LONG-RANGE COST ESTIMATES FOR EXPANDED COVERAGE AND LIBERALIZED BENEFITS PROPOSED TO THE OLD-AGE AND SURVIVORS INSURANCE SYSTEM BY H.R. 2893

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FOREWORD

This Actuarial Study presents detailed long-range cost estimates for the expanded old-age, survivors, and disability insurance program now being considered by the Congress. Except for a few modifications, these estimates are consistent and comparable with those for the present program as given in Actuarial Study No. 23 and with those for the present benefit structure but full coverage of all employments in Actuarial Study No. 27.

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A. Introduction

This study presents long-range cost estimates for H.R. 2893, which is the Administration bill introduced by Chairman Doughton on February 21, 1949 for purposes of discussion before the Committee on Ways and Means.

The main features of this bill are as follows:

(1) Extension of coverage to all gainful employment except railroad and Federal civilian covered by a retirement system (in this connection the cost estimates assume that virtually all State and local governmental employment is covered as a result of election to be covered; further it is assumed that for all nonprofit employment the employer in all cases pays the optional contribution).

(2) Maximum annual wage base of $4800.

(3) Average monthly wage determined over the 5-highest consecutive years of coverage (increment years).

(4) Monthly primary benefit based on 50% of the first $75 of average monthly wage plus 15% thereafter, with a 1% increment and with a continuation factor to apply in the future to reduce for years of noncoverage. Minimum monthly benefit of $25 and maximum benefit of $150 or 80% of wage. Beneficiaries on the roll are to be given an approximately equivalent increase by means of a special conversion table.

(5) Lump-sum death payment to be 3 times the monthly primary benefit and payable for all deaths.

(6) Fully insured status to be based on 25% of the elapsed quarters.

(7) Benefits for parents and first survivor child to be increased from 50% to 75% of the primary benefit.

(8) Work clause of $50 per month on an "all or none" basis.

(9) Maximum for extended disability benefits to be the same as for other benefits. Requirement for extended disability benefits to be both currently insured status and 20 quarters of coverage out of the last 40 quarters. Supplementary benefits payable to wife if over age 60 or with dependent children, and to children.

(10) More liberal provisions for paying child survivor benefits in respect to women workers in that existence of both fully and currently insured status automatically presumes dependency. Also, availability of disabled husband's and disabled widower's benefits in respect to women workers.

(11) Weekly disability benefits provided, but their effects not considered in this study.

(12) Extension of coverage as of January 1, 1950, except for self-employed as of 1949. First disability benefits to be payable July 1950. Liberalizations in benefits effective in July 1949.

(13) Contribution rate on employer and employee increased to 1½% each on July 1, 1949 and to 2% each on January 1, 1950, but latter increase is presumably to cover costs of weekly disability benefits. Contribution rate for self-employed (who are not eligible for weekly disability benefits) is 2¼% for 1949 and after.

B. Basic Assumptions

The following estimates have been prepared on the basis of high employment assumptions. They have used level wage assumptions purely as an actuarial technique to indicate the relative costs as a percentage of pay roll under the situation assuming a rising wage trend over time and a constant standard of benefit adequacy with rising earnings. Under these assumptions of a rising wage trend and a dynamic benefit system, the percentage of pay roll figures given and the numbers of beneficiaries are of prime significance, but the dollar figures are, of course, understatements.

On the other hand, if wages continue to rise and such assumed liberalizations are not made, these estimates overstate the cost as a percentage of pay roll, and contribution rates based on them would be too high. However, under such circumstances if the wage level continued to rise, the benefits payable would continuously decrease in adequacy. Benefits under the system would be subject to considerable criticism a decade or so hence because of the inadequacy of the benefit relationships to wages. Inadequacies of benefits would be as marked as they are at present when contrasted with 1939 levels. The situation 50 years from now would, of course, be far more out of line if no change in the plan were made despite the increasing wage trend over the half century.

Any estimates for an increasing wage trend in conjunction with an unchanging benefit system will be largely unrealistic for the reasons given above. This will be especially evident, either when we consider the resulting relationships between benefits 50 years hence and wages of that time, or when we consider an historical example. Looking ahead, primary benefits 50 years hence will be shown to be far less than the ¼ to ⅓ of wage that we are now aiming at. Looking back, if it were assumed that the system had been set up in 1900, then due to the rise in wages since that date, the cost in 1950 would have been estimated in 1900 to be quite small as related to pay roll. This undoubtedly would have been true in actual experience <u>if the plan had been left unchanged</u> because the benefits now payable would have probably averaged not more than $10 per month so that despite a fairly large number of beneficiaries, the total outlay would be relatively low. In fact, individuals in 1950 would hardly retire voluntarily under the "1900 Act" for these very small amounts, and many would not even bother to file claims for the small amounts involved.

With an adjustment for the low rate of retirement and claims filing, the cost at present would have apparently been less than $500 million per year or only about ½% of pay roll at the $3000 maximum, or more logically about 1½% of pay roll at a $900 maximum which would have been consistent with the "1900 Act". However, the very unrealistic nature of such an estimate is quite evident since a system certainly would not have been maintained over the last few decades if the average benefit payable would have been under $10 per month.

Further, it might be mentioned that although historically there has been a definite upward wage trend, also just as definitely in social insurance plans (and in private and other governmental plans, too) there has been an historic trend toward maintaining, and even increasing, the standard of benefit adequacy as conditions changed.

As in the cost estimates for the plan proposed by the Advisory Council on Social Security of the Senate Finance Committee (Senate Document 208, 80th Congress), two separate cost illustrations have been developed in order to show possible ranges in benefit costs.

The low and high cost assumptions relate to the cost as a percent of pay roll in the aggregate and not to the dollar costs. The two cost assumptions were based on possible variations in fertility rates, mortality rates, retirement rates, remarriage rates, etc.

In general, the cost estimates have been prepared according to the same assumptions and techniques as those contained in Actuarial Studies No. 23 and 27, and also the same as in the estimates prepared for the Senate Finance Committee's Advisory Council. It may be mentioned here that in all those estimates--as well as the present ones--there are the following important elements:

(1) In later years many women will be eligible for both primary benefits and either wife's or widow's benefits. In such instances, these individuals have been assumed to receive full primary benefits and residual wife's or widow's benefits, if larger than the primary benefit. The numbers of such individuals receiving residual wife's or widow's benefits and the average sizes of such benefits are not shown, but the total amount of such benefits is included in the tables giving the amount of benefits in dollars and as percentages of pay roll.

(2) The effect of the maximum benefit provisions will have a considerable influence--especially in regard to extended disability benefits. It has been assumed that the number who would receive benefits in a particular case would include only those who would receive benefits at the full rate plus one individual who would receive partial benefits completing the maximum, and with all other potentially eligible beneficiaries being not counted.

The assumptions as to the major elements, population, employment, and wages, may be summarized as follows:

(1) Population

The low cost estimates assume U.S. 1939-41 mortality rates constant by age and sex throughout all years. The high cost estimates are based on improving mortality similar to the National Resources

Table A

ESTIMATED U. S. POPULATION IN FUTURE YEARS
(Figures in millions of persons)

Calendar Year	Aged 20-64 Men	Aged 20-64 Women	Aged 20-64 Total	Aged 65 & Over Men	Aged 65 & Over Women	Aged 65 & Over Total	All Ages Men	All Ages Women	All Ages Total
Census Estimate for 1945									
1945	41	42	83	4.8	5.3	10.1	70	70	140
Projection for Low Cost Assumptions									
1950	43	44	87	5.3	5.9	11.2	73	74	147
1955	43	44	87	6.0	6.7	12.7	76	77	153
1960	44	45	89	6.5	7.5	14.0	79	80	159
1970	47	48	95	7.1	8.8	15.9	83	85	168
1980	50	50	100	7.8	10.1	17.9	89	90	179
1990	52	52	104	8.4	11.1	19.5	94	95	189
2000	57	56	113	8.3	10.7	19.0	99	100	199
Projection for High Cost Assumptions									
1950	43	44	87	5.4	6.0	11.4	73	73	146
1955	44	45	89	6.2	6.9	13.1	75	76	151
1960	45	46	91	7.0	7.9	14.9	77	78	155
1970	49	49	98	8.5	10.0	18.5	81	82	163
1980	50	50	100	10.4	12.4	22.8	85	85	170
1990	51	50	101	12.4	14.7	27.1	86	86	172
2000	52	50	102	13.3	15.2	28.5	87	86	173

Note: See text for description of bases of population projections.

Planning Board low mortality bases, with an assumed further improvement with time for ages over 65 to allow for possible gains due to geratric medical research.

The low cost estimates assume level birth rates similar to the U.S. 1940-45 experience, which was relatively high. The high cost estimates assume a decreasing birth rate in the future similar to the National Resources Planning Board's medium estimate.

For both the low and high cost estimates no net immigration is assumed.

Table A summarizes these population projections. Although in the year 2000, the total population of 199 million under the low cost assumption is higher than the 173 million under the high cost assumption, the corresponding figures for the aged group 65 and over are 19 million and 28.5 million, respectively.

(2) Employment

Both the low cost and high cost estimates assume close to full employment although somewhat below the level prevailing at the end of 1948. The previous estimates were, in general, based on conditions in 1944-46. A change made in these estimates to allow partially for the higher employment since then has been to assume that all coverage figures (and thus resulting beneficiary figures) are about 5% higher. Civilian employment averaged about 53 million in 1944-46, but in 1948 was 59 million, an increase of over 10%.

(3) Wages

Both the low cost and high cost estimates are based on wage levels slightly below existing ones. Previously, an average 4-quarter wage of $2400 was used for men and $1440 for women. With the raising of the maximum taxable wage from $3000 to $4800, the assumed average 4-quarter wage for men has been increased to $2700. At the same time the assumed 4-quarter wage for women has been increased to $1625 (not because of the increase in the maximum taxable wage, which would have relatively little effect for women, but rather to maintain the 60% relationship between female and male wages, which has been experienced in the past when wages are considered with virtually no maximum, and which should have been taken into account in the other cost estimates but had not been).

The actual recorded wages for 4-quarter workers may be compared with those used in the cost estimates (adjusted back downward for men to allow for the $3000 maximum) as follows:

	Men	Women
Used in Cost Estimates	$2400	$1625
Actual 1944	2300	1402
Actual 1945	2293	1384
Actual 1946 (preliminary)	2262	1478
Actual 1947 (preliminary)	2410	1610
Actual 1948 (rough estimate)	2500	1700

As to the bases for the disability estimates, the following assumptions are used:

(1) Low Cost Estimate:

Incidence rates are about 50% of Class 3 (experience of life insurance companies under disability income policies for the early 1920's, modified for a 6-month waiting period). Termination rates are German Social Insurance experience for 1924-27.

(2) High Cost Estimate:

Incidence rates are 165% Modification of Class 3 (which includes increasingly higher percentages for ages above 45); this corresponds roughly to insurance company experience during the depression years of the early 1930's. Termination rates are Class 3.

It will be noted that the low cost estimate includes low incidence rates (which taken by themselves produce low costs) and also low termination rates (which taken by themselves produce higher costs, but which are felt to be necessary because with low incidence rates--meaning only severely disabled beneficiaries--there would tend to be low termination rates because there would be few recoveries). On the other hand, the high cost estimate contains high incidence rates which are somewhat offset by high termination rates, which it seems reasonable to assume would result under such circumstances since the high incidence rates imply many cases where recovery and rehabilitation will occur.

It is conceivable that if there were not strict administrative practices, there could be low termination rates combined with high incidence rates, which would produce appreciably higher costs than shown here. Also in a period of severe depression if there were not adequate unemployment insurance and assistance or work projects, there would tend to be higher disability costs than shown here--especially if the scale of disability benefits were relatively high as compared with other available benefits or assistance. On the other hand, extremely low costs would develop if low incidence rates were combined with high termination rates, but this hardly seems a possible combination under any circumstances.

The table below compares the estimated proportion of the population age 65 and over who are fully insured under the present limited coverage and under the expanded coverage recommended:

Calendar Year	Present Coverage		Expanded Coverage	
	Men	Women	Men	Women
1960	44-49%	7-10%	69-81%	13-17%
1970	54-62	10-14	76-86	17-25
1980	64-73	16-22	81-91	23-31
1990	72-81	27-34	84-94	33-40
2000	74-84	35-43	86-95	43-51

It will be noted that the above figures for women include only those insured by their own employment and not those eligible through their husband's earnings. If the latter group had also beenincluded, the resulting figures would have been somewhat larger than those shown for men.

As in previous cost estimates no account is taken of the special temporary veterans benefits of Section 210 of the Social Security Act (the extra cost of which is paid from the General Treasury) or of the 1947 amendment to the Railroad Retirement Act which provides for co-ordination of OASI and railroad wages in determining survivor benefits.

C. Results of Cost Estimates

Table 1 gives the estimated taxable pay rolls for the coverage provided under the bill and in accordance with the assumptions made previously as to participation by State and local governmental employers and by nonprofit employers.

Since both the low-cost and the high-cost estimates assume a high future level of economic activity, the pay rolls are substantially the same under the two estimates in the early years. Accordingly, there is little difference in the contribution income in the two estimates. The assumptions which affect benefits, however, have widely different effects even in the early years of the program. The range of error in the estimates, nevertheless, may be fully as great for contributions as it is for benefits.

Table 2 shows the estimated number of monthly beneficiaries in current payment status under the proposed plan. In regard to disability beneficiaries, the number ultimately ranges from about 1 million in the low cost estimate to 2½ million in the high cost estimate.

Table 3 shows the estimated average benefits under the proposed plan. These are given only for the two calendar years 1960 and 2000 since, in general, there is a smooth trend in the intervening 40-year period.

It will be noted that for both old-age and disability primary beneficiaries, separate figures are given for men and women since the results will be so different and since the combination would obscure the trend. In both cases for men the average will increase with time as a result of the increment. On the other hand, for women the average old-age primary benefit shows a decrease because of the effect of the continuation factor since there will ultimately be a large number of women receiving primary benefits who did not engage in covered employment for their entire adult lifetime after 1949.

It will further be noted that the relatively low average benefits for supplementary wife's and child's benefits for disability beneficiaries arise because of the effect of the maximum benefit provisions. These will reduce the supplementary benefits payable rather than both the primary and supplementary benefits.

Table 4 presents costs as a percentage of pay roll for each of the various types of benefits. In general, in contrast with the costs of the Advisory Council plan, there is relatively

Table 1

ESTIMATED TAXABLE PAY ROLLS[a] UNDER H.R. 2893
(In billions of dollars)

Calendar Year	Low Cost Estimate[b]	High Cost Estimate[b]
1960	$145	$146
1970	156	157
1980	165	162
1990	175	166
2000	187	166

a/ Assuming virtually complete election of coverage by State and local government employers.
b/ Based on high employment assumptions.

Table 2

ESTIMATED NUMBERS OF MONTHLY BENEFICIARIES a/ UNDER H.R. 2893
(In thousands of persons)

Calendar Year	Old-Age Beneficiaries b/			Survivor Beneficiaries				Disability Beneficiaries c/	
	Primary	Wife's d/	Child's	Widow's d/	Parent's d/	Mother's	Child's	Primary	Supplementary e/
Low Cost Estimate f/									
1960	2581	1032	60	1795	111	326	1229	468	271
1970	4157	1370	80	3126	125	369	1418	732	381
1980	6058	1528	97	3942	127	401	1552	864	424
1990	8301	1514	112	4178	118	433	1699	926	460
2000	9705	1402	109	3981	102	472	1847	1041	501
High Cost Estimate f/									
1960	5181	1704	101	1756	208	341	975	1375	670
1970	8160	2252	113	2934	269	318	874	1897	854
1980	11748	2784	116	3703	292	292	776	2152	938
1990	16140	3059	108	3866	283	274	707	2238	975
2000	19345	3091	76	3547	271	262	651	2417	1006

a/ As of middle of year. The relatively small numbers of male beneficiaries in the disabled husband's and disabled widower's categories are included in the wife's and widow's categories respectively.
b/ i.e. for benefits paid in respect to retired workers.
c/ Includes only extended disability cases, and not weekly disability beneficiaries. Does not include those who are eligible for old-age primary benefits by reason of having attained the minimum retirement age.
d/ Does not include beneficiaries who are also eligible for primary benefits.
e/ Includes both wife's and child's beneficiaries.
f/ Based on high employment assumptions.

Table 3

ESTIMATED AVERAGE MONTHLY BENEFIT PAYMENTS AND AVERAGE
LUMP-SUM DEATH PAYMENTS UNDER H.R. 2893

Category	1960	2000
Old-Age Primary	$57-60	$58-60
Male	60-62	75-79
Female	49-51	41-44
Wife's a/	31-32	38-40
Widow's b/	44-45	55-58
Parent's c/	46-50	47-50
Child's d/	37-40	42-44
Mother's	47-49	53-53
Disability Primary e/	57-62	58-62
Male	65-68	68-70
Female	45-48	44-47
Disability Supplementary f/	25-25	22-23
Lump-Sum Death g/	173-181	186-193

a/ Does not include (1) those eligible for primary benefits or (2) wife's benefits for disability beneficiaries. Includes disabled husband's benefits.
b/ Does not include those eligible for primary benefits. Includes disabled widower's benefits.
c/ Does not include those eligible for primary, widow's, or disabled widower's benefits.
d/ Includes both child's benefits for old-age primary beneficiaries and child survivor beneficiaries. Does not include child's benefits for disability beneficiaries.
e/ Includes only extended disability cases, and not weekly disability beneficiaries. Does not include those who are eligible for old-age primary benefits by reason of having attained the minimum retirement age.
f/ Average amount per supplementary beneficiary, both wife's and child's.
g/ Average amount per death.

Note: Lower figure of range shown is for high cost estimate, while higher figure is for low cost estimate.

Table 4

ESTIMATED RELATIVE COSTS IN PERCENTAGE OF PAY ROLL FOR H.R. 2893 EXCLUDING WEEKLY DISABILITY BENEFITS, BY TYPE OF BENEFIT

Calendar Year	Old-Age Primary	Wife's a/ b/	Widow's a/	Parent's	Mother's	Child's c/	Disability d/	Lump-Sum Death	Total
				Low Cost Estimate e/					
1960	1.28%	.27%	.67%	.05%	.13%	.42%	.30%	.10%	3.21%
1970	2.02	.37	1.21	.05	.15	.48	.42	.12	4.82
1980	2.79	.42	1.57	.05	.16	.50	.46	.14	6.09
1990	3.48	.42	1.68	.04	.16	.52	.47	.16	6.92
2000	3.74	.38	1.59	.03	.16	.53	.49	.16	7.07
Level Premium f/	2.78	.35	1.30	.04	.15	.48	.41	.14	5.64
				High Cost Estimate e/					
1960	2.42%	.44%	.65%	.08%	.13%	.32%	.79%	.09%	4.92%
1970	3.64	.58	1.11	.10	.12	.29	1.00	.11	6.96
1980	5.14	.75	1.47	.10	.11	.26	1.09	.13	9.05
1990	6.84	.86	1.62	.10	.10	.24	1.10	.15	11.02
2000	8.10	.91	1.63	.09	.10	.21	1.18	.17	12.40
Level Premium f/	5.61	.72	1.27	.09	.11	.25	.98	.14	9.15

a/ The relatively small amount of disabled husband's and disabled widower's benefits are included in wife's and widow's benefits respectively. Also included are excesses of wife's and widow's benefits over primary benefits for female primary beneficiaries also eligible for wife's or widow's benefits.

b/ Includes only wife's benefits for old-age primary beneficiaries and excludes wife's benefits for disability primary beneficiaries.

c/ Includes both child's benefits for old-age primary beneficiaries and child survivor beneficiaries. Does not include child's benefits for disability primary beneficiaries.

d/ Including supplementary benefits for wives and children.

e/ Based on high employment assumptions and level wage assumption used as actuarial technique for showing relative cost under increasing wage assumption combined with assumption of plan being continually modified to meet such changed conditions.

f/ Level premium contribution rate (based on 2% interest) for benefit payments after 1949 and into perpetuity not taking into account the accumulated funds at the end of 1949 or administrative expenses.

little difference in the early years, but this proposed plan has higher costs ultimately, largely due to the increment.

The level premium cost shown for the proposed plan is roughly 5½ to 9% of pay roll as compared to 5 to 7½% of pay roll for the Advisory Council plan including their limited disability provisions. It should be noted that these level premium costs are higher than those for the original Social Security Act of 1935, namely 5 to 7%, because of two factors: first, a lower interest rate is used (namely, 2% as against 3%) and, second, the program proposed is nearer maturity since a portion of the benefit roll has been built up or, in other words, some of the period of low cost has been passed through, without at the same time substantial funds having been built up as would have been the case if the original tax schedule or original level premium rate had been in effect in the past.

Table 4a likewise shows costs as a percentage of pay roll but summarizes them for the three major categories, old-age, survivor, and disability benefits.

Table 5 gives the dollar figures for various future years for each of the different types of benefits. As indicated previously, these figures are not of the same degree of significance as those in regard to number of beneficiaries or costs relative to pay roll.

Table 6 presents estimated relative costs showing the progress of the change in cost from the present Act to the proposed plan according to major changes made. The order in which these changes are considered determines in many instances how much of the increase in cost is attributed to a specific provision. For example, the increased cost arising from the lowering of the retirement age of women to 60, follows the estimates of cost changes resulting from extension of coverage but precedes the estimated effect of the new benefit formula.

Thus the estimated cost of retirement age 60 for women represents increases in benefit payments based on the <u>present</u> formula. If the cost effect of the new benefit formula had preceded the figures on the effect of age 60 for women, the increase in cost arising for this latter factor would have been greater since it would have been based on the payment of higher benefits to women aged 60 to 64. On the other hand, considering the benefit formula <u>first</u> would result in showing its cost effect as smaller than it is shown in this table because the present retirement age for women would prevent the payment of benefits to those between 60 and 65. The order in which the changes are considered does not, of course, affect the final or net costs of this plan.

Table 4a

SUMMARY OF RELATIVE COSTS IN PERCENTAGE OF PAY ROLL FOR H.R. 2893 EXCLUDING WEEKLY DISABILITY BENEFITS, BY TYPE OF BENEFIT

Calendar Year	Old-Age[a]	Survivor[b]	Disability[c]	Total
		Low Cost Estimate[d]		
1960	1.56%	1.35%	.30%	3.21%
1970	2.41	1.98	.42	4.82
1980	3.24	2.39	.46	6.09
1990	3.93	2.53	.47	6.92
2000	4.14	2.45	.49	7.07
Level Premium[e]	3.16	2.08	.41	5.64
		High Cost Estimate[d]		
1960	2.88%	1.25%	.79%	4.92%
1970	4.26	1.70	1.00	6.96
1980	5.92	2.04	1.09	9.05
1990	7.73	2.18	1.10	11.02
2000	9.04	2.18	1.18	12.40
Level Premium[e]	6.35	1.83	.98	9.15

a/ Includes old-age primary benefits, wife's benefits (including disabled husband's), and child's benefits for old-age primary beneficiaries.

b/ Includes widow's benefits (including disabled widower's), parent's benefits, mother's benefits, survivor child's benefits, and lump-sum death payments.

c/ Includes disability primary benefits, and wife's and child's benefits for disability primary beneficiaries.

d/ Based on high employment assumptions and level wage assumption used as actuarial technique for showing relative cost under increasing wage assumption combined with assumption of plan being continually modified to meet such changed conditions.

e/ Level premium contribution rate (based on 2% interest) for benefit payments after 1949 and into perpetuity, not taking into account the accumulated funds at the end of 1949 or administrative expenses.

Table 5

ESTIMATED ABSOLUTE COSTS IN DOLLARS FOR H.R. 2893 EXCLUDING WEEKLY DISABILITY BENEFITS, BY TYPE OF BENEFIT (In millions of dollars)

Calendar Year	Old-Age Primary	Wife's a/ b/	Widow's a/	Parent's	Mother's	Child's c/	Disability d/	Lump-Sum Death	Total
Low Cost Estimate e/									
1960	$1249	$396	$973	$66	$193	$604	$430	$144	$4655
1970	3158	579	1891	75	232	744	663	194	7536
1980	4608	693	2597	76	257	831	766	237	10065
1990	6110	735	2952	71	278	911	819	274	12150
2000	6992	704	2972	61	303	985	912	307	13236
High Cost Estimate e/									
1960	3519	640	949	116	191	473	1148	127	7163
1970	5719	916	1742	151	192	461	1564	169	10914
1980	8353	1212	2384	164	182	425	1762	206	14688
1990	11340	1433	2693	159	172	391	1832	250	18270
2000	13460	1520	2703	153	166	351	1961	290	20604

a/ The relatively small amount of disabled husband's and disabled widower's benefits are included in wife's and widow's benefits respectively. Also included are excesses of wife's and widow's benefits over primary benefits for female primary beneficiaries also eligible for wife's or widow's benefits.

b/ Includes only wife's benefits for old-age primary beneficiaries and excludes wife's benefits for disability primary beneficiaries.

c/ Includes both child's benefits for old-age primary beneficiaries and child survivor beneficiaries. Does not include child's benefits for disability primary beneficiaries.

d/ Including supplementary benefits for wives and children.

e/ Based on high employment assumptions and level wage assumption used as actuarial technique for showing relative cost under increasing wage assumption combined with assumption of plan being continually modified to meet such changed conditions.

f/ Level premium contribution rate (based on 2% interest) for benefit payments after 1949 and into perpetuity, not taking into account the accumulated funds at the end of 1949 or administrative expenses.

Table 6

ESTIMATED RELATIVE COSTS IN PERCENTAGE OF PAY ROLL FOR H.R. 2893 EXCLUDING WEEKLY DISABILITY BENEFITS, BY EFFECT OF MAJOR CHANGES

Calendar Year	Cost of Present Act	Increase in Cost Arising from: Extension of Coverage	Age 60 for Women	Revised Work Clause	Revised Lump-Sum Payment	Additional Survivor Benefits[a]	New Benefit Formula[b]	Extended Disability Benefits[c]	Net Cost of H.R. 2893
				Low Cost Estimate[d]					
1960	1.75	- .28	.15	.04	-.01	.08	1.18	.30	3.21
1970	2.56	- .28	.29	.05	-.02	.08	1.72	.42	4.82
1980	3.33	- .33	.42	.06	-.02	.10	2.07	.46	6.09
1990	4.02	- .47	.46	.07	-.03	.10	2.29	.47	6.92
2000	4.19	- .42	.44	.07	-.03	.10	2.22	.49	7.07
Level Premium[e]	3.26	- .38	.36	.06	-.02	.09	1.86	.41	5.64
				High Cost Estimate[d]					
1960	2.46	- .37	.28	.03	-.01	.08	1.66	.79	4.92
1970	3.66	- .47	.47	.04	-.02	.08	2.20	1.00	6.96
1980	5.18	- .72	.65	.06	-.02	.08	2.73	1.09	9.05
1990	6.93	-1.14	.75	.07	-.02	.08	3.25	1.10	11.02
2000	8.12	-1.32	.79	.08	-.03	.08	3.50	1.18	12.40
Level Premium[e]	5.66	- .91	.60	.06	-.02	.08	2.70	.98	9.15

a/ Higher rate for parents and first child, disabled widower's (and husband's) benefits, and more liberal eligibility conditions for determining child dependency on women workers.

b/ Including also revision in computation of average wage, liberalized insured status requirements, and higher limit on maximum creditable and taxable wage.

c/ Including supplementary benefits for wives and children. Based on new benefit formula.

d/ Based on high employment assumptions and level wage assumption used as actuarial technique for showing relative cost under increasing wage assumption combined with assumption of plan being continually modified to meet such changed conditions.

e/ Level premium contribution rate (based on 2% interest) for benefit payments after 1949 and into perpetuity, not taking into account the accumulated funds at the end of 1949 or administrative expenses.

Tables 7a and 7b present the estimated operations of the trust fund under the expanded program. The trust fund at the end of 1949 is assumed to be $12.0 billion in all instances. Although the bill provides for a combined employer-employee contribution rate of 4% beginning in 1950, for purposes of these cost estimates the combined rate is considered to be 3% since the weekly sickness benefits, not included in these cost estimates, are apparently to be financed by 1% (since this reduction is made in respect to those excluded from weekly sickness benefits, i.e., Government employees and the self-employed).

The estimates of trust fund operations have been developed under two financing bases. Under Basis A, the combined employer-employee contribution rate is maintained at 3% until total disbursements from the fund exceed total income. At that time, a Government contribution is introduced which would, of course, gradually increase for future years. However, when this Government contribution exceeds half of the combined employer-employee contribution income, the employer-employee rate is increased from 3% to 4%. This same procedure of a 1% rate increase is carried out in future years as necessary when the gradually rising Government contribution exceeds half the income from the employer-employee contributions.

Basis B differs only slightly from Basis A in that when the 3% combined contribution income is insufficient, the rate is raised to 4% rather than introducing a Government contribution at that time. However, when the income from this 4% rate becomes insufficient, a Government contribution is introduced as previously; then the employer-employee contribution rate is stepped up in the future in the same fashion.

The Government contribution will, therefore, be of such amount as to maintain the trust fund at its highest point without any decrease thereafter (disregarding any minor, short-range cyclical fluctuations). Under either of the financing bases assumed here, the trust fund rises to about $30 billion under the low cost estimate and to about $15 billion under the high cost estimate, with this maximum being attained by about 1960 in all instances. The ultimate combined employer-employee contribution rates arising from the hypotheses made are the same for both financing bases, namely, 5% for the low cost estimate and 9% for the high cost estimate.

The effects of the new eligibility conditions and the new concept of computing the average monthly wage, when combined with the large number of new persons brought into coverage, are particularly difficult to estimate during the early years of operation.

Table 7a

ESTIMATED PROGRESS OF TRUST FUND FOR H.R. 2893 EXCLUDING WEEKLY DISABILITY BENEFITS, FINANCING BASIS A[a]
(In millions of dollars)

Calendar Year	Contributions: Employer-Employee	Contributions: Government	Benefit Payments	Administrative Expense	Interest on Fund[b]	Fund at End of Year
			Low Cost Estimate[c]			
1960	$4159	$73	$4655	$113	$536	$27053
1970	5979	1183	7536	162	536	27053
1980	7898	1835	10065	204	536	27053
1990	8388	3466	12150	240	536	27053
2000	8945	4015	13236	260	536	27053
			High Cost Estimate[c]			
1960	$5570	$1482	$7163	$189	$300	$15134
1970	7500	3377	10914	263	300	15134
1980	10866	3859	14688	337	300	15134
1990	12681	5695	18270	406	300	15134
2000	14297	6457	20604	450	300	15134

a/ Government contribution is introduced when income from combined employer-employee 3% contribution and interest is exceeded by disbursements and is in an amount sufficient to keep the trust fund from decreasing. Combined employer-employee contribution rate maintained at 3% until Government contribution exceeds half of combined employer-employee contributions; then employer-employee rate is raised to 4% and same procedure carried on. Joint employer-employee contribution schedule resulting is as follows:
Low cost estimate, 3% for 1950-68, 4% for 1969-78, and 5% for 1979 and after;
High cost estimate, 3% for 1950-58, 4% for 1959-64, 5% for 1965-71, 6% for 1972-77, 7% for 1978-84, 8% for 1985-92, and 9% for 1993 and after.

b/ Interest is figured at 2% on average balance in fund during year but is payable at end of year.

c/ Based on high employment assumptions and level wage assumption used as actuarial technique for showing relative cost under increasing wage assumption combined with assumption of plan being continually modified to meet such changed conditions.

Table 7b

ESTIMATED PROGRESS OF TRUST FUND FOR H.R. 2893 EXCLUDING WEEKLY DISABILITY BENEFITS, FINANCING BASIS B[a]
(In millions of dollars)

Calendar Year	Contributions: Employer-Employee	Contributions: Government	Benefit Payments	Administrative Expense	Interest on Fund[b]	Fund at End of Year
			Low Cost Estimate[c]			
1960	$5430	--	$4655	$113	$548	$28263
1970	5979	$1102	7536	162	617	31181
1980	7766	1886	10065	204	617	31181
1990	8388	3385	12150	240	617	31181
2000	8945	3934	13236	260	617	31181
			High Cost Estimate[c]			
1960	5570	1446	7163	189	336	16990
1970	7500	3341	10914	263	336	16990
1980	10866	3823	14688	337	336	16990
1990	12681	5659	18270	406	336	16990
2000	14297	6421	20604	450	336	16990

a/ Combined employer-employee contribution rate increased from 3% to 4% when income from contributions and interest is exceeded by disbursements. After contribution income from 4% rate is insufficient, Government contribution in introduced as in Basis A and employer-employee rate increased similarly. Joint employer-employee contribution schedule resulting is as follows:
Low cost estimate, 3% for 1950-59, 4% for 1960-79, and 5% for 1980 and after;
High cost estimate, 3% for 1950-53, 4% for 1954-64, 5% for 1965-71, 6% for 1972-78, 7% for 1979-85, 8% for 1986-92, and 9% for 1993 and after.

b/ Interest is figured at 2% on average balance in fund during year but is payable at end of year.

c/ Based on high employment assumptions and level wage assumption used as actuarial technique for showing relative cost under increasing wage assumption combined with assumption of plan being continually modified to meet such changed conditions.

The number of persons who will qualify and retire to get benefits on the new basis is more uncertain when we are dealing only with older workers and the qualifying work period is relatively short. While an attempt has been made to allow for this very important factor of lag, the benefit estimates used for the early years in developing the trust fund progression may be overstatements to some extent, and this possibly could extend to the figures shown for 1960.

D. Comparison with Costs for Other Plans

The proposed plan in H.R. 2893 may be compared with the original system set up by the 1935 Social Security Act and with that of the 1939 Amendments, as well as with the proposed plan of the Advisory Council. These comparisons are all as to benefit costs relative to pay roll.

Chart 1 compares the year-by-year cost of the proposed plan after 1960 with the original Act. It will be noted that in both instances a range in the cost illustrations is used. The area between the low and high estimates of the original Act was shaded to tie these two curves together so that the other two curves may be considered against them; the shading is not important as indicating the area of the range. The proposed plan has a materially lower estimated cost than that originally estimated for the original plan.

Chart 2 relates to the present plan relative to the proposed one. Two different sets of estimates are given for the present plan, both with a range; one set was prepared at the time of enactment (1939), and the other recently (Actuarial Study No. 23). The latest estimates are far lower than the original ones, largely due to the phenomenal increase in the wage level since 1939. The proposed plan has a lower cost than the present plan was estimated to have when it was enacted over almost the entire period considered; only for the high cost estimate after 1990 is the reverse true.

Chart 3 deals with the Advisory Council plan compared with the proposed plan. The proposed plan is only slightly higher in cost in the early years but by 20 to 25% in the later years. There are three major cost differences between these two proposals: (1) H.R. 2893 provides for a 1% increment in the benefit formula, and the Advisory Council does not; (2) H.R. 2893 provides much more liberal disability benefits than the Advisory Council; and (3) the Advisory Council eliminated the work clause after age 70, and H.R. 2893 does not. The first two items result in higher costs for the proposed plan of H.R. 2893, while the last operates in the opposite direction.

Chart 4 shows the costs for the year 1960 for all the plans previously considered. Chart 5 gives the average premium costs for the period 1950 to 2000 without regard to interest.

Chart 6 presents level premium costs for the period from 1950 on for the various plans. This is the contribution rate from 1950 on, which along with 2% interest would support the benefits for 1950 and after disregarding any funds accumulated prior to 1950 and not taking into account administrative expenses. It should be noted that these level premium figures for the 1935 Act and the 1939 Amendments are considerably higher than those developed when these plans were being considered. This arises because the latter were based on a higher rate of interest and also included years of low benefit cost (before 1950). The figures in the chart are all on a consistent basis, using the same interest rate and the same period for benefits payable and disregarding any funds accumulated, or that might have been accumulated, up to 1950.

CHART I.

COST OF PROPOSED PLAN COMPARED WITH ORIGINAL ACT

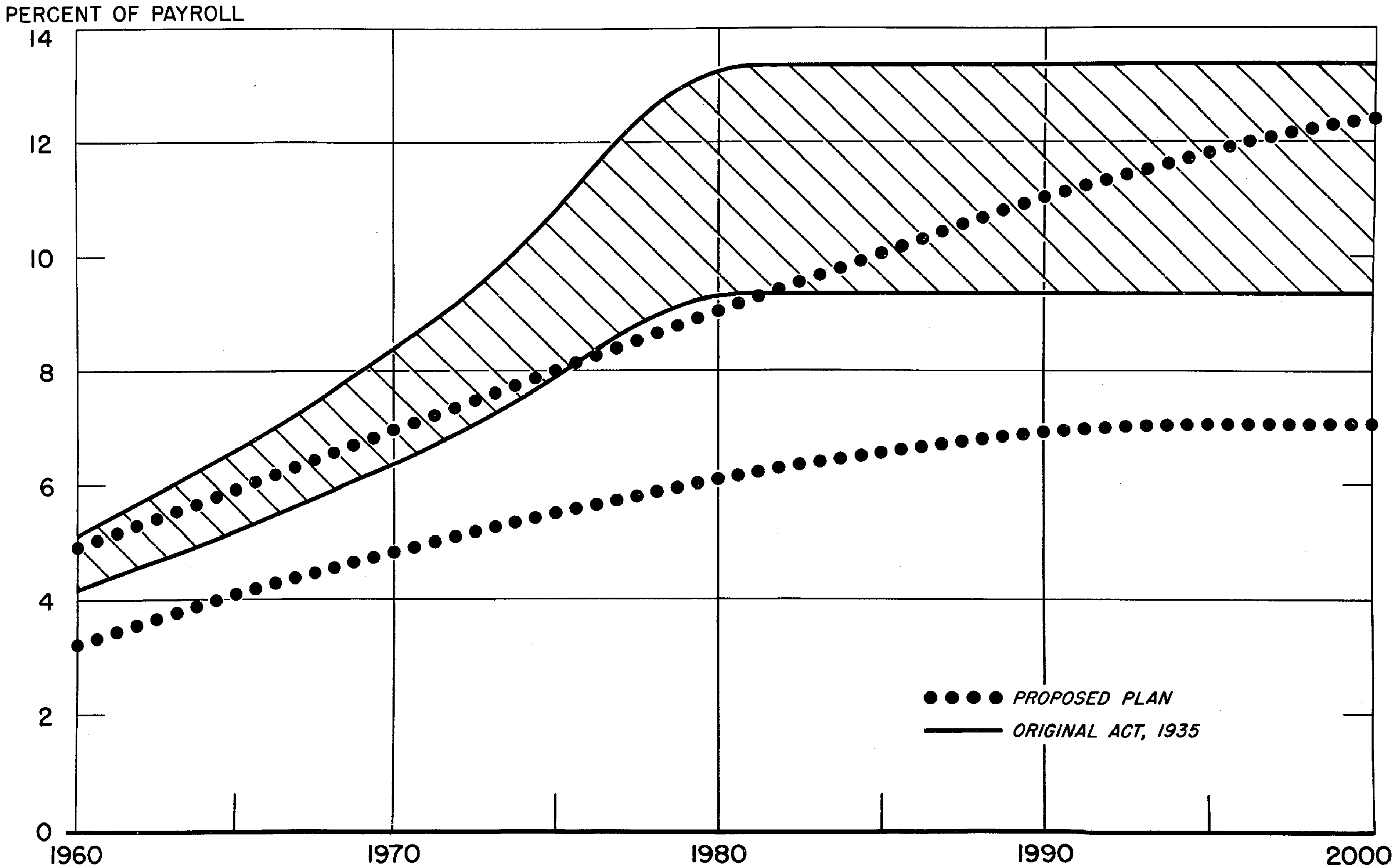

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CHART 2.

COST OF PROPOSED PLAN COMPARED WITH PRESENT ACT

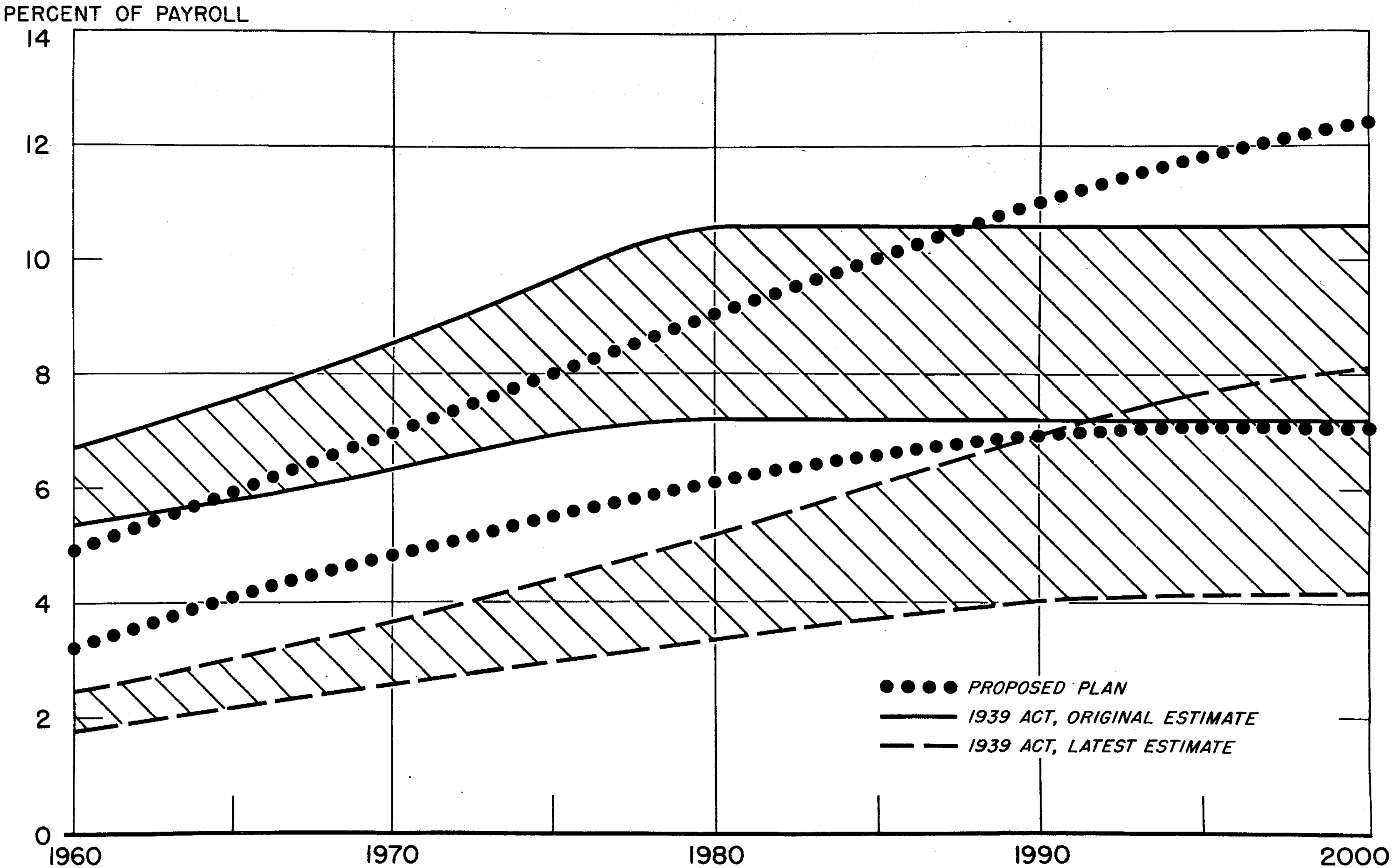

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CHART 3.

COST OF PROPOSED PLAN COMPARED WITH ADVISORY COUNCIL PLAN†

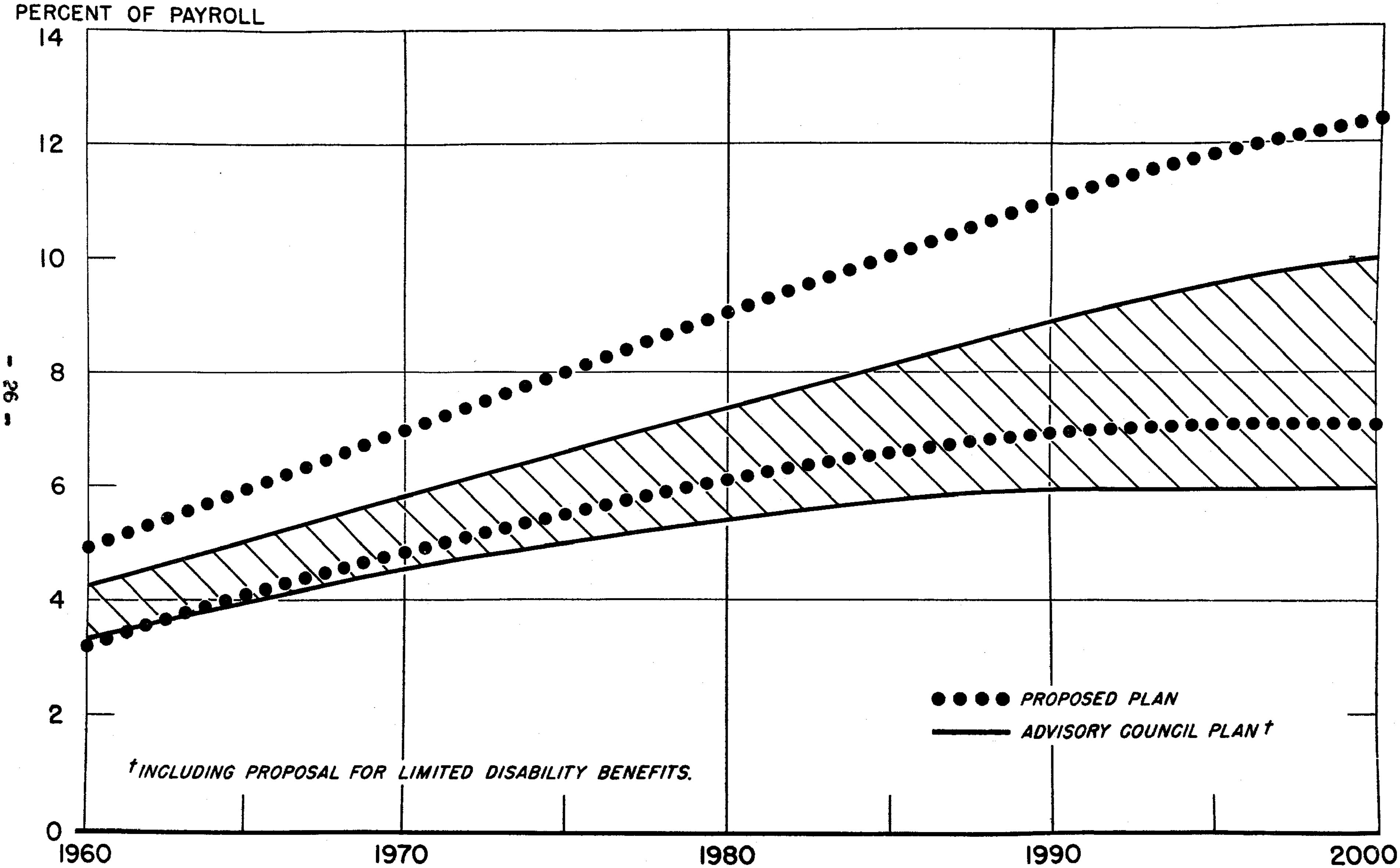

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CHART 4.

1960 COST OF PROPOSED PLAN COMPARED WITH OTHER PLANS

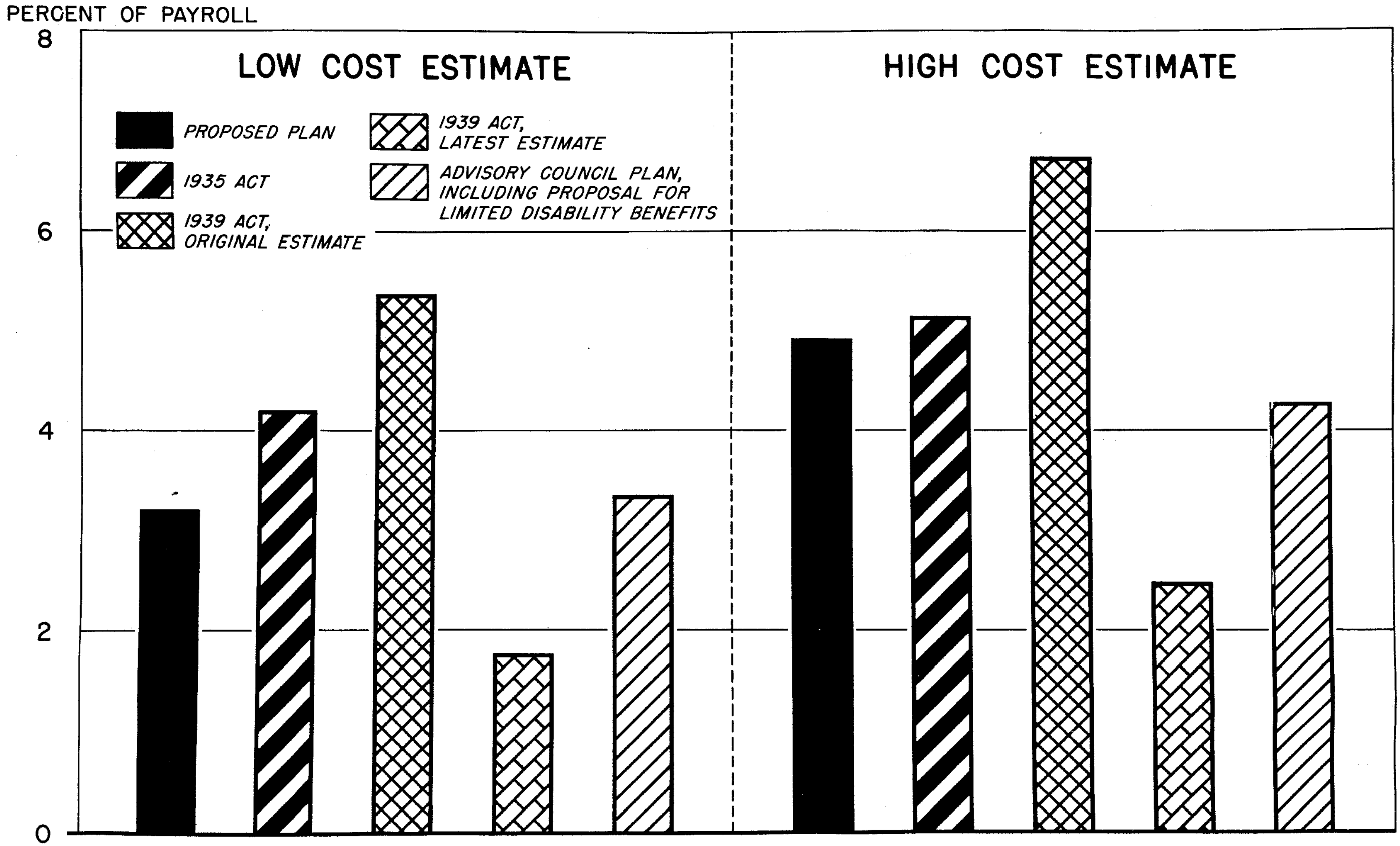

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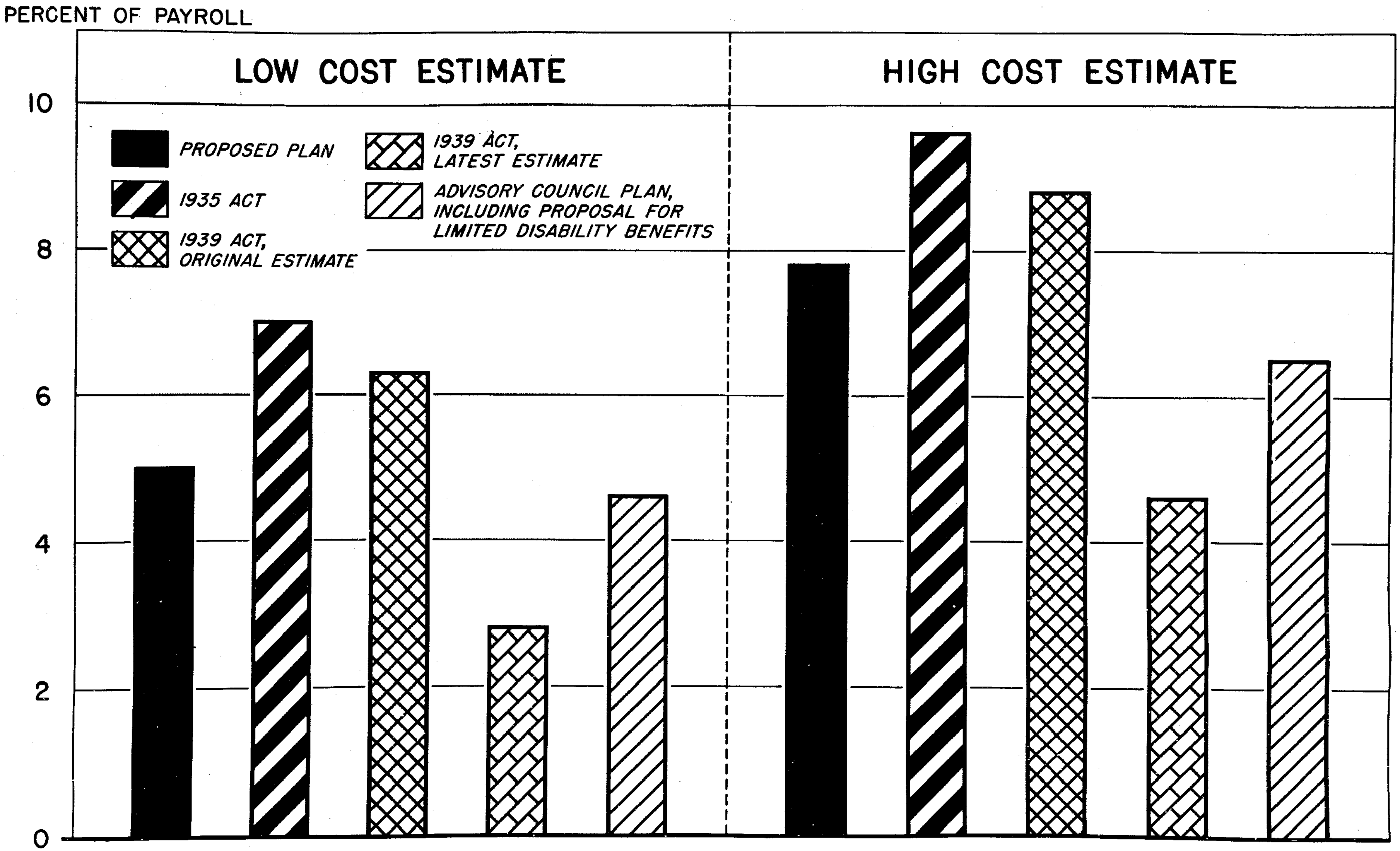
CHART 5.

AVERAGE PREMIUM† COST OF PROPOSED PLAN COMPARED WITH OTHER PLANS



† *AVERAGE RATE FOR PERIOD 1950-2000.*

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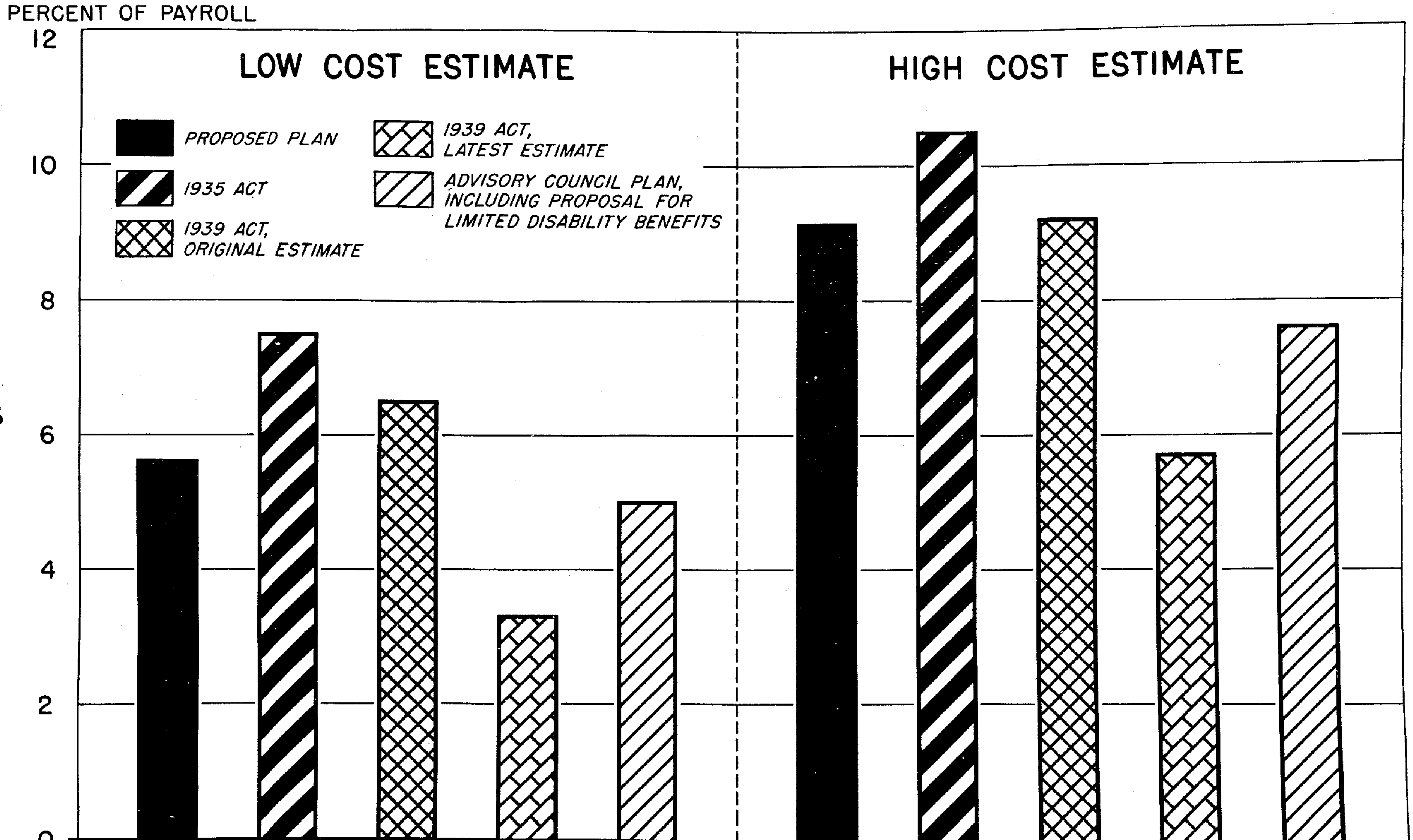
CHART 6.

LEVEL PREMIUM† COST OF PROPOSED PLAN COMPARED WITH OTHER PLANS



† RATE WHICH WOULD SUPPORT THE PLAN FOR BENEFITS IN 1950 AND AFTER, IF COLLECTED FROM 1950 ON, TAKING INTO ACCOUNT 2% INTEREST.

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