan AC-1		
(Expressed in terms of	an annual annuity)		
6% of first \$3,000 1% of next \$42,000 \frac{1}{2}% of excess over \$45,000	6% of first \$3,000 1% of next \$12,000 \frac{1}{3}\$ of next \$30,000 \frac{1}{4}\$ of excess over \$45,000		

An annuitant with a wife over 60 who is not an annuitant in her own right receives an additional 50% of his basic annuity. The widow of an annuitant receives 75% of her husband's basic annuity after she has attained age 60 if she is not an annuitant in her own right. If the wife's or widow's allowance is greater than the annuity which she has earned in her own right, she receives the larger one. Further conditions of this plan are that annuity payments begin in 1940

and that wages beyond age 65 are credited under Title II and taxed under Title VIII.

The death benefit for death before age 65 is the same as under the present Title II. For death after 65 the death benefit is a refund of the difference, if any, between  $3\frac{1}{2}$ % of total credited wages and annuity payments actually received by the annuitant and his widow.

The progress of reserve under Plan AC-1 is shown for three different tax schedules, namely, the present tax schedule, a tax schedule increasing from 2% to 5% by 3 year intervals, and a tax rate increasing from 2% to 5% by longer intervals. In the latter tax schedule the increase was so adjusted that the reserve would never exceed 10 billion dollars. As a result, it was necessary to maintain the 2% tax rate for 8 years and then to increase it to the ultimate 5% tax rate by 5 year intervals.

In the "Cost Estimates" report there were set down 23 assumptions which were made in order to carry out the estimates. In such a plan as this one and others proposed to the Advisory Council many additional assumptions have to be made in order to determine the costs for the various survivorship benefits and allowances for wives and dependent children. All of the assumptions made have seemed quite reasonable and consistent, but it is obvious that there are great uncertainties in estimating marital and dependency conditions in the far-distant future as well as in estimating the proportion

estimates are probably of a higher degree of reliability since they involve less empirical factors. Thus, to an even greater degree than heretofore, the estimates of the progress of reserve from 1937 to 1980 should be taken only as yardsticks by means of which comparisons are possible, rather than as representing either the final truth or even the best estimates of probable results.

The reserve in all cases is regarded as developed from the excess of appropriations over benefits, invested to earn 3% interest. Appropriations are assumed to be the estimated tax receipts under Title VIII less expense allowances.

Table 1

ILLUSTRATIVE MONTHLY ANNUITIES UNDER PLAN AC-1

V		December 4 T	3	Proposed 1	
Years	70 mm a m a a d		formula for		ent Formula
of	Present	Single	Married	Single /	Married,
Coverage	Formula	Person2/	Person <sup>b</sup> /	Person2/	Personb/
		Average Month	ly Wage of \$25		
5	*	*	*	*	*
15	\$16.25	\$16.25	\$24.38	100%	150%
25	18.75	18.75	28.12	100	150
35	21.25	21.25	31.88	100	150
45	23.75	23.75	35.62	100	150
		Average Month	ly Wage of \$50		
5	15.00	15.00	22.50	100	150
15	20.00	20.00	30.00	100	150
25	25.00	25.00	37.50	100	150
35	30.00	27.50	41.25	92	138
<b>4</b> 5	35.00	30.00	45.00	86	129
		Average Month	ly Wage of \$100		
5	17.50	17.50	26.25	100	150
15	27.50	26.25	39.38	95	143
25	37.50	31.25	46.88	83	125
35	47.50	36.25	54.38	76	114
45	5 <b>3.75</b>	39.38	59.07	73	110
		Average Month	ly Wage of \$150		
5 .	20.00	20.00	30.00	100	150
15	35.00	30.00	45.00	86	129
25	50.00	37.50	56.25	75	112
35	57.50	41.25	61.88	72	108
45	65.00	45.00	67.50	6 <b>9</b>	104
		Average Month	ly Wage of \$250		
5	25.00	25.00	<b>37.</b> 50	100	150
15	50.00	37 <b>.</b> 50	56.25	75	112
25	62.50	43.75	65.62	70 70	105
35	75.00	50.00	75.00	67	100
45	85.00	56.25	84.38	66	99
			- 1100	00	J J

<sup>\*</sup> Not eligible.

a/ Including married men whose wives are annuitants in their own right, and such married women.

b/ Excluding men whose wives are annuitants in their own right and such married women.

AVERAGE MONTHLY ANNUITIES UNDER PLAN AC-1 COMPARED WITH THOSE UNDER THE EXISTING FEDERAL OLD-AGE INSURANCE PLAN

Table 2

Calendar Year	Males with Allowance For Wife	Females and Other Males	Eligible Widows	Receiving	all Persons Annuities Unduplicatedb/	Present Title II
1940	\$22.50	\$15.00	\$11.20	\$17.80	\$12.80	<b>~~~</b>
1942	23.60	15.80	11.50	18.40	13.50	\$16.70
1945	25.40	16.90	11.80	19.20	14.40	18.20
1950	30.80	20.50	12.70	22.40	17.20	20.80
1955	35.30	23.50	14.30	24.90	19.70	23.90
1960	39.30	26.20	15.80	27.20	21.90	28.10
1965	42.60	28.40	17.70	29.10	23.90	31.60
<b>197</b> 0	45.80	30.50	19.30	30.90	25.80	35.20
1975	49.00	32.70	21.00	32.80	27.90	39.40
1980	52.00	34.60	22.90	34.40	30.10	43.50

- a/ Total annuity payments divided by number of persons who receive checks ('duplicated persons" receiving annuities as shown in Table 3). This column thus represents the average size of the checks.
- b/ Total annuity payments divided by number of persons in respect to whom payments are made ("unduplicated persons" receiving annuities as shown in Table 3). This column thus represents the average size of the payment per person with respect to whom payments are made.

Table 3

ESTIMATED NUMBER OF BENEFICIARIES UNDER PLAN AC-1

(All figures in thousands of persons)

	Male Ann	uitants		Total			
Calendar	With Allow-	Without Allow-	<b>Female</b>	Primary	Eligible		ring Annuities,
<u>Year</u>	ance for Wife	ance for Wife	<u>Annuitants</u>	<u>Annuitants</u>	Widows	Duplicatedb/	Unduplicatedc/
1940	398	484	124	1006	13	1019	1417
1945	587	752	222	1561	186	1747	2334
1950	793	1070	342	2205	416	2621	341.4
1955	941	1385	517	2843	677	3520	<b>44</b> 61
1960	1096	1783	738	3617	949	4566	5662
1965	1170	2059	922	4151	1203	5354	6524
1970	1225	2353	1130	4708	1444	6152	7377
1975	1221	2641	1429	5291	1642	6933	8154
1980	1084	2942	1886	5912	1759	7671	8 <b>75</b> 5

A Number of annuitants (those with wage records) is same as shown in Table 9, "Cost Estimates for Various Modifications of the Old-Age Insurance Benefits under Title II Suggested to the Social Security Board". Married male annuitant receives an allowance for his wife if she is over age 60 and if she is not receiving an annuity in her own right. The widow of a man who was receiving or was eligible to receive an annuity, receives an annuity when she is over 60 if not receiving an annuity in her own right.

b/ Includes all annuitants and eligible widows. This column thus represents the total number of individuals who receive checks.

c/ Includes all annuitants and eligible widows and wives for whom allowance is received. This column thus represents the total number of different persons for whom payments are made.

Table 4

COMPARISON OF ANNUITANTS UNDER TWO MODIFICATIONS OF TITLE II

(All figures in thousands of persons)

Calendar	Present	Age 65	Plan ,		o Present le II
<u>Year</u>	Title II	Amendment	<u>AO-1ª/</u>	Age 65	Plan AO-1
1940	the Oldreigne	war (60) 1994 alle	1019	·	••
1941	-		1224	-	-
1942	175	1282	1356	7.3	7.7
1943	343	1375	1485	4.0	4.3
1944	537	1493	1640	2.8	3.1
1945	681	1561	1747	2.3	2.6
1950	1680	2205	2621	1.3	1.6
1955	2594	2843	3520	1.1	1.4
1960	3528	3617	<b>4</b> 566	1.0	1.3
1965	4130	4151	5354	1.0	1.3
1970	4705	<b>47</b> 08	6152	1.0	1.3
1975	5291	5291	6933	1.0	1.3
1980	5912	5912	7671	1.0	1.3

a/ Includes only primary annuitants and eligible widows. Wives for whom allowance is paid are not included.

Table 5

ESTIMATED BENEFIT PAYMENTS UNDER PLAN AC-1 BY TYPE OF BENEFIT

(All figures in millions of dollars)

	Annu	ity Benefits	Death_B	Total		
Calendar	Annuitants	Allowances	Eligible	For Death	For Death	Benefit
Year	In Own Right	For Wives	Widows	Before 65	After 65	Payments
1937				4	***	4
1938				11	-	11
1939				18		18
1940	180	36	2	26		2 <del>44</del>
1940	190	30	~	20		C-T-T
1941	218	43	6	34	100 mb	301
1942	243	47	10	36		336
1943	267	51	15	44	1	378
1944	296	56	21	52	2	427
1945	317	60	26	60	3	466
1950	542	9 <b>8</b>	63	104	8	815
1955	803	133	116	148	17	1,217
1960	1,138	172	180	192	30	1.712
1965	1,414	199	257	240	42	2,152
1970	1.725	224	334	276	56	2,615
1975	2,076	239	413	309	73	3,110
1980	2,458	225	483	333	94	3,593

Table 6

COMPARISON OF BENEFIT PAYMENTS UNDER TWO MODIFICATIONS OF TITLE II

(All figures in millions of dollars)

0-1	Present	100 SE	Plan	As % of	Column 1
Calendar		Age 65 Amendment		Column 2	Column 3
Year_	Title II	Amendment	<u>AC-1</u>	COLUMN 2	OOT UMIT S
		Benefit Pays	ents in Y	eer	
	•	Donerto redu	OHOU IN A	CCIA	
1940	<b>4</b> 8	35	244	73%	508%
1942	124	301	336	243	271
1945	218	395	<b>4</b> 66	181	214
1950	538	669	815	124	151
1955	921	1,028	1.217	112	132
		•	-		
1960	1,430	1,526	1,712	107	120
1965	1.875	1,975	2.152	105	115
1970	2,355	2.490	2,615	106	111
1975	2.934	3.051	3,110	104	106
1980	3,576	3,668	3,593	103	100
	•	-	•		
	C	umulative Be	nefit Pay	ments	
1940	105	<b>7</b> 8	277	74	264
1942	232	425	914	183	394
1945	749	1,512	2,185	202	292
1950	2,810	4.325	5,574	154	198
1955	6,661	8,762	10,880	132	163
1960	12,803	15,424	18,497	120	144
1965	21,423	24,476	28,455	114	133
1970	32.240	35,927	40,640	111	126
1975	45,704	50,018	55,186	109	121
1980	62,288	67,087	72,176	108	116
	<del>-</del>	•		•	

Table 7

PROGRESS OF RESERVE UNDER PLAN AC-1 WITH PRESENT SCALE OF TAXES

UNDER TITLE VIII

(All figures in millions of dollars)

			Interest		Balance	Cumul:	ati <b>ve</b>
Calendar	Appropri-	Benefit	on	Federal ,	in	Appropri-	Benefit
Year	<u>ation</u>	Payments	Reserve	Subsidy2/	Reserve	ations	<u>Payments</u>
7.055	500	4	•	0	F0.4	500	
1937	528	4	0	0	524	528	4
1938	535	11	16	0	1,064	1,063	15
1939	542	18	32	0	1,620	1,605	<b>3</b> 3
1940	827	244	49	0	2.252	2,432	277
1941	829	301	68	0	2,848	3.261	578
1942	8 <b>29</b>	336	85	0	3,426	4,090	914
1943	1,125	378	103	Ö	4,276	5,215	1,292
1944	1,137	427	128	0	5,114	6.352	1,719
1945	1,148	466	153	0	5,949	7,500	2.185
1950	1,813	815	314	0	11,788	15,507	5,574
1955	1,904	1,217	503	0	17,968	24.847	10,880
1960	1,994	1,712	666	0	23,163	34,638	18,497
1965	2,080	2,152	793	0	27,162	44,868	28,455
1970	2,165	2,615	884	Ō	29,888	55,525	40,640
1975	2,251	3,110	928	ŏ.	30,998	66,608	55,186
1980	2,259	3,593	910	<u> </u>	29,9012	*	-
T200	ದ್ಯ ಪರಿತ	0,050	310	, 0-	89,30I	77.887	72,176

A Federal subsidy is introduced when the reserve falls below 10 billion dollars. This will not occur until many years after 1980. An annual Federal subsidy of 437 million dollars in each year after 1980 is necessary to maintain the reserve at the 1980 level.

PROGRESS OF RESERVE UNDER PLAN AC-1 WITH NEW SCALE OF TAXES
UNDER TITLE VIII2/

(All figures in millions of dollars)

			Interest		Balance	Cumula	ative
Calendar Year	Appropri- ation	Benefit Payments	on Reserve	Federal Subsidyb/	in <u>Reserve</u>	Appropri- ations	Benefit Payments
1937	528	4	0	0	524	528	4
1938	535	11	16	0	1,064	1,063	15
1939	542	18	32	0	1,620	1,605	33
1940	827	244	49	0	2,252	2,432	277
1941	829	301	68	0	2,848	3,261	<b>57</b> 8
1942	829	336	85	0	3,426	4,090	914
1943	1,125	378	103	0	4,276	5,215	1,292
1944	1,137	427	128	0	5,114	6,352	1,719
1945	1,148	466	153	0	5,949	7,500	2,185
1950	1,511	815	305	0	11,178	14,906	5,574
1955	1,587	1,217	444	0	15,611	22.691	10,880
1960	1.662	1,712	546	0	18,698	30.851	18,497
1965	1,733	2,152	600	0	20,176	39,376	28,455
1970	1.804	2,615	6 <b>03</b>	0	19,904	48,257	40,640
1975	1,876	3,110	545	0, ,	17,462,	57,492	55,186
1980	1,882	3,593	406	<mark>о</mark> ь/	12.2145/	66,891	72,176

<u>a</u>/ Schedule of taxes and expense allowances in arriving at appropriations:

<u>Period</u>	Tax Rate	Expense as % of Taxes
1937-39	2%	8 <b>1/3</b> %
1940-42	3	6 2/3
1943-45	4	5
19 <del>46-</del>	5	5

<sup>&</sup>lt;u>b</u>/ A Federal subsidy is introduced when the reserve falls below 10 billion dollars. This will not occur until about 1982. Thereafter, a subsidy of 1.411 million dollars will be necessary to maintain the reserve at 10 billion dollars.

PROGRESS OF RESERVE UNDER PLAN AC-1 WITH NEW SCALE OF TAXES
UNDER TITLE VIIIA

(All figures in millions of dollars)

			Interest		Balance	Cumula	ative
Calendar Year	Appropri- ation	Benefit Payments	on Reserve	Federal Subsidy	in Reserve	Appropri- ations	Benefit Payments
1937	528	4	0	0	524	528	4
1938	53 <b>5</b>	11	16	0	1,064	1,063	15
1939	542	18	32	0	1,620	1,605	<b>3</b> 3
1940	542	244	49	0	1,967	2.147	277
1941	542	301	59	0	2,267	2,689	<b>57</b> 8
1942	542	336	68	0	2,541	3,231	914
1943	542	378	<b>7</b> 6	0	2,791	3.773	1.292
1944	548	427	83	0	2,985	4,321	1.719
1945	846	<b>46</b> 6	90	. 0	3,455	5,167	2.185
1950	1,209	815	145	0	5,378	9,850	5,574
1955	1,587	1,217	209	0	7.549	16.393	10,880
1960	1,662	1.712	274	Ο,	9,352	24,553	18,497
1965	1,733	2.152	285	134 <u>b</u> /	9,500	33,078	28,455
1970	1.804	2,615	285	526	9,500	41.959	40,640
1975	1,876	3,110	285	949	9,500	51,194	55,186
1980	1,882	3,593	285	1,426	9,500	60,593	72,176

a/ Schedule of taxes and expense allowances in arriving at appropriations:

Tax Rate	Expense as % of Taxes
2%	8 2/3%
3	6 1/3
4	5
5	5
	2% 3 4

b/ A Federal subsidy is introduced when the reserve falls below 9½ billion dollars. This first occurs in 1964 when the subsidy is 22 million dollars. The reserve reaches a maximum of 9,554 million dollars in 1962.

Table 10

COMPARISON OF RESERVES UNDER TWO MODIFICATIONS OF TITLE II

(All figures in millions of dollars)

				Plan AC-1	
Calendar	Present	Age 65		2-5%	
Year	Title II	Amendment	2-6% Tax	Table 82/	Table 9b/
1940	2,337	2,461	2,252	2,252	1,967
1942	4,005	3,955	3,426	3,426	3,455
1945	7,343	6,717	5,949	5,949	5,378
1950	14,732	13,286	11,788	11,178	7,549
1955	22.765	20,625	17,968	15,611	9,352
1960	30,066	27,258	23,163	18,698	9,500
1965	36,307	32,872	27,162	20.176	9,500
1970	41.625	37.290	29.888	19.904	9,500
1975	45,402	40,066	30,998	17.462	9,500
1980	46,641	40,339	29,901	12,214	9,500

a/ Taxes increase from 2% to 5% by three year intervals.

b/ Tax is maintained at 2% for 8 years and then increased to the ultimate 5% rate by 5 year intervals.

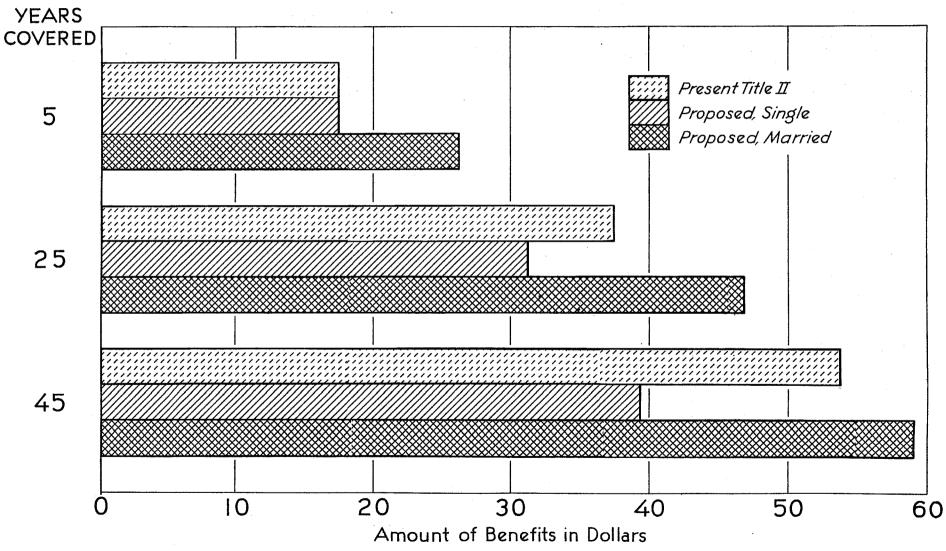
#### SUMMARY OF PROVISIONS OF PRESENT TITLE II AND PROPOSED PLAN AC-I

PF	PF	S	F	N	IT	Т	T	L	-	Π
1 1	<b>`</b> -	${}$	_						_	

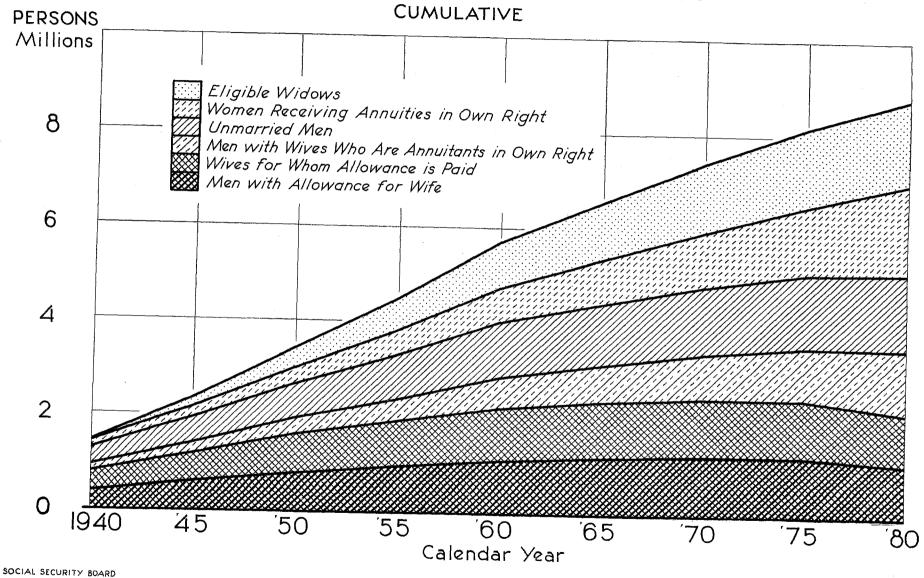
	PRESENT TITLE II	PROPOSED PLAN AC-I
Formula (Expressed in Terms of Annual Annuities)	6% of first \$ 3,000 1% of next 42,000 ½% of all over 45,000	6% of first \$ 3,000 1% of next   12,000 ½% of next   30,000 ½% of all over 45.000
Maximum Monthly Check	\$85	<b>\$</b> 85
Earnings Qualification	\$2,000	\$2,000
Coverage Qualification	One Day in Each of 5 Years	\$100 Earnings in Each of 3 Years to Qualify in 1940-4 Years for 1941- 5 Years for 1942 and Thereafter
First Annuity Payments	January, 1942	January, 1940
Allowance for Wife, Age 60	None	50% of Basic Annuity
Allowance for Widow Age 60	None	75% of Basic Annuity
Death before Retirement	3½% of Credited Wages	Based on Credited Wages of ½% More than Highest Tax Rate Paid by Worker
Death after Retirement	Same as Above Minus Annuity Payments Received	Same as Above Minus Annuity Payments Received by Annuitant and Widow
Taxes Under	2%-6%	2%-5%

Title VIII SOCIAL SECURITY BOARD

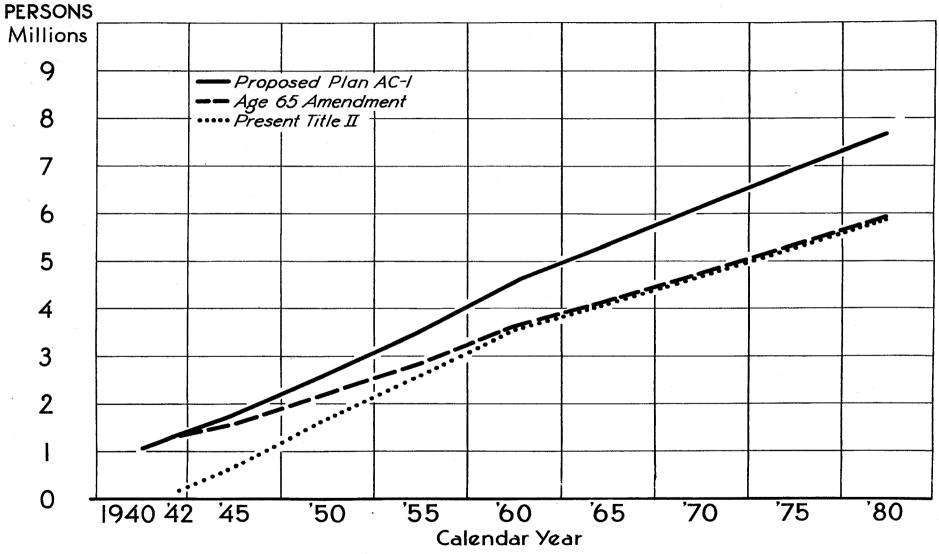
#### ILLUSTRATIVE MONTHLY ANNUITIES UNDER PRESENT TITLE II AND UNDER PROPOSED PLAN AC-I FOR A WORKER EARNING AVERAGE WAGES OF \$100 PER MONTH



#### COMPOSITION OF ANNUITANTS UNDER PROPOSED PLAN AC-1, 1940-1980

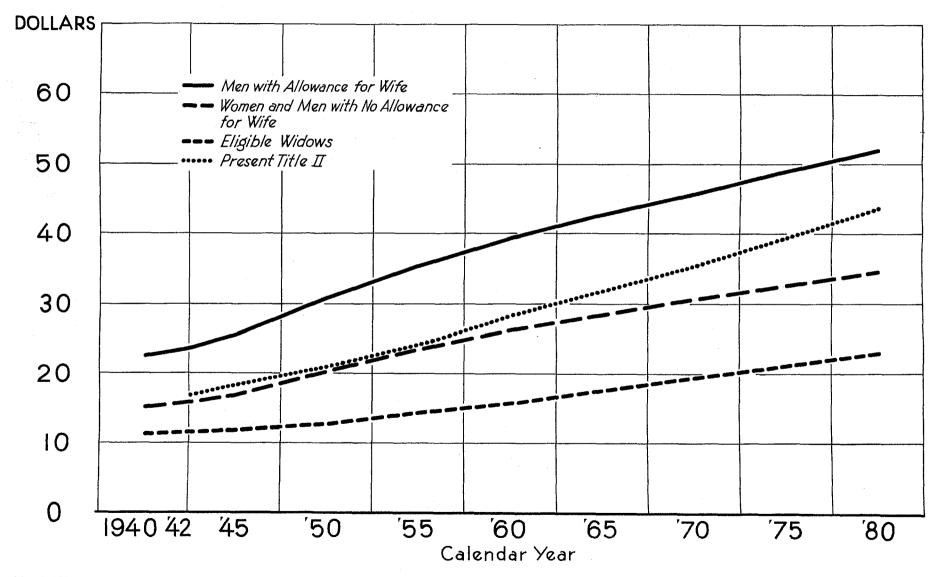


# NUMBER OF ANNUITANTS\*, PROPOSED PLAN AC-I, AGE 65 AMENDMENT, AND PRESENT TITLE II, 1940-80

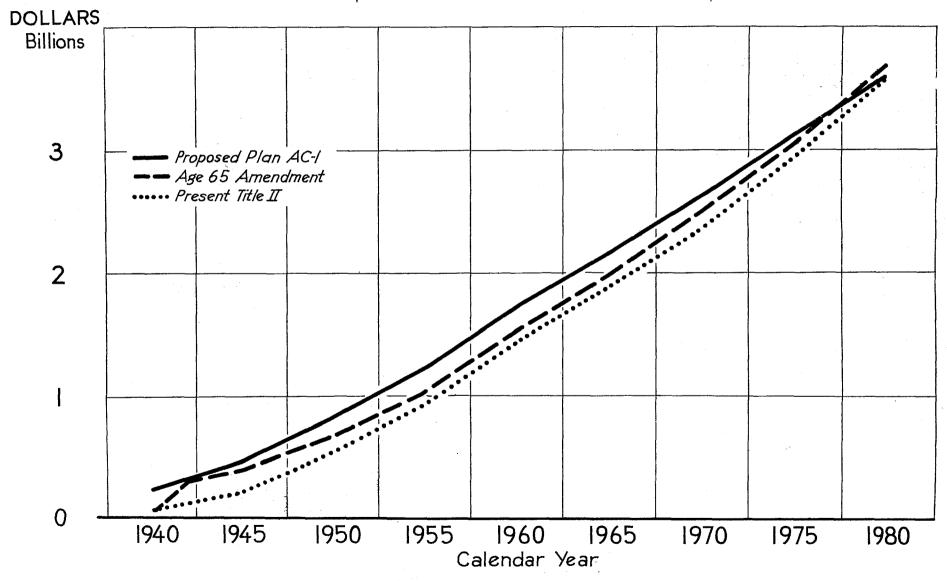


\*Excluding Wives for Whom Allowance Is Paid

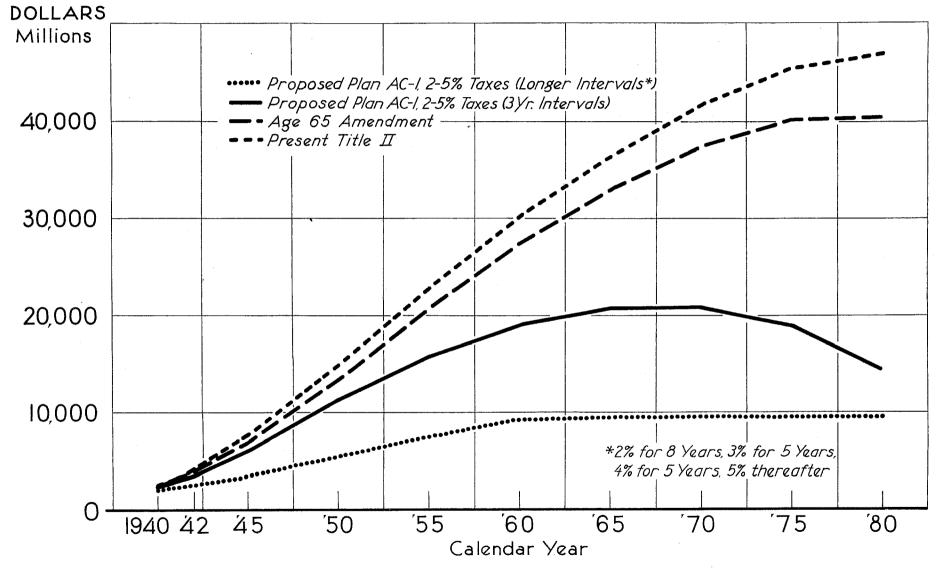
# AVERAGE MONTHLY ANNUITIES UNDER PROPOSED PLAN ACIAND UNDER PRESENT TITLE II, 1940-80



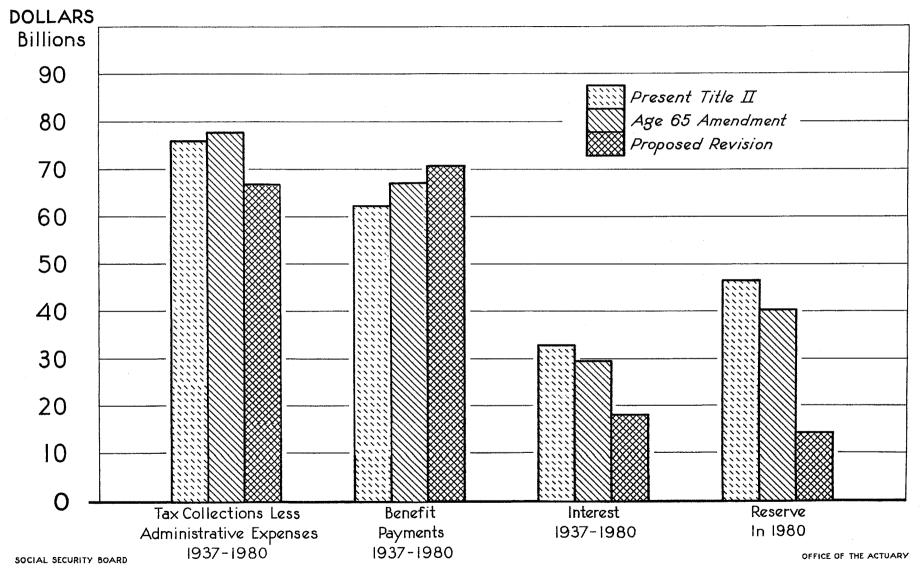
# ANNUAL BENEFIT PAYMENTS, PROPOSED PLAN AC-I, AGE 65 AMENDMENT, AND PRESENT TITLE II, 1940-80



### RESERVES AT END OF YEAR, PROPOSED PLAN AC-1, AGE 65 AMENDMENT, AND PRESENT TITLE II, 1940-1980



## RESERVES AND CUMULATIVE DATA UNDER PLAN AC-I, AGE 65 AMENDMENT, AND PRESENT TITLE II, FOR 1980



#### TOTAL ANNUITY PAYMENTS FOR WOMEN

### (A) FEMALE ANNUITANTS (B) WIVES FOR WHOM ALLOWANCE IS PAID

PROPOSED PLAN AC-I 1940-1980

