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ANALYSIS OF THE ADVISORY COUNCIL'S PROPOSAL TO TAX ONE-HALF OF SOCIAL SECURITY BENEFITS

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I. Introduction

The 1979 Advisory Council on Social Security recommended that one-half of social security benefits be included in taxable income for calculating Federal personal income taxes. The proposal included disability as well as old age and survivors benefits, did not provide for an income level phase-in (a floor), did not provide for a phase-in over time (grandfathering), and was not explicitly tied to benefit formula changes, payroll tax changes or income tax rate changes.[1/] Currently the entire amount of social security benefits is excluded from the tax base by a 1941 Internal Revenue Service ruling, not by explicit Congressional action. There is no deduction from taxable income for employee social security contributions (taxes), but employer contributions are a deductible business expenses to the employer.

This paper presents analysis of the distributional and other effects of a change from the existing income tax exclusion of social security benefits to the proposed fifty percent inclusion. In emphasizing the differences

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1/ Advisory Council on Social Security, Social Security Financing and Benefits (December 1979 pp. 64-65. Advisory Council on Social Security, Minutes of September 7 and 8, 1979, p. 6. Note that: "Some members of the council believe that the taxation of benefits should not begin immediately and that some kind of gradual phase-in should be provided. Other members support the recommendation only if coupled with the adoption of the council's recommended benefit formula, "(p. 65).

between these two policies, very limited attention will be given to other policy alternatives.[2/] This analysis was initiated shortly after the Advisory Council reported its recommendation. Since then, the Congress has made clear its opposition to any change in the present tax treatment of Social Security Benefits.

Although not explicitly stated in the Advisory Council report, the underlying rationale for including benefits in the tax base is that for comprehensive income taxation. The element of compulsion in taxation invites a strong presumption that standards of fairness be observed. The argument is that since all sources of income represent equal ability to pay taxes, exclusions from the tax base will introduce both horizontal and vertical inequities. Take two individuals with the same total income but with that total coming from different sources. The individual with more untaxed social security will pay lower income taxes--a horizontal inequity. An additional dollar of social security income nets one dollar to individuals at any different income level, but an additional dollar of taxable income is worth only $1x(1-marginal tax rate) - e.g., 86¢ for someone in the 14% tax bracket or 30¢ for someone in the 70% tax bracket. Thus the exclusion which shields social security income from progressive taxation is worth relatively more to those with high tax rates resulting from high incomes--a vertical inequity.

The full exclusion means that social security benefits are accorded the same tax treatment as government transfer payments with a means test. In arguing for the change, the Advisory Council reasoned that it is more appropriate for social security benefits to be treated like income from pensions.

2/ For such alternatives see Mickey D. Levy, The Tax Treatment of Social Security: Should the Exclusion of Benefits be Eliminated? (Washington, D.C.: American Enterprise Institute, 1980); and Roberta Chicos, "Taxation of Social Security Benefits," Congressional Budget Office Memorandum to Senate Budget Committee (February 5, 1979).

There are several justifications for the exclusion of means-tested transfers which are not fully applicable to social security benefits. The zero bracket amount and exemptions shield roughly a poverty line level of income from taxation (see Table 1). For programs with means tests which also roughly correspond to the poverty lines, most recipients would not pay taxes even if the transfers were fully included. Thus administrative and compliance costs can be saved with little loss of Federal revenues. Also, means tested transfer programs have their own internal benefit reduction or "tax" rates which are substantially higher than the marginal income tax rates at low or moderate income levels.

Table 1.--Poverty Line Versus Tax Free Income, 1977 and 1980

Family Type a/	Poverty Line		Zero Bracket Amount plus Exemptions	
	1977 b/	1980 c/	1977 d/	1980 e/
	(1)	(2)	(3)	(4)
Single, age<65, no children	$3,147	$4,296	$3,200	$3,300*
Single, age<65, one child	4,054	5,536	4,200	4,300*
Single, age≥65, no children	2,895	3,954	4,200	4,300
Married, ages<65, no children	4,054	5,536	5,200	5,400*
Married, ages<65, one child	4,806	6,570	6,200	6,400*
Married, ages<65, two children	6,157	8,410	7,200	7,400*
Married, ages≥65, no children	3,637	4,970	7,200	7,400

a/ Children are assumed to be dependents for poverty line and tax calculations.

b/ U.S. Bureau of the Census, Current Population Reports, Series P-60, No. 119, Characteristics of the Population Below the Poverty Line, 1977 (Washington, D.C.: U.S. Government Printing Office, 1979), p. 206.

c/ The Poverty Line for 1978 from U.S. Bureau of the Census, Current Population Reports, Series P-60, No. 124, Characteristics of the Population Below the Poverty Line, 1978 (Washington, D.C.: U.S. Government Printing Office, 1980), p. 208, inflated by the change in the consumer price index to June 1980 from U.S. Department of Commerce, Survey of Current Business 60:8 (August 1980), pp. 5-6.

d/ The zero bracket amounts are $2,200 single and $3,200 married. The personal exemption is $750 and the general tax credit is $35 per exemption which is equivalent to an additional $250 of exemption value. U.S. Department of the Treasury, Internal Revenue Service, Pub. 17, Your Federal Income Tax (Revised October 1977), pp. 6, 15, 151.

e/ The zero bracket amounts are $2,300 single and $3,400 married; the exemption value is $1,000. U.S. Department of the Treasury, Internal Revenue Service, Your Federal Income Tax, Pub. 17 (Revised November 1980), pp. 9, 17.

*Less than the corresponding poverty line.

Social security benefits are not conditioned upon a strict means test. There is an earnings test reduction for old age and survivors benefits,[3/] but since the reduction is based only on earned income the recipient could conceivably have any amount of pension, dividend or other unearned income. Social security benefits also differ from means tested transfer programs in that there is a relationship between past employment or contributions and benefits. In this way social security is more like a pension than a transfer.

Retirement pension benefits are taxed to the extent that total expected benefits exceed the individual's own contributions. During working years, contributions to pension plans by employees are included in the income tax base while employers' contributions are not. Each individual pension recipient is required to calculate a fractional division of his or her pension income: excluded from income taxation is the portion of benefits attributable to the previously taxed employee contributions, included is the remainder which represents the as yet untaxed employer contributions and interest.[4/]

If these same rules were applied to social security benefits, the Advisory Council estimated that the average inclusion fraction for workers just now starting to work and contribute payroll taxes would be 83%.[5/] For

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3/ For 1980, each dollar of earnings in excess of $5,000 reduces benefits by 50¢ for recipients aged 65 to 71. For those under 65, the exempt amount is $3,720. There is no earnings test for those 72 and older.

4/ U.S. Department of the Treasury, Internal Revenue Service, Pension and Annuity Income, Publication 575 (Revised November 1980). There is a special "3-year" rule that if own contributions will be recovered within 36 months then pension benefits are fully excluded until contributions are recovered and then benefits are fully included. Discussion of special tax treatment of other types of pensions and insurance is deferred.

5/ Social Security Financing and Benefits, p. 65.

the currently retired the average inclusion fraction calculated from the pension rules would be even higher since payroll tax rates were historically much lower.[6/] While the Advisory Council appealed to the pension analogy as a reason for including social security benefits in the tax base they rejected the pension rules in favor of the simpler and more generous constant inclusion fraction of one-half.[7/]

A. Preview of the Analysis

The first part of the analysis will simulate the changes in tax burdens from making fifty percent of benefits taxable. The new policy will markedly increase the number of beneficiaries who pay positive taxes, especially at the lower income levels. The amount of the tax increase will be the product of the recipient's marginal tax rate times one-half of benefits.[8/] Since marginal tax rates increase with income, the tax increase expressed as a percentage reduction in benefits will be larger for those with higher incomes. Alternatively, the tax increase from the proposed change can be expressed as a percentage of current law taxes. This measure will show a decline as income rises since tax changes will be a larger percentage of the small initial tax amounts at lower income levels.

6/ See Chicos, pp. 16-18.

7/ Compared to strict applications of the pension rules, the constant inclusion fraction is relatively more generous to the older, lower contributions, cohorts. Similarly, within cohorts those with lower earnings are favored due to the progressive benefit formula.

8/ Since the broadened tax base can move taxpayers into higher tax brackets, in order for this prediction to be more precise, the relevant marginal tax rate must be an appropriately weighted average of the old and new rates. There will also be minor effects from tax deductions or tax credits which are calculated from adjusted gross income.

Our progressive income tax starts with a tax free amount and then taxes successive increments to income at higher and higher marginal rates. The analysis of changes in taxes puts the newly taxed half of benefits on top of all other income and thus at the highest marginal rate. Another way to compare the two policies is to examine the average rates of tax with respect to total income (taxable or not). Recipients of currently exempt social security have lower average rates of tax than others with the same total income. Taxing half of benefits will narrow the gap, but recipients will still have lower average rates of tax due to the remaining exclusion of the other half of benefits.[9/]

There are two features of the existing social security benefit system which have the characteristics of an income tax broadly conceived: the declining marginal replacement rate in the benefit formula is effectively a progressive "tax" on the return to payroll tax contributions; and the earnings test reduces benefits when earned income increases. Analysis will be presented showing how each of these combines with the existing and proposed income tax.

In addition to the current exclusion of social security benefits, there are also a variety of special tax features affecting other kinds of retirement, survivors and disability income. These would need to be scrutinized and perhaps changed if the treatment of social security were altered. A brief analysis of some of these other tax features which relate to social security will be offered.

9/ This comparison is perhaps more in the spirit of the comprehensive tax base advocates. The problem remains, however, of appropriately accounting for that part of benefits which represents a return of previously taxed employee contributions.

B. Existing Evidence on Distributional Effects

There have been four recent analyses of the taxation of social security benefits.

Advisory Council: The distributional analysis prepared for the Council by the Treasury's Office of Tax Analysis is presented in Table 2.[10/] We see from column 8 that 44% of tax filing units with social security would experience an increase in taxes. This percentage rises from only 3% under $5,000 to 97% or more over $10,000. The dollar amount of the tax increase (benefit reduction) shown in column 9 rises markedly with income (except for the highest income bracket), but the tax increase expressed as a percentage of old law taxes (column 11) declines dramatically. The total projected increase in treasury revenues is $3.7 billion, with $353 coming on average for those with an increase (not shown) or with $155 coming on average from all social security recipient units (column 9). The simulations were not broken down by type of benefit, age, or marital status.

Other evidence before the council showed tax exempt amounts of income or benefits (similar to Table 1) and thus stressed that low income social security recipients would not be affected by the proposal.

Mickey D. Levy of the American Enterprise Institute also analyzes the effect of taxing social security benefits using the Treasury Tax Model. The results are shown in Table 3. His method of distributional analysis of the change from existing law to the inclusion of one-half of benefits is to multiply the average benefit in each income group (column 2) by one-half

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10/ In order to facilitate comparisons, Tables 2-5 employ the same format. Blank columns indicate information which cannot be calculated from the source tables.

Table 2.--Office of Tax Analysis Estimates of the Effect of Taxing Half of Benefits on All Social Security Recipient Units, 1979 Income Tax Law with Income and Social Security Amounts in 1978 Dollars a/

Total Income (in dollars) b/	Total Units (000) c/	Average Benefit (dollars)	Average Total Income (dollars)	Existing Law: Tax Exempt			Proposal: 50% Inclusion		Average Additional Tax: f/		
				Average Tax (dollars) d/	Average Marginal Rate (percent)	Percent With Positive Tax	Average Tax (dollars) d/	Percent With Positive Tax e/	Dollars	Percent of Benefits	Percent of Initial Tax
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Less than $5,000	10,883			0			2	3	1		422
$5,000-$9,999	6,574			37			140	57	103		281
$10,000-$14,999	3,210			363			684	97	321		88
$15,000-$19,999	1,536			1,109			1,556	99	447		40
$20,000-$29,999	1,215			2,317			2,846	99	528		23
$30,000-$49,999	505			5,337			6,129	99	791		15
$50,000-$99,999	186			14,497			15,607	100	1,111		8
$100,000-$199,999	40			39,456			40,912	100	1,448		4
$200,000 or more	14			172,114			173,404	99	1,272		1
Total	24,163			634			788	44	155		24

a/ Derived from a table prepared by the Office of the Secretary of the Treasury, Office of Tax Analysis for the 1979 Advisory Council on Social Security (March 1, 1979). The data are from a 1975 sample of tax returns statistically matched with the 1975 Survey of Income and Education and then projected to 1978 dollars. See Roy A. Wyscarver, "The Treasury Personal Individual Income Tax Model," U.S. Treasury, OTA Paper 32, July 1978.

b/ Income = Expanded Income [Adjusted Gross Income plus preference items included in the minimum tax base] + Unemployment Insurance + 85% of Social Security Benefits.

c/ Potential tax filing units consisting of single individuals or married couples who receive social security (OASDI) or railroad retirement benefits.

d/ Mean tax liability after all credits. This is calculated for each income group as total tax collections (under indicated law) from "Returns with Increase" divided by "Total [number of] Returns with Social Security."

e/ In the OTA table this is "Returns with Increase [in liability as a] Percent of All Returns with Social Security."

f/ "Estimates of aggregate tax change may be understated because aggregate benefits to social security recipients are understated in the data file by 7 percent for 1978."

Table 3.--Mickey D. Levy's Estimates of the Effect of Taxing Half of Benefits on All Social Security Recipient Units, 1978 a/

Total Income (in dollars) b/	Percent of Total Units c/	Average Benefit (dollars)	Average Total Income (dollars) b/	Existing Law: Tax Exempt			Proposal: 50% Inclusion		Average Additional Tax:		
				Average Tax (dollars)	Average Marginal Rate (percent)	Percent With Positive Tax	Average Tax (dollars)	Percent With Positive Tax	Dollars d/	Percent of Benefits	Percent of Initial Tax
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Less than $0	0.38	3,014	-17,626		0				0	0	
$0-$2,999	20.14	1,878	2,017		0				0	0	
$3,000-$4,999	20.20	3,161	3,912		0.3				5	0.2	
$5,000-$6,999	13.46	3,764	5,937		1.4				26	0.7	
$7,000-$9,999	15.21	4,158	8,400		7.0				146	3.5	
$10,000-$14,999	14.68	4,599	12,135		12.6				290	6.3	
$15,000-$19,999	6.91	4,805	16,626		19.2				462	9.6	
$20,000-$24,999	3.57	4,439	21,975		24.4				542	12.2	
$25,000-$29,999	2.07	4,631	27,402		27.5				637	13.8	
$30,000-$49,999	2.31	4,868	36,879		35.0				862	17.5	
$50,000 or more	1.10	4,866	101,375		42.3				1,029	21.2	
Total	100.00	3,594	9,335		7.3				130	3.6	

a/ These numbers are derived from Levy's Tables 1, 3, 4 and 6. His estimates come from "theU.S. Department of the Treasury's Personal Individual Income Tax Model, 1978 income levels, and 1978 social security benefit schedules. Included in social security benefits are Old Age and Survivors Insurance (OASI) and Disability Insurance (DI), plus railroad retirement. Health Insurance (Medicare) benefits are not included."

b/ "The income level equals adjusted gross income plus social security benefits, plus preference items included in the minimum tax base, such as the excluded portion of capital gains."

c/ Levy does not present the distribution of potential tax-filing units by numbers, only by percent. The total number of individual recipients in his Table 1 is not comparable since tax-filing units include couples and thus can contain two recipients.

d/ Column 2 times one-half of column 5 divided by 100.

of the average marginal tax rate (column 5). This method is approximately correct but fails to capture the increases in taxes which come from the increases in marginal rates from the broadened base. This understatement, as he recognizes, is most important for the new taxpayers--those who are moved from the zero to 14% bracket. Note that the dollar amount of the tax increase (column 9) increases with income as does the increase as a percent of benefits (column 10).

Roberta Chicos of the Congressional Budget Office undertook another distributional analysis of the proposal to tax one-half of benefits. She projected $3.9 billion in increased taxes for OASDI recipients for fiscal year 1978. Due to ambiguities in her presentation her results are not shown here, but she did replicate patterns common to the other studies: the tax increase as a percent of benefits rises with income while the tax increase as a percent of old-law taxes falls with income.

Dorothy Amey, also of the Congressional Budget Office, specifically analyzes "The Distributional Impact of Taxing 50 Percent of Social Security Benefits."[11/] Her analysis, shown here in Table 4, differs from the others in that she excludes Disability Insurance recipients and uses 1980 (instead

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11/ Memorandum to Senate Budget Committee (May 20, 1980). Levy and Chicos both look at policy alternatives in addition to the 50 percent inclusion and present more than just distributional analysis.

Table 4.--Dorothy Amey's Congressional Budget Office Estimates of the Effect of Taxing Half of Benefits on Social Security (OASI) Receipient Units, by Age of Head a/, 1980 b/

Total Income (in dollars) c/	Total Units (000) d/	Average Benefit (dollars)	Average Total Income (dollars)	Existing Law: Tax Exempt Average Tax (dollars) e/	Existing Law: Tax Exempt Average Marginal Rate (percent)	Existing Law: Tax Exempt Percent With Positive Tax	Proposal: 50% Inclusion Average Tax (dollars) e/	Proposal: 50% Inclusion Percent With Positive Tax	Average Additional Tax: Dollars	Average Additional Tax: Percent of Benefits	Average Additional Tax: Percent of Initial Tax f/
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Age 65 or older:											
Less than $6,000	6,868	3,208		0		0	0	2	0	0	**
$6,000-$9,999	3,971	4,710		27		18	109	45	82	1.7	303.7
$10,000-$19,999	3,953	5,590		446		63	770	88	324	5.8	72.6
$20,000-$49,999	1,610	6,348		2,758		96	3,426	99	668	10.5	24.2
$50,000 or more	161	6,665		19,003		100	20,363	100	1,360	20.4	7.2
Subtotal	16,563	4,475		565		30	740	43	175	3.9	31.0
Age 62 to 64:											
Less than $6,000	417	2,725		3		4	14	13	11	0.4	366.7
$6,000-$9,999	388	3,348		126		48	279	77	153	4.6	121.4
$10,000-$19,999	508	4,257		806		85	1,145	96	339	8.0	42.1
$20,000-$49,999	344	4,463		3,797		99	4,338	100	541	12.1	14.2
$50,000 or more	18	3,914		15,018		100	15,830	100	812	20.7	5.4
Subtotal	1,676	3,704		1,219		59	1,480	72	261	7.0	21.4
Age less than 62:											
Less than $6,000	2,391	1,958		-4		5	3	11	7	0.4	**
$6,000-$9,999	957	3,022		83		45	207	61	124	4.1	149.4
$10,000-$19,999	1,024	3,448		895		80	1,180	92	285	8.3	31.8
$20,000-$49,999	716	4,137		3,624		98	4,116	99	492	11.9	13.6
$50,000 or more	54	4,745		15,437		100	16,321	100	884	18.6	5.7
Subtotal	5,142	2,786		858		41	1,020	50	162	5.8	18.9
All ages: Total	23,381	4,048		676		34	854	46	178	4.3	26.3

** Initial tax is zero or negative.

a/ The source is not entirely clear as to whether married couples are categorized by age of head or age of recipient.

b/ These numbers are derived from Amey's Tables 5 and 7. Her source is "Congressional Budget Office tabulations from a projected 1980 micro data base." See the citation in her footnote 11 for a more complete explanation.

c/ "Pre-tax, post money transfer income."

d/ Potential tax-filing units who receive old age or survivor insurance (OASI). Note this differs from the other authors in the exclusion of disability insurance (DI) recipient units.

e/ Mean tax liability after the tax credit for the elderly and the earned income tax credit.

f/ Column 9 divided by column 4 times 100.

of 1978) income and benefit amounts. She estimates that the fraction of recipients paying positive taxes would rise from 34 percent (column 6) to 46 percent (column 8). She breaks the recipient population into three age groups. As income rises within each group we see the standard patterns of increasing increments to taxes in dollars (column 9) or as a percent of benefits (column 10) and a decreasing percentage change in taxes (column 11). Across age groups, those 65 or older generally have a smaller percentage reduction in benefits (column 10) but a larger percentage increase in taxes (column 11) than younger recipients. Her estimate of the total 1980 increase in taxes from including half of OASI benefits is $4.1 billion. Of this, $0.5 billion or 13% comes from new taxpayers.[12/]

II. Analysis from CPS/STATS

A. Distributional Analysis

The data used in the current analysis are from the March 1978 Current Population Survey (CPS) which provides income, social security benefits and other information for calendar year 1977. The income tax burdens under the alternative definitions of taxable income are estimated using the Social Security Administration, Office of Research and Statistics' Simulated Tax and Transfer System (STATS) model. Appendix A provides some comparisons of the aggregate benefit and tax amounts from the CPS/STATS simulations to official data sources. An important caution emerges from those comparisons: the results are more reliable for row by row comparisons (across income or beneficiary type groups) of average effects than they are for estimation of aggregate effects. Also, due to the nature of the CPS, the income and tax amounts for the top ($50,000 and up) income group are not representative of the high income population.

12/ Amey, p. 14. This suggests that Levy's understatement from effectively ignoring new taxpayers is substantial.

Table 5 presents the 1977 tax amounts for existing tax law and for the proposed 50% inclusion of social security benefits. Note the percent of social security beneficiaries with positive income tax liability increases from 23 to 33 percent (column 6 versus column 8) and that the new taxpayers are in the $4,000 to $15,999 range--below that no one pays taxes, and above that virtually everyone pays taxes even under existing law. The average amount of additional tax from the inclusion increases with income (column 9) as does that amount expressed as a percentage reduction in benefits (column 10),[13/] while the tax increase as a percent of existing law tax liability starts very high and decreases markedly with income (column 11).[14/]

The units analyzed in Table 5 are a mixture of age groups, family types and sizes, and social security programs (retirement, survivors, disabled, and dependents). Table 6 presents a summary of the effect of taxing benefits on four subgroups: Aged Couples--one or both members 62 or over and receiving old age benefits or survivors benefits; Aged Individuals--62 or over and receiving old age or survivors benefits; Non-Aged Couples--couples with one recipient of disability benefits;[15/] Non-Aged Individuals--individual recipients aged 14 to 61.[16/] Appendix B presents more detail (using the format

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13/ Note that as expected the percentage reduction in benefits (column 10) is roughly one-half (the inclusion fraction) of the marginal tax rate (column 5).

14/ The $2,000-$3,999 income group with its extremely small number of taxpayers is an exception.

15/ Two-thirds of this group are identifiable as disabled from the responses to "Why didn't you work?" on the CPS. The remaining recipients are most likely disabled, since non-aged couples should not be eligible for retirement or survivors benefits, but may include some whose family status changed between 1977 and the March 1978 time of the survey.

16/ This group is unfortunately a mixed bag but the CPS lacks either the information or the numbers to meaningfully separate: disabled, widowed survivors age 60-61, surviving widowed mothers or fathers with dependents under 18, surviving or dependent minor or student children, and the remainder who have changed status or have reported in error.

Table 5.--Effect of Taxing Half of Benefits on All Social Security Recipient Units, 1977

Total Income (in dollars) a/	Total Units (000) b/	Average Benefit (dollars) c/	Average Total Income (dollars) a/	Existing Law: Tax Exempt			Proposal: 50% Inclusion		Average Additional Tax:		
				Average Tax (dollars) d/	Average Marginal Rate (percent) e/	Percent With Positive Tax f/	Average Tax (dollars) d/	Percent With Positive Tax f/	Dollars	Percent of Benefits	Percent of Initial Tax
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Less than 2,000	1,295	1,388	1,441	0	0.0	0	0	0	0	0.0	**
2,000-3,999....	6,885	2,434	3,002	0	.0	0	0	0	0	.0	134.9
4,000-5,999....	4,255	3,243	4,954	3	.5	3	12	13	9	.3	306.0
6,000-7,999....	2,904	3,911	6,910	24	2.6	15	78	39	53	1.4	220.7
8,000-9,999....	1,874	4,214	8,923	96	5.9	33	206	57	110	2.6	114.0
10,000-11,999..	1,229	4,276	10,939	231	9.3	52	422	86	191	4.5	82.7
12,000-13,999..	932	4,031	12,965	511	14.6	76	806	96	295	7.3	57.7
14,000-15,999..	715	4,249	14,904	730	17.0	86	1,085	96	355	8.4	48.6
16,000-19,999..	817	3,965	17,803	1,274	20.7	97	1,675	99	401	10.1	31.5
20,000-24,999..	501	4,022	22,181	2,110	23.8	98	2,588	99	478	11.9	22.6
25,000-49,999..	539	4,258	32,454	4,690	31.3	99	5,364	100	674	15.8	14.4
50,000 or more.	99	4,551	66,485	16,401	49.8	100	17,605	100	1,204	26.4	7.3
Total.....	22,045	3,251	7,545	354	4.9	23	454	33	100	3.1	28.4

** Initial tax equals zero.

a/ Total 1977 money income of unit head and spouse from the CPS. Includes social security and money transfers but does not include capital gain income. See Appendix A.

b/ Potential tax filing units (in thousands) consisting of single individuals or married couples who receive social security or railroad retirement benefits. See Appendix A.

c/ Mean 1977 social security (OASDI) benefits plus railroad retirement benefits of unit head and spouse from the CPS.

d/ The mean income tax liability from the STATS simulation of 1977 tax law. This is calculated after the general tax credit, after the elderly tax credit, but before the earned income tax credit.

e/ The mean value of the rate at which an additional dollar of taxable income would be taxed.

f/ The percent of beneficiary units with positive tax liability before the earned income tax credit.

Table 6.--Effect of Taxing Half of Benefits on Social Security Recipient Units by Age and Marital Status, 1977

Total Income (in dollars)	Aged Couples			Aged Individuals			Non-Aged Couples			Non-Aged Individuals		
	Average Benefit (dollars)	Average Additional Tax as: Percent of Benefits	Average Additional Tax as: Percent of Initial Tax	Average Benefit (dollars)	Average Additional Tax as: Percent of Benefits	Average Additional Tax as: Percent of Initial Tax	Average Benefit (dollars)	Average Additional Tax as: Percent of Benefits	Average Additional Tax as: Percent of Initial Tax	Average Benefit (dollars)	Average Additional Tax as: Percent of Benefits	Average Additional Tax as: Percent of Initial Tax
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Less than 2,000	1,849	0.0	**	1,417	0.0	**	1,056	0.0	**	1,238	0.0	**
2,000-3,999....	2,734	.0	**	2,435	.0	46.4	2,496	.0	**	2,248	.0	215.8
4,000-5,999....	3,994	.0	**	2,953	.3	567.5	3,483	.0	**	2,511	1.4	214.9
6,000-7,999....	4,667	.1	275.4	3,090	4.0	303.0	3,717	.4	93.0	3,090	3.0	96.7
8,000-9,999....	4,844	.8	297.1	3,128	7.9	101.4	4,256	2.0	216.1	3,591	3.9	57.4
10,000-11,999..	4,948	3.3	189.1	2,961	9.4	46.8	3,888	4.9	104.3	3,197	4.9	36.7
12,000-13,999..	4,751	6.5	104.6	3,045	10.6	33.8	3,486	6.5	53.3	2,819	8.1	25.5
14,000-15,999..	4,764	7.9	74.4	3,130	11.6	26.0	3,788	6.8	40.3	3,991	8.3	36.3
16,000-19,999..	4,446	9.7	40.1	3,386	13.2	22.8	3,255	9.3	23.4	2,847	11.0	20.9
20,000-24,999..	4,399	11.3	26.8	3,191	16.1	15.9	3,669	10.7	20.8	3,036	13.9	15.8
25,000-49,999..	4,564	15.5	16.0	3,067	21.7	9.4	3,845	14.1	12.8	3,288	17.3	13.0
50,000 or more.	4,772	24.9	7.3	4,178	41.0	8.4	3,862	23.0	6.6	3,581	27.1	6.4
Total.....	4,386	3.7	27.2	2,612	2.3	33.3	3,574	4.4	24.0	2,419	2.2	29.6

** Initial tax equals zero.

of Table 5) on each of these groups as well as separate tables for those who are affected by the taxation of benefits (Tables B1.1-1.9).

In comparing the recipient type groups in Table 6, it is important not to concentrate on the Total row since the income distributions of the groups differ substantially.

Aged Couples versus Aged Individuals: The two person units have average benefits roughly 1.5 times those of the individuals (column 1 versus column 4). Within each income group the individuals have a higher percentage reduction in benefits (column 2 versus 5, note that the Total row has couples affected more--this is because there are more couples with higher incomes). Once past the lower income groups where few couples pay tax at all, couples--with their higher benefits and lower initial tax amounts--have a higher percentage increase in tax (column 3 versus 6).

Aged Couples versus Non-Aged Couples: The aged have higher benefits (column 1 versus 7), and have a larger percentage increase in taxes (column 3 versus 9). Below $12,000 of income the non-aged have a greater percentage reductions in benefits, but at higher incomes the effect reverses (column 2 versus 8).

Aged Individuals versus Non-Aged Individuals: There is no pattern to the average benefit comparison (column 4 versus 10). Above $6,000 of income the aged have a larger percentage reduction in benefits (column 5 versus 11), and with several exceptions, the aged also have a greater percentage increase in taxes (column 6 versus 12).

Non-Aged Couples versus Non-Aged Individuals: This comparison follows the same pattern as the aged couples versus individuals did. The couples

generally have higher benefits (column 7 versus 10), have a lower percentage reduction in benefits (column 8 versus 11), start to pay taxes at higher incomes but then (with one minor exception) have a larger percentage increase in taxes (column 9 versus 12).

The above tables stress the average effect of the proposal to tax benefits. But that obscures some variation around the averages--some social security recipients will be affected more, some less. So Table 7 shows quartile distributions of the tax increase expressed as a percentage reduction in benefits (Appendix B, Tables 2.1 to 2.4 show the same distributions for the four types of recipients). Most of the variation in the percentage reduction in benefits measure is between those who don't pay taxes and those who do--i.e., between the zeros and positive amounts. The variation among taxpayers is rather narrow--see, for example, the small interquartile range (column 2 to column 4) for the income groups $12,000 and above.

B. Adequacy of and Reliance on Social Security

The Advisory Council endorsed the principle of adequacy for social security benefits: "[W]orkers who have a regular attachment to full-time employment covered by social security for at least 30 years should become entitled to a retirement benefit that at least keeps them out of poverty."[17/] For the sample year of 1977, no recipient unit with income less than the poverty line would pay positive income taxes (refer back to Table 1). Thus, the taxation of benefits would not work against the adequacy goal. Between 1977 and 1980, however, the consumer price index and thus the poverty lines increased by 37% (column 1 to column 2) while the tax free amounts only

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17/ Social Security Financing and Benefits, p. 55.

Table 7.--Quartile Distribution of Additional Tax as a Percent of Social Security Benefits, All Social Security Recipient Units, 1977

Total Income (dollars)	Additional Tax as a Percent of Benefits				
	Minimum	First Quartile Break	Median	Third Quartile Break	Maximum a/
	(1)	(2)	(3)	(4)	(5)
Less than 2,000.....	0	0	0	0	0
2,000-3,999.....	0	0	0	0	7
4,000-5,999.....	0	0	0	0	10
6,000-7,999.....	0	0	0	4	10
8,000-9,999.....	0	0	2	8	13
10,000-11,999.....	0	2	8	9	11
12,000-13,999.....	0	8	9	10	16
14,000-15,999.....	0	8	9	11	16
16,000-19,999.....	0	9	10	12	18
20,000-24,999.....	0	11	12	13	19
25,000-49,999.....	0	14	16	19	27
50,000 or more.....	11	23	25	27	35
Total.....	0	0	0	6	35

a/ Excluded here are a very small number of units for which the STATS model permitted a decrease in the number of dependency exemptions and thus increased taxable income by more than just half of benefits.

increased 2-4% (column 3 to column 4). So in 1980 the taxation of benefits could have affected some households with less than poverty income but with no extra exemptions for being 65 or older (compare columns 2 and 4 of Table 1).

The Advisory Council also suggested that the taxation of half of benefits would not affect those who rely solely on social security. Seventeen percent of the sample indicated that social security was their only source of income. After ruling out those with reported benefits greater than possible for 1977,[18/] there is only one case in the entire sample, a disabled individual filing a married-separate tax return, who would pay taxes on benefits.[19/]

In 1980 (and beyond if there is no change in this part of the tax law), the erosion of the real value of the zero bracket amounts and exemptions increases the possible number of cases affected.

C. Average Tax Rates

The horizontal equity argument against the current exclusion of social security is that it results in substantial differences in tax burdens between recipients and non-recipients with the same total income. Table 8 shows average tax rates, income taxes as a percent of total money income, for four different age-marital status groups. Compare, for example, non-recipient and recipient couples with one member 65 or older (columns 1 and 2). Note that those not favored by the exclusion pay roughly 5% more of their income in taxes. The proposed inclusion of half of benefits (column 3) would, quite predictably, close about half of the gap in average tax rates. This same result holds for the other three age-marital status groups.

18/ In 1977, the maximum possible annual benefits were $5,147 for a 65-year old individual retiree, $4,896 for a 64-year old individual retiree, and $7,070 for a 24-year old disabled individual. Couples could conceivably contain two individuals with maximum eligibility.

19/ The STATS model assigns a separate return to those reporting as married with spouse absent. Had this individual filed a single or married-joint return he or she would not have paid any taxes.

Table 8.--Income tax as a Percent of Total Income: Non-Recipients versus Recipients Before and After Taxing Half of Benefits, by Age a/ and Marital Status, 1977

Total Income (dollars)	Couples, at least one over age 64			Individuals, over age 64			Couples, both under age 65			Individuals, under age 65		
	Non-Recipients	Recipients		Non-Recipients	Recipients		Non-Recipients	Recipients		Non-Recipients	Recipients	
		Before	After		Before	After		Before	After		Before	After
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Less than 2,000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2,000-3,999....	-	-	-	0.0	0.0	0.0	.0	.0	.0	.3	.0	.0
4,000-5,999....	0.0	-	-	1.9	.2	1.4	.1	.0	.0	3.5	.1	.3
6,000-7,999....	.6	0.1	0.4	6.3	1.1	3.5	1.3	.0	.1	7.0	.7	2.0
8,000-9,999....	3.2	.6	2.1	8.1	2.8	5.7	3.5	.2	.6	9.5	2.8	4.7
10,000-11,999..	5.8	1.3	3.6	10.7	5.4	8.0	5.4	.8	2.0	11.6	4.5	6.2
12,000-13,999..	8.0	2.2	4.9	12.8	7.3	9.9	7.3	2.8	4.6	13.1	7.1	8.9
14,000-15,999..	9.1	3.3	6.0	14.1	9.2	11.7	8.7	4.1	5.9	14.4	7.4	9.5
16,000-19,999..	10.6	5.6	8.1	15.9	10.7	13.3	10.6	7.4	9.2	16.0	9.7	11.7
20,000-24,999..	13.0	7.9	10.2	16.1	13.8	16.2	12.9	9.4	11.1	18.6	14.2	15.9
25,000-49,999..	17.3	12.4	14.8	23.9	19.9	21.8	16.6	14.6	16.2	22.5	16.5	18.5
50,000 or more.	25.1	23.5	25.3	37.1	28.6	31.1	25.1	19.4	21.0	31.0	27.2	28.9
Total.....	11.4	5.5	7.9	10.0	5.2	7.7	10.5	1.2	1.6	6.6	.4	.7

a/ Note that the age groups here are defined strictly in terms of age 65 while in the other tables "aged" can include those 62-64 and receiving OASI.

- No observations available.

III. Social Security and Income Tax Interactions

A. The Income Tax and the Benefit Formula

Congress has subjected social security benefits to quasi-taxation with a benefit formula which is progressive (i.e., relatively less generous to those with higher incomes) with respect to past earnings. Congress has subjected other sources of income to the personal income tax which is progressive with respect to current taxable income. Since benefits are excluded from income taxation, these effects are now separate, but under the Advisory Council proposal they would be combined.

The relationship between an individual's payroll tax contributions or earnings and benefits can be measured in a variety of ways: rates of return, replacement rates, or benefit to contribution ratios. The element of compulsion in social security suggests that any such measure be compared to a standard of fairness or equity. Since the Advisory Council proposes the additional compulsion to pay income taxes on benefits, individual equity evaluations should include the effect of income taxes. The income taxation of benefits will (for those affected) lower rates of return, replacement rates, or benefit to contributions ratios.

The Advisory Council estimates a benefit to contributions ratio which is calculated so that:

> Ratios above 1.00 indicate that the present value of expected future benefits exceeds the present value of future employee taxes to be paid, while ratios above 2.00 indicate that the present value of future benefits exceeds the value of expected combined employer-employee taxes. 20/

Recent retirees or those soon to retire have done quite well in expected benefits relative to contributions. For hypothetical workers retiring at age 65 in 1979,

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20/ Social Security Financing and Benefits, p.51. Also see pp. 52-55 and Orlo R. Nichols and Richard G. Schreitmueller, "Some Comparisons of the Value of a Worker's Social Security Taxes and Benefits," Social Security Administration, Actuarial Note No. 95 (April 1978). The calculations assume a nominal discount rate of 6.6%, and expected rates of price inflation of 4.0% and earnings growth of 5.75%—Nichols and Schreitmueller, p. 3.

even a single (no extra benefits for dependents), male (lower life expectancy), maximum earner (maximum progression from the benefit formula) has a discounted benefit to contributions ratio of 4.97. But ratios calculated prospectively for future retirees are substantially lower. Of hypothetical workers entering covered employment at age 22 in 1979, only those with extra benefits for dependents have ratios in excess of 2.0 and a single, male, maximum earner has a ratio of just 1.0. If the discount rate assumed in these calculations is accepted as "fair," then the individual equity of social security for many future retirees is questionable even without any additional reduction of benefits from income taxation.

Appendix C presents an alternative measure for individual equity comparisons, the ratio of incremental benefits to incremental contributions. The measure permits explicit treatment of the income tax rate, the inclusion fraction and the variables in the benefit formula. The basic conclusions are the same as this section: the benefit-contributions relationship is fair or even generous to those soon to retire, but in the future may be unfair--especially to single, male, high earners--even without income taxation.

B. Benefit Taxation and Work Effort: Interaction with the Earnings Test

The effect on income of including a portion of benefits in the tax base will be (for those affected at all) to lower after-tax income and thus to encourage work. The effect on net wage, however, can go either way. With a progressive rate structure some taxpayers will be moved into higher tax brackets which will decrease the value of an increment to work. For those taxpayers who are also subject to the 50% earnings test for social security, the feedback of lower benefits on the tax base can serve to increase the return to incremental work effort.

An example will illustrate. Assume that an individual is in the 14% income tax bracket and is subject to the 50% social security earnings test rate. Under existing tax law an additional $100 of earnings would increase income taxes by $14 and decrease social security benefits by $50, for a combined marginal rate of 64%. If one-half of benefits were taxable, then an incremental $100 of earnings would decrease social security benefits by $50 and this would decrease taxable income by $25. Thus the net change in the tax base is $75 (direct effect of $100 minus feedback effect of $25), which means taxes go up by 14% of that (i.e., $10.50) for a combined marginal rate of 60.5%.[21/]

21/ More formally, $t^* = e+t(1-ie)$.
where, e = the earnings test rate
t = the marginal income tax rate
i = the inclusion fraction
t^* = the combined effective rate.
Thus under existing law ($i=0$), $t^*=e+t$. While for the proposed law ($i=.5$), $t^*=e+t'(1-.5e)$ where $t \leq t'$ due to the effect of the broadened base on the progressive rate structure.

In this example (which started and ended with the individual in the 14% income tax bracket) the inclusion of benefits lowered the combined marginal rate from 64% to 60.5%. But with slightly less initial income, we could have assumed a 0% initial marginal tax rate and a 14% rate only after the base was expanded. Under these assumptions, the combined rate rises from 50% to 60.5% when benefits are included.

This same logic--opposing progression and feedback effects for those subject to the earnings test--applies to discrete work versus retire choices. Which effect dominates is related to income in an important way: at low incomes the progression effect will tend to be larger since the jump from 0% to 14% is so substantial; at high incomes the feedback effect will tend to dominate since it is proportional to the marginal tax rate.[22/] The examples in Table 9 illustrate this.

First, look at the labor supply choice facing the potential earner in couple A, eligible for $4,000 in social security (row 3) but with no other retirement income (row 1). Under existing law (columns 1 and 2) the decision to work and gross $9,000 (row 2) would net an additional $6,772 (row 9) after a $2,000 reduction in benefits and income taxes of $228. If, however, one-half of benefits were subject to tax (columns 3 versus 4), the increment to taxable income is on top of an already taxable base of $2,000 (column 3, row 5). Even though the addition to taxable income is not the full $9,000 amount of earnings--it is reduced by half the $2,000 change in benefits--the effective tax rate is higher. Thus the net from work (row 9) when benefits are taxed is only $6,622, lower than for the full exclusion case.

22/ Evaluating the formulas in the above footnote for $e=0.5$ yields:

existing law $t^*=.5+t$
proposed law $t^*=.5+.75t'$

and for $e=0$:

existing law $t^*=t$
proposed law $t^*=t'$

Table 9.--Effect of Taxing Half on Benefits on Return from Working for Hypothetical Couples, 1980 a/

	Couple A: No Other Income				Couple B: Substantial Other Income			
	No Tax on Benefits		Tax One-Half of Benefits		No Tax on Benefits		Tax One-Half of Benefits	
	Don't Work	Work	Don't Work	Work	Don't Work	Work	Don't Work	Work
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) Unearned Income	0	0	0	0	$10,000	$10,000	$10,000	$10,000
(2) Earned Income	0	$9,000	0	$9,000	0	9,000	0	9,000
(3) Gross OASI Benefits	$4,000	4,000	$4,000	4,000	4,000	4,000	4,000	4,000
(4) Net OASI Benefits b/	4,000	2,000	4,000	2,000	4,000	2,000	4,000	2,000
(5) Income Tax Base	0	9,000	2,000	10,000	10,000	19,000	12,000	20,000
(6) Taxes c/	0	228	0	378	378	2,060	707	2,271
(7) Net Income	4,000	10,772	4,000	10,622	13,622	18,940	13,293	18,729
(8) Combined Benefit and Tax Change	$2,228		$2,378		$3,682		$3,564	
(9) Net from Working	6,772		6,622		5,318		5,436	

a/ This table is an expansion of the presentation in Levy, pp. 44-46. He recognized but did not illustrate what is called here the progression effect.

b/ Assumes the 1980 Exempt Amount of $5,000 with a 50% reduction of benefits for earned income in excess of that amount.

c/ Uses the 1980 Income Tax Tables for a married couple, both over 65 with no itemized deductions or special credits. These computations ignore payroll taxes and work-related expenses, but such additional costs of working should be the same for both couples.

The second part of the table depicts the same comparison except that couple B is assumed to have $10,000 of taxable interest, dividends or pensions (row 1). Since this other income "uses up" the crucial zero tax bracket, here the feedback effect outweighs the progression effect. The net from work (row 9) is greater ($5,436) when benefits are taxed than when they are excluded ($5,318). Taxing benefits provides an additional encouragement for couple B to work by lowering net income (row 7) for the "don't work" decision by $329 (column 7 minus column 5).[23/]

The hypothetical example of Table 9 has shown that a switch to taxing benefits can conceivably at the same time discourage work effort by those with low retirement incomes and encourage work from those with high incomes.

The actual number of recipients affected and the direction and amount of the effect are empirical questions. The effect on net income for the 1977 sample year has already been estimated as the change in tax liability (column 9 in Table 5). The effect on net marginal return is presented in Table 10 (and Appendix Tables B3.1-3.5) which shows the combined marginal rates of income taxation and earnings test benefit reduction.[24/]

The vast majority (73%) of recipient units would have their combined marginal rates unchanged (column 9). Most all of these (67% of recipients, see Table 5, column 8) are those unaffected by the taxation of benefits--with income and net return both unchanged. This leaves a small fraction (6% of recipients) with an encouragement to work from lost income but with no change in the net return.

23/ There is no such encouragement for Couple A since they have insufficient other income to pay taxes without working (row 6, columns 1 versus 3).

24/ There are a variety of other features of the tax-benefit system which could be affected by marginal earnings: the tax credit for the elderly, the employee portion of the payroll tax (note that even if the employer portion of the payroll tax is backward shifted to lower wages in the long run, for an individual choosing work hours the gross wage rate is fixed in the short run), the earned income tax credit, state income taxes, any other tax credit or transfer program with a phase out based on earnings. The omission of these tax, benefit reduction or credit reduction rates from the analysis will generally understate the combined marginal rate, but the federal income tax and social security earnings test will show most of the change between existing law and the proposed law.

Table 10.--Combined Marginal Percentage Rates of Income Tax and Earnings Test Before and After Taxing Half of Social Security Benefits, by Incidence of the Earnings Test, 1977

Total Income (dollars)	Total Units (000)	Average Marginal Tax Rate Before (percent)	Average Marginal Tax Rate After (percent)	Average Marginal Earnings Test Rate (percent) a/	Average Combined Rate Before (percent) b/	Average Combined Rate After (percent) c/	Average Change in Combined Rate (percent)	Direction of Change in the Combined Rate: Percent of Total Units		
								Down	Same	Up
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Units not subject to the earnings test										
Less than 2,000	1,295	0	0	0	0	0	0	0.0	100.0	0.0
2,000-3,999....	6,871	0	0	0	0	0	0	.0	99.8	.2
4,000-5,999....	4,098	0	2	0	0	2	1	.0	89.6	10.4
6,000-7,999....	2,708	2	6	0	2	6	4	.0	66.9	33.1
8,000-9,999....	1,712	5	10	0	5	10	4	.0	52.3	47.7
10,000-11,999..	1,085	8	15	0	8	15	7	.0	24.4	75.6
12,000-13,999..	801	14	19	0	14	19	5	.0	31.1	68.9
14,000-15,999..	591	16	20	0	16	20	3	.0	37.1	62.9
16,000-19,999..	667	20	22	0	20	22	2	.0	41.3	58.7
20,000-24,999..	399	23	25	0	23	25	2	.0	41.1	58.9
25,000-49,999..	384	31	33	0	31	33	2	.0	43.5	56.5
50,000 or more.	78	50	51	0	50	51	1	.0	66.8	33.2
Subtotal.....	20,688	4	6	0	4	6	2	.0	77.0	23.0
Units subject to the earnings test										
2,000-3,999....	14	6	9	50	56	57	1	41.5	38.0	20.5
4,000-5,999....	157	8	12	50	58	59	2	48.1	25.6	26.3
6,000-7,999....	196	10	14	50	60	60	0	58.3	22.4	19.2
8,000-9,999....	163	12	17	50	62	62	0	65.3	10.3	24.5
10,000-11,999..	144	16	19	50	66	65	-1	83.0	1.1	15.9
12,000-13,999..	131	19	21	50	69	66	-3	92.9	.3	6.8
14,000-15,999..	124	20	22	50	70	67	-4	97.0	.0	3.0
16,000-19,999..	150	22	23	50	72	67	-5	98.7	1.3	.0
20,000-24,999..	101	25	27	50	75	70	-5	100.0	.0	.0
25,000-49,999..	155	32	33	50	82	75	-7	99.0	.0	1.0
50,000 or more.	21	49	50	50	99	88	-11	100.0	.0	.0
Subtotal.....	1,357	18	21	50	68	66	-2	80.2	8.1	11.7
All units										
Total.....	22,045	5	7	3	8	10	2	4.9	72.7	22.3

a/ For 1977, each dollar of earnings in excess of $3000 (for recipients less than age 72) reduced benefits by 50 cents. For married couples the unit head's rate is used unless the head is not a recipient, in which case the spouse's rate is used.

b/ Column 2 plus column 4. See footnotes 21 and 22.

c/ Column 3 for those not subject to the earnings test. Column 4 plus three-quarters of column 3 for those subject to the earnings test. See footnotes 21 and 22.

The next largest group (22% of recipients, column 10) would have an increased tax liability and an increase in the combined marginal rate. They are thus discouraged from work by a lower net incremental wage but encouraged to work by a lower net income.

Those who are subject to the marginal earnings test represent 6% of the total number of units (column 1). Fully 80% of this group or 5% of all recipient units (column 8) would have their combined rate decrease if benefits were made taxable. This means that their net income and net wage effects would both encourage work effort. This group is important for several reasons. Since they start with a very high combined rate under existing law, modest decreases will represent big percentage increases in the net wage.[25/] Also, since they are already earning at least the exempt amount, they likely represent a disproportionate number of those recipients who are willing and able to work and thus to respond to economic incentives.

In summary, the work incentive effects from a change to taxing half of benefits divide the 1977 recipient units into four groups:

67% would be unaffected;
6% would have lower income and an unchanged net wage;
22% would have lower income but an opposing incentive from a lower net wage; and,
5% would have lower income and a reinforcing encouragement to work from a higher net wage.

C. Other Systematic Program Interactions

Both the income tax and social security programs have systematic differences with respect to marital status and the distribution of earnings (or income) within the unit. In order to illustrate these differences and to show how they would be changed by the income taxation of half of benefits, Table 11 presents four different two-person units each with the same total earnings history (column 1) and with the same total income from sources other than social security (column 3).

Couple A versus Couple B: The married couple A is favored under social security rules since a dependent spouse gets 50% of the retired workers's benefit (column 2). Couple A is also favored under the income tax because B receives no personal or age exemptions for the unmarried companion, and the rate schedule for singles is more progressive than for married (column 4).

25/ Take, for example, the average individual from the $16,000-$19,000 income group for whom the combined rate falls 5 percentage points (column 7) from 72% (column 5) to 67% (column 6). If we assume (conservatively) that payroll, state income and other taxes take an additional 8% out of marginal earnings, the net take home from a dollar of gross earnings rises from $.20 (=1-.72-.08) to $.25 (=1-.67-.08) - an increase of 25%.

Table 11.—The Effect on Benefits and Taxes of Marital Status and Earnings Shares for Hypothetical Couples, 1982

	(1)	(2)	(3)	(4)	(5)
Couple	AIME	Annual Benefit a/	Other Income	Old Law Taxes b/	Tax Increases c/
A-married	$1,200 +0	$5,626 +2,813	$8,000 +0	$81	$662
B-singles	1,200 +0	5,626 +0	8,000 +0	598 +0	542
C-married	600 +600	3,557 +3,557	4,000 +4,000	81	545
D-singles	600 +600	3,557 +3,557	4,000 +4,000	0 +0	214 +214

a/ For the assumed Average Indexed Monthly Earnings (AIME) from the benefit formula with first eligibility, age 62, in 1979: .90 (to $180) + .32 (next $905) +.15 (remainder of AIME). Social Security Handbook (sixth ed., July 1978) sec. 706B.

b/ From 1980 Income Tax Tables (assumed unchanged for 1982), both individuals over 65 with no itemized deductions or special credits.

c/ Difference between taxes computed with one-half of benefits included and old law taxes.

This differential for one-earner couples is sometimes referred to as the "singles tax." If benefits are included in taxable income, two opposing forces will act on the comparative size of the tax increase: the addition to the tax base will be higher for the married couple A, but the tax rate on incremental income will be higher for the single couple B. In the particular example of Table 11 the tax base effect is stronger and couple A would have a larger tax increase than couple B (column 5). If, however, the amount of other income is sufficiently low, the rate effect will be relatively stronger and the marrieds' tax increase will be smaller.[26/]

Couple A versus Couple C: Due to the 50% dependent spouse's benefit, couple A receives a total of $8,439 while the two-earner couple C only gets $7,114 with the same earnings history (column 2). Since married couples filing joint returns pool their total income, there is no difference in taxes based on how the same total is divided (column 4). Taxing benefits (column 5) would narrow the difference in disposable incomes.

Couple C versus Couple D: When earnings are substantial enough to qualify for a benefit greater than 50% of one's spouse, there is no difference in the benefits of marrieds or singles with the same earnings (column 2). The higher tax on the two-income married couple C illustrates the much-discussed "marriage tax" (column 4). This results from the progressive rate structure--the second $4,000 is taxed at a higher rate than the first. The addition of benefits to the tax base will be in a higher tax bracket for couple C—a further marriage penalty (column 5).

IV. Related Tax Issues

The current income tax code is an elaborate patchwork of special preferences--often with each justified or rationalized by a comparison to the next. The Advisory Council has, in effect, argued that social security benefits are more properly compared to pensions than to transfer payments. There are a variety of special tax features affecting other kinds of retirement, survivor and disability income. Changing the tax treatment of social security would invite reexamination of these other

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26/ This is because the amount of tax free income--the zero bracket amount plus exemptions--is so much greater for couples. If enough of the increment to the tax base is in the zero bracket, the married will have a smaller tax increase even with benefits fifty percent higher than singles. For the benefit amounts assumed here (column 2, Table 11), marrieds would have smaller tax increases at $6,700 or less of other income.

preferences. The Advisory Council specifically noted two items--the tax credit for the elderly and the disability pay exclusion--as candidates for change along with social security. There is an additional type of effect which merits brief consideration. The amount of adjusted gross income is used in calculating the allowable levels for various deductions, exemptions, exclusions or credits. Thus, expanding the definition of adjusted gross income will have secondary effects on many seemingly unrelated items.

Tax Credit for the Elderly. Taxing social security benefits would remove the original justification for this preference— the credit was designed to provide elderly persons with taxable sources of income tax savings equivalent to those enjoyed by elderly recipients of tax exempt social security.[27/]

For a person 65 or over the credit is 15% of: $2,500 (or $3,750 if married, both 65 or over), minus all of social security and other tax exempt retirement income, minus one-half of adjusted gross income in excess of $7,500 ($10,000 if married). The credit is non-refundable, i.e., is limited to the amount of tax liability. For an aged person with no social security income, the credit is equivalent to the exclusion from income taxation of an additional $2,450 ($3,400 if married).[28/] There is a more complicated version of the credit for persons under 65 who receive taxable pensions or annuities from public retirement systems.[29/]

27/ See Levy, pp. 42-43.

28/ In the absence of the credit, a single individual age 65 would start paying taxes with income over $4,300 (see Table 1, column 4). An additional $2,450 for a total of $6,750 would mean a tax liability before credit of $375. Assuming there is no social security income to reduce the credit base, this individual would qualify for the maximum elderly credit of $375 (=.15x2500)--yielding an after credit liability of zero. The phase out with adjusted gross income means that the exclusion value of the credit declines to zero at an AGI of $12,500 ($17,500 if married).

29/ This credit has the same 15% rate, the same $2,500 (or $3,750) base, and the same dollar for dollar reduction of the base for social security benefits. But the base is limited to the amount of public retirement income, is reduced or eliminated for very small amounts of earned income, and is not reduced at all for unearned income. U.S. Department of the Treasury, Internal Revenue Service, Your Federal Income Tax (Revised November 1980), pp. 143-148.

In 1977 the Tax Credit for the Elderly was claimed on 793,450 returns. The average amount of the credit was $211 compared to average taxes (after credits) of $850 and average adjusted gross income of $10,193.[30/] In initial efforts to simulate the credit from the 1977 Current Population Survey with the Social Security Simulated Tax and Transfer Systems (STATS) model there appeared to be twice as many returns eligible for the credit as the actual, IRS reported, number. This is confirmation of earlier estimates which suggested substantial, up to fifty percent, underutilization of the credit.[31/] Accordingly, the STATS model was set to assign random election of the credit by those eligible with a probability of 50 percent.

If OASI benefits were made taxable, there are a number of alternatives for the tax credit for the elderly, each with substantially different effects. If the Tax Credit for the Elderly were left unchanged, there would be a considerable relative advantage to those elderly without social security.[32/]

The policy which seems to be implied by the Advisory Council[33/] and was specifically suggested by Mickey Levy[34/] is the complete elimination of the special credit for the elderly. This would result in an increase in taxes (over and above the effect from adding benefits to the tax base) for those elderly with moderate income levels and small or zero amounts of benefits. Table 12 gives estimates of the numbers of taxpayers who would be

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30/ Internal Revenue Service, Statistics of Income-1977, Individual Income Tax Returns (Washington, D.C., 1980), pp. 145-149.

31/ Joint Committee on Taxation, General Explanation of the Tax Reform Act of 1976, p. 119, cited in Levy, p. 43.

32/ Indeed, if the credit formula stayed exactly the same, there would be an extra disadvantage to those with small amounts of social security--the credit base would be reduced one dollar for each dollar of benefits and an extra fifty cents for the benefits included in adjusted gross income.

33/ Social Security Financing and Benefits, p.65.

34/ Levy, pp. 42-43.

Table 12.--Effect of Eliminating or Changing the Tax Credit for the Elderly, 1977

Total Income (dollars)	Those Affected by Eliminating the Credit: a/				Those Who Gain From Reducing The Credit Offset for Social Security: b/		
	Social Security Recipients		Non-Recipients				
	Total Units (000)	Average Credit (dollars)	Total Units (000)	Average Credit (dollars)	Total Units (000)	Average Additional Credit (dollars)	Average Tax Change Before Additional Credit (dollars)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Less than 2,000	-	-	-	-	-	-	-
2,000-3,999....	-	-	3	48	-	-	-
4,000-5,999....	92	59	61	185	81	33	33
6,000-7,999....	100	107	56	294	764	152	138
8,000-9,999....	127	107	68	248	686	231	203
10,000-11,999..	84	117	65	270	758	214	219
12,000-13,999..	29	79	54	288	622	250	329
14,000-15,999..	21	100	34	215	376	279	407
16,000-19,999..	6	173	24	327	262	180	506
20,000-24,999..	12	226	20	346	29	141	608
25,000-49,999..	11	283	28	347	1	390	394
50,000 or more.	-	-	1	375	-	-	-
Total.....	482	106	414	266	3,579	210	258

- No observations available.

a/ The credit is calculated after the increased tax liability from the inclusion of half of benefits. The old law definition of adjusted gross income is used in the formula to avoid reducing the credit base by more than 100% of social security benefits. The number of units shown represent only one-half of those potentially eligible for the credit.

b/ The alternative credit is available to those aged 65 and over. Instead of reducing the credit base by 100% of social security benefits, the base is reduced only for the 50% of benefits included in the expanded definition of adjusted gross income. Hence the number of units shown represent all of the potential gainers from this more generous credit.

affected and the mean amounts of their lost credits. Columns 1 and 2 show the effect on social security beneficiaries and columns 3 and 4 show the effect on those elderly who do not receive social security.

A very different policy alternative would be to make the credit more generous for low income social security beneficiaries by removing the dollar-for-dollar reduction of the credit base for social security and instead using the expanded measure of adjusted gross income (i.e., including half of benefits) in phasing out the credit formula. The rationale for such a policy is that if there is to be an age specific preference in taxation, it is horizontally more equitable to have one preference than several which are specific to the source of income. Column 5 of Table 12 shows the number of recipient units who would gain from a change to this alternative credit, and column 6 shows the average amount of tax they would save. For comparison, column 7 shows (for these same units) the before credit increase in tax liability from adding half of benefits to the tax base. The expanded credit (column 6) would virtually offset the increase in tax liability (column 7) for those with incomes under $12,000.

Disability Pay Exclusion. Social security disability benefits are untaxed under current law but would be fifty percent included under the Advisory Council proposal. Disability pensions or annuities attributable to the employee's contributions are untaxed, while disability income attributable to the employer's contribution is taxable but partially shielded by the disability income exclusion. Those who are under age 65 may exclude from income up to $5,200 of disability pay. The exclusion is reduced by the amount that adjusted gross income exceeds $15,000.

As was the case with the elderly credit, the Advisory Council was not explicit about the changes in this preference which would go along

with taxing benefits but left the impression that it should be eliminated. Complete elimination of the exclusion would mean additional tax payments on the order of $150 million for 1980.[35/] Some of this would come from taxpayers who have social security disability payments in addition to private disability pensions.

An alternative policy would be to expand the disability pay exclusion to cover the would-be taxed half of social security payments. This combination of policies would leave most DI recipients' taxes unchanged and would affect only those with high levels of pension or total income.

Other Disability, Retirement and Survivors Preferences. Should the social security benefit exclusion, the tax credit of the elderly and the disability pay exclusion be reduced or eliminated, a variety of other tax preferences for individuals in much the same circumstances would remain. Drawing the line between what is taxable and what is not in a new place should invite new focus on the horizontal and vertical inequities caused by those items still untaxed. A brief description of some of the remaining preferences follows.

Workmens compensation, black lung benefits, accident insurance, and health insurance proceeds are fully excluded from the tax base. Basically, the distinction is that disability pensions from employer contributions are taxable (although shielded by the disability pay exclusion) while insurance benefits or other compensation for sickness or injury are excluded.[36/]

35/ U.S. General Accounting Office, Tax Expenditures, A Primer (1979), p. 58.

36/ Your Federal Income Tax - 1980, pp. 51, 56, 77.

In the retirement area, railroad retirement benefits currently enjoy the same full exclusion as social security benefits. (The CPS "benefits" analyzed in this paper include railroad retirement.)

Survivors benefit from several special preferences. Life insurance proceeds are not taxable (except that when the proceeds are paid in installments, the amount in excess of the lump sum payable at death plus an additional $1,000 per year for installments paid to a surviving spouse is taxable). The first $5,000 of death benefits, including retirement pensions which pass to survivors, are excluded from the tax base.[37/]

Other Types of Preferences. Three dissenters from the Advisory Council's vote to tax social security benefits argued, "If any such proposal is to be considered at all, it should be in the framework of overall tax reform aimed primarily at securing tax justice by eliminating the many loopholes the wealthy and large corporations now enjoy."[38/] The exclusion of 60% of long term capital gains, the exclusion of municipal bond interest, accelerated depreciation and other preferences benefit primarily those with higher income. Why, this vertical equity argument goes, should tax base broadening start with a source of income, social security, which accrues primarily to those with low and moderate incomes?

Minor Effects of Changing the Tax Base. In addition to the direct effects on taxes from expanding the tax base to include half of social security benefits, there would be a variety of secondary effects on credits, exclusions, exemptions or deductions which are calculated using adjusted gross income (AGI). The aggregate effects on tax collections would be small but the

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37/ Your Federal Income Tax - 1980, pp. 50-51, 57.
38/ Social Security Financing and Benefits, p. 215.

effects on some individual taxpayers could be large. Some examples follow.

The refundable Earned Income Tax Credit is available to taxpayers with earned income and a dependent child. The $500 maximum value of the credit is reduced at a rate of 12.5% for AGI[39/] in excess of $6,000. Eligible social security recipients could have their credit lowered by the inclusion of benefits in AGI. The 1977 CPS/STATS simulations[40/] suggest that roughly 300,000 recipients could lose an average of $125 in credits.

State or local income taxes would also be affected. Thirty-three of the forty-one states with personal income taxes use definitions of adjusted gross income which largely conform to the Federal.[41/]

The inclusion of social security benefits in the tax base may also affect those who meet the existing requirements to claim social security recipients as dependents for tax purposes. Except for minor or student children, the potential dependent cannot have more than $1,000 of gross income, "all income in the form of money, property and services that is not exempt from tax."[42/] If half of social security benefits were considered gross income for purposes of this test, most recipients would no longer qualify as potential dependents--even those who receive substantial support from relatives. Simulations from the STATS model on the CPS suggest that for the 1977 sample year (when the gross income test amount was $750), roughly 100,000 tax filers who provide support to social security recipients would pay an average of $200 each in additional taxes.

39/ Or earned income if greater. See Your Federal Income Tax - 1980, p. 151.

40/ In 1977 the credit was phased out at 10% of AGI over $5,000, Your Federal Income Tax - 1977, p. 152.

41/ Advisory Commission on Intergovernmental Relations, Significant Features of Fiscal Federalism: 1979-80 Edition, M-123 (Washington, D.C, October 1980), p. 109.

42/ Your Federal Income Tax - 1980, p. 18.

Of course, at the cost of additional complexity, any of these effects could be avoided by using different definitions of gross income in different parts of the tax code.

V. Implementation and Design Issues

Taxing social security benefits would change the relationship between the now separate income tax and social security systems, could present some cash flow or accounting problems, and may have problems with transition.

The problem of conflicting definitions of the economic unit is often important for other plans to integrate the tax and transfer systems but is minor here. The social security benefit recipient unit is the individual--even though eligibility is often defined by family relationships and separate eligibles can receive their payments in one check. The tax-paying unit is also the individual--although couples pool their income and children or other dependents can lower an individual's taxable income via exemptions.

If there were no income tax withheld from monthly social security checks, there could be cash flow problems at income tax time for those recipients with sufficient other income to pay taxes on benefits. On the other hand, if there were across-the-board withholding from all recipients, there would be monthly cash flow problems for the majority of recipients who at the end of the year would be eligible for full refunds. The Social Security Administration does not have (except for some data on earnings) the information on other income needed to distinguish those recipients who would pay taxes from those who would not. Thus, if potential cash flow problems are to be reduced, some form of self-reporting must be used. One possible plan would be to have no general withholding but to provide information and assistance on the option to file (a special W-4) for withholding and on the

obligation to declare and pay estimated tax.[43/] Alternatively, there could be automatic withholding with information given on the option for those who do not expect to pay tax to file (a special W-4) for zero withholding.

The Social Security Administration would have to provide information to all individual recipients and to the Internal Revenue Service on annual taxable benefits. This should be no problem.

Any additional tax collections from the inclusion of benefits would go to general revenues--not to the social security trust fund. Although it was not part of the Advisory Council's proposal, the "suggestion was made that money derived from any income taxes on social security benefits could be channeled back to the social security trust funds to relieve the pressure on the payroll tax."[44/] If anyone's interest in the taxation of benefits is based on this suggestion, some cautions are in order. There are both conceptual and technical problems with measuring the amount of income tax revenues attributable to social security income.

The conceptual issue is whether the marginal or average tax rate is appropriate. Take the example of an aged individual with $4,000 of other income plus $4,000 of social security income. Assume existing law taxes would be zero and the proposed inclusion of half ($2,000) of social security would mean taxes of $240. How much of this is attributable to social security? Is it the full $240 from treating social security as the last

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43/ Your Federal Income Tax - 1980, pp. 24-28.

44/ Advisory Council on Social Security, Minutes of February 2 and 3, 1979, p. 8. Also, see Levy, pp. 47-48, for additional discussion of and citations for this proposal. Most recently this proposal was made in Congressional Budget Office, "Reducing the Federal Budget, Strategies and Examples, Fiscal Years 1982-1985," (February 1981), pp. 141-2.

dollars of taxable income or the $80 which represents social security's proportion (one-third) of the tax base? For the analysis presented in this paper, it was assumed that since the proposal for the taxation of benefits was at the "policy margin," it was appropriate to treat the benefits as the marginal dollars of taxable income. But, once benefits are in the tax base, the argument is weakened--it might appear unreasonable to earmark transfers to the trust fund at the highest possible rate rather than the average rate.

The technical issue is whether the fund transfer amount should be measured from each individual tax return or from some sample or formula approximation. Case by case calculation would be extremely costly and would require information not now saved from each return. But the more aggregative or simplified the approximation procedure, the stronger would be the political argument that the transfer would be an arbitrary method of general revenue financing of social security.

The Advisory Council is proposing to change a long-existing feature of the tax law. Presumably, past decisions of how much to work, when to retire, and how much to save for retirement from own resources were made with the expectation that social security benefits would be exempt from tax. Lowering retirement income by taxing social security benefits represents a windfall loss to many who cannot change past work and savings decisions. Also, labor market imperfections mean that it would have been easier not to retire than to now return to work at an advanced age. Thus, there are both equity and efficiency problems with adding benefits to the tax base with no phase-in period and no "grandfathering" of current recipients.

VI. Conclusions

The Advisory Council used the analogy with private pensions in recommending that social security benefits be included in the income tax base. They evaluated the effects of their proposal as acceptable by the criterion of social adequacy of benefits. But they ignored the criterion which is invited by the pension analogy, that of individual equity or a fair relationship between contributions and benefits. The combined effects of a progressive benefit formula and a progressive income tax could lead to unfairly low or even negative rates of return, especially for those with a history of high earnings. The Advisory Council did recommend a decrease in the progressiveness of the benefit formula to imppove individual equity, but did so separately from their proposal to tax benefits. The two proposals should be evaluated together.

The combination of the marginal income tax on earnings and the marginal social security earnings test rate is important for the effect on work effort. The taxation of social security benefits would increase many recipients' marginal income tax rates. But, due to the feedback of lowered benefits on the tax base, most of those subject to the earnings test would have a lower combined rate.

There is another way in which the earnings test and the taxation of benefits are related. One of the arguments against the inclusion of benefits is that they are already taxed, and at very high rates, with respect to earned income. The earnings test is criticized on efficiency grounds--it is said to discourage work--and on equity grounds--it is argued that past contributions should be returned as an "earned right" conditioned only upon

age. Should these arguments prevail and the earnings test be eliminated, then the case for taxing social security benefits just like any other contributory annuity would be strengthened.

The current study using 1977 data and 1977 tax rules found 33% of recipient units affected by the inclusion of half of benefits--23% would already have paid taxes and 10% represent new taxpayers. The Office of Tax Analysis projections using data in 1978 dollars and the 1979 tax rules found 44% affected (see Table 2). Dorothy Amey's study with 1980 data and 1980 tax rules found 46% affected (34% existing taxpayers and 12% new taxpayers, Table 4). The data and methods of these three studies are not comparable, but the pattern of increasing impact of the proposal in later years is clear. The reason is that while benefit amounts have kept pace with or exceeded inflation, and while other sources of income have increased somewhat, the zero bracket amounts and personal exemptions of the tax code have barely changed in nominal terms (see Table 1). This increase in the fraction of recipients who would be affected by the inclusion of benefits will continue as long as benefits are indexed to inflation and the zero bracket amounts and exemptions are not. Note that the recently enacted tax cuts do not change the zero bracket amounts or exemptions until 1985 when they will be indexed.[45/]

The evidence on average tax burdens (Table 8) illustrates the powerful horizontal equity argument against the existing full exclusion of social security income from the tax base. Compared to others with the same total income, marital status, and age, social security recipients pay substantially lower taxes. Moving to reduce the exclusion only for social security would,

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45/ Joint Committee on Taxation, "Summary of H.R. 4242 - The Economic Recovery Tax Act of 1981," (August 5, 1981) pp. 11-12.

however, leave in place horizontal distortions from the tax credit for the elderly, the disability pay exclusion and a variety of other preferences for the aged, survivors and the disabled.

Appendix A

Comparison of CPS/STATS 1977 to Official Data Sources

Table A1 shows the STATS simulations of 1977 tax amounts based on CPS reported income (under existing law) expressed as a fraction of the corresponding number from Statistics of Income - 1977. Column 1 shows the number of returns with positive tax liability before any credits and column 2 shows the mean tax liabilities for those returns while columns 3 and 4 show the same ratios for the aged. Note that while the CPS/STATS simulations yield 96% of the number of all returns (column 1), they yield only 78% of the number of returns claiming an extra exemption for age (column 3). This suggests substantial underreporting of income by the aged on the CPS.[46/] This means that the current analysis likely underestimates the number of social security recipient units who would be affected by expanding the tax base.

Columns 2 and 4 show that, except for the top and bottom income groups, the simulations of mean tax liabilities are fairly good. The low estimates for the $50,000 and up group are largely explained by the lack of CPS data on capital gains income and the coding of amounts in excess of $50,000 as $50,000. The low estimates for the $2,000-$3,999 group can probably be explained by the inclusion in SOI but not CPS/STATS of tax amounts "related either to prior-year income or to income that had been excluded from adjusted gross income."[47/]

46/ For an analysis of similar age specific underreporting of income on the CPS in 1972, see Daniel B. Radner, "Age and Family Income," in Policy Analysis with Social Security Research Files, Social Security Administration, Office of Research and Statistics (March 1978) pp. 195-223, especially Tables 13 and 14.

47/ Statistics of Income - 1977, definition of "Income Tax Before Credits," p. 199.

Table A1.--Ratio of Amounts from CPS-STATS Simulation to Amounts from Statistics of Income - 1977

Adjusted Gross Income	Entire Sample		Head or Spouse Aged 65 or Older	
	Number of returns with tax before credits	Mean amount of tax before credits	Number of returns with tax before credits	Mean amount of tax before credits
	(1)	(2)	(3)	(4)
$2,000-$3,999.....	.77	.71	.84	.51
$4,000-$5,999.....	.83	.94	.81	1.00
$6,000-$7,999.....	.87	.96	.74	.88
$8,000-$9,999.....	.96	.96	.84	.95
$10,000-$11,999.....	1.02	.99	.80	.98
$12,000-$13,999.....	1.02	.96	.84	.99
$14,000-$15,999.....	1.07	.98	.79	.95
$16,000-$17,999.....	.96	.99	.74	1.03
$18,000-$19,999.....	.99	1.00	.76	.99
$20,000-$24,999.....	1.02	1.01	.83	.99
$25,000-$29,999.....	1.02	1.02	.63	1.02
$30,000-$49,999.....	1.02	1.02	.72	1.00
$50,000+.....	.90	.59	.50	.50
Total All.....	.96	.94	.78	.65
Total to $49,999.....	.96	1.05	.79	.95
SOI Source: Table (columns).....	3.12(1)	3.12(2/1)	4.1(43)	4.1(44/43)

Table A2, row 7, shows the total number of recipients from the March 1978 CPS used in the current analysis. The corresponding estimates from official social security and railroad retirement sources are shown in row 8. The CPS has no individual benefit or other income data for recipients under age 14 and has poor quality data for those 14-17 and full-time students aged 18-21. This lack of data is not very costly for the current analysis since only a small fraction of child recipients should have sufficient other income to pay taxes--even with the proposed inclusion of half of social security. A comparison of the CPS total (row 7) with the official total (row 8) for adult recipients (column 2) shows 2.9 million "missing" recipient individuals (10% of the official total). A large portion of this number--as much as 1.3 million--represents cases where the husband reports the couple's total benefits without separate attribution to his eligible wife. In such cases the number of recipient individuals will be understated while the number of recipient units and the dollar amount of couples' benefits for inclusion in the tax base will be correct. Most of the remaining "missing" recipients are individuals residing in institutions. It seems reasonable to speculate that a very large fraction of the institutionalized have little or no other taxable income and would therefore be unaffected by the inclusion of benefits in the tax base.

Table A2.--Numbers of Social Security and Railroad Retirement Recipients, 1977

(in thousands)

	All recipients	Adult recipients
CPS/STATS	(1)	(2)
(1) Aged Couples.....	7,393	7,393
(2) Aged Individuals.....	10,425	10,425
(3) Non-Aged Couples.....	1,539	1,539
(4) Non-Aged Individuals.....	2,688	2,216
(5) Total Recipient Units.....	22,045	21,573
(6) Couples with Two Recipients.....	4,728	4,728
(7) Total Recipient Individuals, CPS a/...	26,773	26,301
Official Sources:		
(8) Total Recipient Individuals, SSA b/...	34,464	29,209

a/ Excluded from the current analysis, but available on the CPS, are 942(000) additional recipients aged 14-21 with total income less than $2,950. None of these units would pay any income tax under the existing or proposed law.
b/ The totals from the Social Security Administration and the Railroad Retirement Board are adjusted for recipients living abroad, and beneficiaries on the rolls during 1977 but not December 1977. The method and sources follow those used for 1976 in Dorothy S. Projector and Mary P. Johnston, "Family Demography and Transfer Payments During the 1970's," Social Security Administration, Office of Research and Statistics (forthcoming), Appendix 4, Table 17.

Appendix B
Detailed Tables

Table	Sample Group	Page
Using the format of text Table 5, Effect of Taxing Half of Benefits, 1977:		
B1.1	Aged Couples	49
B1.2	Aged Individuals	50
B1.3	Non-Aged Couples	51
B1.4	Non-Aged Individuals	52
	Those with positive tax after inclusion -	
B1.5	Affected Aged Couples	53
B1.6	Affected Aged Individuals	54
B1.7	Affected Non-Aged Couples	55
B1.8	Affected Non-Aged Individuals	56
B1.9	All Affected Recipients	57
Using the format of text Table 7, Quartile Distribution of Additional Tax as a Percent of Benefits, 1977:		
B2.1	Aged Couples	58
B2.2	Aged Individuals	59
B2.3	Non-Aged Couples	60
B2.4	Non-Aged Individuals	61
Using the format of text Table 10, Combined Marginal Rates of Income Tax and Earnings Test, 1977:		
B3.1	Aged Couples	62
B3.2	Aged Individuals	63
B3.3	Non-Aged Couples	64
B3.4	Non-Aged Individuals	65
B3.5	All Recipients	66

Table B1.1.--Effect of Taxing Half of Benefits on Social Security Recipient Units, 1977: Aged Couples

Total Income (in dollars)	Total Units (000)	Average Benefit (dollars)	Average Total Income (dollars)	Existing Law: Tax Exempt			Proposal: 50% Inclusion		Average Additional Tax:		
				Average Tax (dollars)	Average Marginal Rate (percent)	Percent With Positive Tax	Average Tax (dollars)	Percent With Positive Tax	Dollars	Percent of Benefits	Percent of Initial Tax
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Less than 2,000	60*	1,849	709	0	0.0	0	0	0	0	0.0	**
2,000-3,999....	660	2,734	3,275	0	.0	0	0	0	0	.0	**
4,000-5,999....	1,303	3,994	5,082	0	.0	0	0	0	0	.0	**
6,000-7,999....	1,425	4,667	6,941	1	.2	2	4	5	3	.1	275.4
8,000-9,999....	1,016	4,844	8,921	14	1.4	9	54	35	40	.8	297.1
10,000-11,999..	737	4,948	10,938	87	5.4	33	251	83	164	3.3	189.1
12,000-13,999..	512	4,751	12,992	296	11.2	65	605	97	309	6.5	104.6
14,000-15,999..	424	4,764	14,894	509	15.1	84	888	98	379	7.9	74.4
16,000-19,999..	488	4,446	17,867	1,070	19.5	98	1,499	100	429	9.7	40.1
20,000-24,999..	311	4,399	22,189	1,853	22.4	99	2,349	100	496	11.3	26.8
25,000-49,999..	384	4,564	32,464	4,438	30.3	100	5,146	100	708	15.5	16.0
50,000 or more.	73	4,772	67,171	16,268	49.2	100	17,455	100	1,187	24.9	7.3
Total.....	7,393	4,386	11,065	601	6.7	31	764	43	163	3.7	27.2

* Represents less than 50 unweighted observations
** Initial tax equals zero

Table B1.2.--Effect of Taxing Half of Benefits on Social Security Recipient Units, 1977: Aged Individuals

Total Income (in dollars)	Total Units (000)	Average Benefit (dollars)	Average Total Income (dollars)	Existing Law: Tax Exempt			Proposal: 50% Inclusion		Average Additional Tax:		
				Average Tax (dollars)	Average Marginal Rate (percent)	Percent With Positive Tax	Average Tax (dollars)	Percent With Positive Tax	Dollars	Percent of Benefits	Percent of Initial Tax
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Less than 2,000	893	1,417	1,481	0	0.0	0	0	0	0	0.0	**
2,000-3,999....	4,932	2,435	2,969	0	.0	0	0	0	0	.0	46.4
4,000-5,999....	2,167	2,953	4,891	1	.4	3	10	15	8	.3	567.5
6,000-7,999....	1,010	3,090	6,874	41	4.9	30	164	85	123	4.0	303.0
8,000-9,999....	525	3,128	8,919	244	14.6	81	491	99	247	7.9	101.4
10,000-11,999..	261	2,961	10,895	595	19.1	96	873	99	278	9.4	46.8
12,000-13,999..	219	3,045	12,930	955	21.8	98	1,278	98	323	10.6	33.8
14,000-15,999..	142	3,130	14,918	1,402	23.9	99	1,766	99	364	11.6	26.0
16,000-19,999..	125	3,386	17,632	1,958	26.3	100	2,404	100	446	13.2	22.8
20,000-24,999..	80	3,191	22,426	3,214	30.6	100	3,726	100	513	16.1	15.9
25,000-49,999..	58*	3,067	34,453	7,055	40.7	100	7,719	100	664	21.7	9.4
50,000 or more.	11*	4,178	67,879	20,428	56.5	100	22,139	100	1,711	41.0	8.4
Total.....	10,425	2,612	5,058	179	3.4	16	239	25	60	2.3	33.3

* Represents less than 50 unweighted observations
** Initial tax equals zero

Table B1.3.--Effect of Taxing Half of Benefits on Social Security Recipient Units, 1977: Non-Aged Couples

Total Income (in dollars)	Total Units (000)	Average Benefit (dollars)	Average Total Income (dollars)	Existing Law: Tax Exempt			Proposal: 50% Inclusion		Average Additional Tax:		
				Average Tax (dollars)	Average Marginal Rate (percent)	Percent With Positive Tax	Average Tax (dollars)	Percent With Positive Tax	Dollars	Percent of Benefits	Percent of Initial Tax
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Less than 2,000	13*	1,056	1,120	0	0.0	0	0	0	0	0.0	**
2,000-3,999....	144	2,496	3,280	0	.0	0	0	0	0	.0	**
4,000-5,999....	230	3,483	4,951	0	.0	0	0	1	0	.0	**
6,000-7,999....	220	3,717	6,948	16	1.7	11	31	23	15	.4	93.0
8,000-9,999....	207	4,256	8,909	39	2.9	19	122	58	83	2.0	216.1
10,000-11,999..	140	3,888	11,008	183	9.5	58	374	81	191	4.9	104.3
12,000-13,999..	137	3,486	13,004	427	13.9	79	655	87	228	6.5	53.3
14,000-15,999..	103	3,788	14,984	634	15.2	81	890	85	256	6.8	40.3
16,000-19,999..	161	3,255	17,831	1,297	19.7	94	1,600	94	303	9.3	23.4
20,000-24,999..	91	3,669	22,050	1,895	21.8	94	2,289	96	394	10.7	20.8
25,000-49,999..	84	3,845	31,822	4,258	29.1	95	4,801	97	543	14.1	12.8
50,000 or more.	8*	3,862	67,129	13,376	43.0	100	14,265	100	889	23.0	6.6
Total.....	1,539	3,574	11,679	657	8.9	43	815	54	158	4.4	24.0

* Represents less than 50 unweighted observations

** Initial tax equals zero

Table B1.4.--Effect of Taxing Half of Benefits on Social Security Recipient Units, 1977: Non-Aged Individuals

Total Income (in dollars)	Total Units (000)	Average Benefit (dollars)	Average Total Income (dollars)	Existing Law: Tax Exempt			Proposal: 50% Inclusion		Average Additional Tax:		
				Average Tax (dollars)	Average Marginal Rate (percent)	Percent With Positive Tax	Average Tax (dollars)	Percent With Positive Tax	Dollars	Percent of Benefits	Percent of Initial Tax
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Less than 2,000	328	1,238	1,478	0	0.0	0	0	0	0	0.0	**
2,000-3,999....	1,148	2,248	2,952	0	.1	0	1	2	0	.0	215.8
4,000-5,999....	554	2,511	4,898	17	2.4	15	53	41	36	1.4	214.9
6,000-7,999....	249	3,090	6,842	97	7.1	42	192	62	94	3.0	96.7
8,000-9,999....	127	3,591	8,967	242	10.5	57	380	70	139	3.9	57.4
10,000-11,999..	90	3,197	10,961	427	12.5	63	584	79	157	4.9	36.7
12,000-13,999..	64*	2,819	12,779	889	18.4	84	1,116	89	227	8.1	25.5
14,000-15,999..	46*	3,991	14,773	907	17.6	81	1,237	92	330	8.3	36.3
16,000-19,999..	43*	2,847	17,467	1,506	22.5	95	1,821	95	315	11.0	20.9
20,000-24,999..	19*	3,036	21,644	2,672	27.1	100	3,094	100	422	13.9	15.8
25,000-49,999..	14*	3,288	27,647	4,372	34.6	100	4,940	100	568	17.3	13.0
50,000 or more.	7*	3,581	55,679	15,261	53.8	100	16,232	100	972	27.1	6.4
Total.....	2,688	2,419	5,140	177	3.7	18	230	27	52	2.2	29.6

* Represents less than 50 unweighted observations
** Initial tax equals zero

Table B1.5.--Effect of Taxing Half of Benefits on Affected Beneficiaries, 1977: Aged Couples

Total Income (in dollars)	Total Units (000)	Average Benefit (dollars)	Average Total Income (dollars)	Existing Law: Tax Exempt			Proposal: 50% Inclusion		Average Additional Tax:		
				Average Tax (dollars)	Average Marginal Rate (percent)	Percent With Positive Tax	Average Tax (dollars)	Percent With Positive Tax	Dollars	Percent of Benefits	Percent of Initial Tax
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
6,000-7,999....	66	2,426	7,369	22	4.9	33	84	100	62	2.5	275.4
8,000-9,999....	351	3,415	9,099	39	3.9	26	156	100	117	3.4	297.1
10,000-11,999..	608	4,538	11,008	105	6.6	41	304	100	199	4.4	189.1
12,000-13,999..	499	4,673	12,999	303	11.5	67	621	100	317	6.8	104.6
14,000-15,999..	417	4,758	14,899	518	15.3	85	903	100	385	8.1	74.4
16,000-19,999..	488	4,446	17,867	1,070	19.5	98	1,499	100	429	9.7	40.1
20,000-24,999..	311	4,399	22,189	1,853	22.4	99	2,349	100	496	11.3	26.8
25,000-49,999..	384	4,564	32,464	4,438	30.3	100	5,146	100	708	15.5	16.0
50,000 or more.	73	4,772	67,171	16,268	49.2	100	17,455	100	1,187	24.9	7.3
Total.....	3,197	4,402	17,539	1,389	15.5	72	1,767	100	378	8.6	27.2

* Represents less than 50 unweighted observations

Table B1.6.--Effect of Taxing Half of Benefits on Affected Beneficiaries, 1977: Aged Individuals

Total Income (in dollars)	Total Units (000)	Average Benefit (dollars)	Average Total Income (dollars)	Existing Law: Tax Exempt			Proposal: 50% Inclusion		Average Additional Tax:		
				Average Tax (dollars)	Average Marginal Rate (percent)	Percent With Positive Tax	Average Tax (dollars)	Percent With Positive Tax	Dollars	Percent of Benefits	Percent of Initial Tax
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
2,000-3,999....	5*	408	3,812	40	9.3	62	58	100	18	4.5	46.4
4,000-5,999....	318	2,122	5,440	10	2.8	18	68	100	58	2.7	567.5
6,000-7,999....	862	2,945	6,922	48	5.8	35	192	100	144	4.9	303.0
8,000-9,999....	518	3,128	8,918	247	14.8	82	498	100	251	8.0	101.4
10,000-11,999..	260	2,968	10,892	599	19.2	96	879	100	280	9.4	46.8
12,000-13,999..	215	3,058	12,942	971	22.1	99	1,300	100	329	10.7	33.8
14,000-15,999..	140	3,141	14,921	1,420	24.2	100	1,789	100	369	11.7	26.0
16,000-19,999..	125	3,386	17,632	1,958	26.3	100	2,404	100	446	13.2	22.8
20,000-24,999..	80	3,191	22,426	3,214	30.6	100	3,726	100	513	16.1	15.9
25,000-49,999..	58*	3,067	34,453	7,055	40.7	100	7,719	100	664	21.7	9.4
50,000 or more.	11*	4,178	67,879	20,428	56.5	100	22,139	100	1,711	41.0	8.4
Total.....	2,592	2,935	10,328	720	13.7	64	960	100	240	8.2	33.3

* Represents less than 50 unweighted observations

Table B1.7.--Effect of Taxing Half of Benefits on Affected Beneficiaries, 1977: Non-Aged Couples

Total Income (in dollars)	Total Units (000)	Average Benefit (dollars)	Average Total Income (dollars)	Existing Law: Tax Exempt			Proposal: 50% Inclusion		Average Additional Tax:		
				Average Tax (dollars)	Average Marginal Rate (percent)	Percent With Positive Tax	Average Tax (dollars)	Percent With Positive Tax	Dollars	Percent of Benefits	Percent of Initial Tax
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
4,000-5,999....	3*	636	5,736	0	0.0	0	30	100	30	4.7	**
6,000-7,999....	51*	2,407	7,344	70	7.3	48	135	100	65	2.7	93.0
8,000-9,999....	120	3,503	8,996	67	5.0	32	210	100	144	4.1	216.1
10,000-11,999..	113	3,606	11,000	227	11.8	73	465	100	237	6.6	104.3
12,000-13,999..	120	3,310	13,002	490	15.9	91	751	100	261	7.9	53.3
14,000-15,999..	88	3,633	15,002	743	17.8	94	1,043	100	300	8.3	40.3
16,000-19,999..	152	3,073	17,901	1,373	20.9	100	1,694	100	321	10.4	23.4
20,000-24,999..	87	3,630	21,976	1,965	22.6	98	2,374	100	409	11.3	20.8
25,000-49,999..	81	3,835	31,977	4,380	29.9	98	4,938	100	558	14.6	12.8
50,000 or more.	8*	3,862	67,129	13,376	43.0	100	14,265	100	889	23.0	6.6
Total.....	824	3,395	16,265	1,227	16.7	80	1,522	100	294	8.7	24.0

* Represents less than 50 unweighted observations
** Initial tax equals zero.

Table B1.8.--Effect of Taxing Half of Benefits on Affected Beneficiaries, 1977: Non-Aged Individuals

Total Income (in dollars)	Total Units (000)	Average Benefit (dollars)	Average Total Income (dollars)	Existing Law: Tax Exempt			Prbposal: 50% Inclusion		Average Additional Tax:		
				Average Tax (dollars)	Average Marginal Rate (percent)	Percent With Positive Tax	Average Tax (dollars)	Percent With Positive Tax	Dollars	Percent of Benefits	Percent of Initial Tax
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
2,000-3,999....	17*	666	3,816	12	4.5	31	38	100	26	3.9	215.8
4,000-5,999....	226	1,924	5,150	42	5.8	37	131	100	89	4.6	214.9
6,000-7,999....	154	2,528	6,888	157	11.4	67	309	100	152	6.0	96.7
8,000-9,999....	88	2,696	9,066	346	15.1	81	544	100	198	7.4	57.4
10,000-11,999..	71	2,827	10,887	542	15.9	79	741	100	199	7.0	36.7
12,000-13,999..	57*	2,729	12,829	1,002	20.8	95	1,258	100	256	9.4	25.5
14,000-15,999..	43*	3,744	14,805	982	19.0	87	1,339	100	357	9.5	36.3
16,000-19,999..	41*	2,897	17,451	1,578	23.5	100	1,907	100	329	11.4	20.9
20,000-24,999..	19*	3,036	21,644	2,672	27.1	100	3,094	100	422	13.9	15.8
25,000-49,999..	14*	3,288	27,647	4,372	34.6	100	4,940	100	568	17.3	13.0
50,000 or more.	7*	3,581	55,679	15,261	53.8	100	16,232	100	972	27.1	6.4
Total.....	737	2,491	9,634	647	13.5	67	839	100	192	7.7	29.6

* Represents less than 50 unweighted observations

Table B1.9.--Effect of Taxing Half of Benefits on Affected Beneficiaries, 1977: Total

Total Income (in dollars)	Total Units (000)	Average Benefit (dollars)	Average Total Income (dollars)	Existing Law: Tax Exempt			Proposal: 50% Inclusion		Average Additional Tax:		
				Average Tax (dollars)	Average Marginal Rate (percent)	Percent With Positive Tax	Average Tax (dollars)	Percent With Positive Tax	Dollars	Percent of Benefits	Percent of Initial Tax
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
2,000-3,999....	22*	610	3,815	18	5.5	38	42	100	24	4.0	134.9
4,000-5,999....	547	2,033	5,322	23	4.0	26	94	100	71	3.5	306.0
6,000-7,999....	1,134	2,834	6,963	62	6.6	40	199	100	137	4.8	220.7
8,000-9,999....	1,077	3,228	8,998	167	10.2	58	358	100	191	5.9	114.0
10,000-11,999..	1,052	3,935	10,970	270	10.9	60	493	100	223	5.7	82.7
12,000-13,999..	890	3,975	12,975	535	15.3	80	843	100	309	7.8	57.7
14,000-15,999..	687	4,222	14,911	759	17.7	90	1,128	100	369	8.7	48.6
16,000-19,999..	806	3,943	17,816	1,291	21.0	99	1,697	100	406	10.3	31.5
20,000-24,999..	498	4,017	22,169	2,124	23.9	99	2,604	100	481	12.0	22.6
25,000-49,999..	537	4,259	32,481	4,710	31.5	100	5,387	100	677	15.9	14.4
50,000 or more.	99	4,551	66,485	16,401	49.8	100	17,605	100	1,204	26.4	7.3
Total.....	7,350	3,580	14,061	1,061	14.8	70	1,362	100	301	8.4	28.4

* Represents less than 50 unweighted observations

Table B2.1.--Quartile Distribution of Additional Tax as a Percent of Social Security Benefits, Aged Couples, 1977

Total Income (dollars)	Additional Tax as a Percent of Benefits				
	Minimum	First Quartile Break	Median	Third Quartile Break	Maximum a/
	(1)	(2)	(3)	(4)	(5)
Less than 2,000.....	0	0	0	0	0
2,000-3,999.....	0	0	0	0	0
4,000-5,999.....	0	0	0	0	0
6,000-7,999.....	0	0	0	0	8
8,000-9,999.....	0	0	0	2	9
10,000-11,999.....	0	1	4	8	11
12,000-13,999.....	0	7	8	9	10
14,000-15,999.....	0	8	9	9	11
16,000-19,999.....	5	9	10	11	13
20,000-24,999.....	3	11	12	13	14
25,000-49,999.....	9	13	15	18	24
50,000 or more.....	20	23	25	26	30
Total.....	0	0	0	8	30

a/ Excluded here are a very small number of units for which the STATS model permitted a decrease in the number of dependency exemptions and thus increased taxable income by more than just half of benefits.

Table B2.2.--Quartile Distribution of Additional Tax as a Percent of Social Security Benefits, Aged Individuals, 1977

Total Income (dollars)	Additional Tax as a Percent of Benefits				
	Minimum	First Quartile Break	Median	Third Quartile Break	Maximum a/
	(1)	(2)	(3)	(4)	(5)
Less than 2,000.....	0	0	0	0	0
2,000-3,999.....	0	0	0	0	7
4,000-5,999.....	0	0	0	0	9
6,000-7,999.....	0	2	5	8	10
8,000-9,999.....	0	8	9	10	13
10,000-11,999.....	0	9	10	10	11
12,000-13,999.....	0	10	11	11	12
14,000-15,999.....	0	11	12	13	16
16,000-19,999.....	9	13	13	14	18
20,000-24,999.....	13	15	16	17	19
25,000-49,999.....	11	19	22	24	27
50,000 or more.....	26	27	28	34	35
Total.....	0	0	0	0	35

a/ Excluded here are a very small number of units for which the STATS model permitted a decrease in the number of dependency exemptions and thus increased taxable income by more than just half of benefits.

Table B2.3.--Quartile Distribution of Additional Tax as a Percent of Social Security Benefits, Non-Aged Couples, 1977

Total Income (dollars)	Additional Tax as a Percent of Benefits				
	Minimum	First Quartile Break	Median	Third Quartile Break	Maximum a/
	(1)	(2)	(3)	(4)	(5)
Less than 2,000.....	0	0	0	0	0
2,000-3,999.....	0	0	0	0	0
4,000-5,999.....	0	0	0	0	7
6,000-7,999.....	0	0	0	0	8
8,000-9,999.....	0	0	1	6	9
10,000-11,999.....	0	3	8	9	10
12,000-13,999.....	0	8	8	9	10
14,000-15,999.....	0	8	9	9	11
16,000-19,999.....	0	10	11	11	13
20,000-24,999.....	0	11	12	13	14
25,000-49,999.....	0	13	15	18	21
50,000 or more.....	11	20	22	24	29
Total.....	0	0	2	9	29

a/ Excluded here are a very small number of units for which the STATS model permitted a decrease in the number of dependency exemptions and thus increased taxable income by more than just half of benefits.

Table B2.4.--Quartile Distribution of Additional Tax as a Percent of Social Security Benefits, Non-Aged Individuals, 1977

Total Income (dollars)	Additional Tax as a Percent of Benefits				
	Minimum	First Quartile Break	Median	Third Quartile Break	Maximum a/
	(1)	(2)	(3)	(4)	(5)
Less than 2,000.....	0	0	0	0	0
2,000-3,999.....	0	0	0	0	7
4,000-5,999.....	0	0	0	5	10
6,000-7,999.....	0	0	6	8	10
8,000-9,999.....	0	0	8	9	11
10,000-11,999.....	0	2	9	10	11
12,000-13,999.....	0	9	10	11	16
14,000-15,999.....	0	9	10	11	14
16,000-19,999.....	0	11	12	13	17
20,000-24,999.....	11	13	14	15	18
25,000-49,999.....	14	16	17	19	25
50,000 or more.....	26	25	26	29	29
Total.....	0	0	0	2	29

a/ Excluded here are a very small number of units for which the STATS model permitted a decrease in the number of dependency exemptions and thus increased taxable income by more than just half of benefits.

Table B3.1.--Combined Marginal Percentage Rates of Income Tax and Earnings Test Before and After Taxing Half of Social Security Benefits, Aged Couples, 1977

Total Income (dollars)	Total Units (000)	Average Marginal Tax Rate Before (percent)	Average Marginal Tax Rate After (percent)	Average Marginal Earnings Test Rate (percent) a/	Average Combined Rate Before (percent) b/	Average Combined Rate After (percent) c/	Average Change in Combined Rate (percent)	Direction of Change in the Combined Rate: Percent of Total Units		
								Down	Same	Up
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Less than 2,000	60	0	0	0	0	0	0	0.0	100.0	0.0
2,000-3,999....	660	0	0	0	0	0	0	.0	100.0	.0
4,000-5,999....	1,303	0	0	0	0	0	0	.0	100.0	.0
6,000-7,999....	1,425	0	1	1	2	2	0	.5	95.8	3.7
8,000-9,999....	1,016	1	5	2	4	8	4	1.0	66.2	32.8
10,000-11,999..	737	5	14	3	9	17	8	4.5	21.1	74.4
12,000-13,999..	512	11	18	5	16	22	6	8.2	24.5	67.3
14,000-15,999..	424	15	19	6	21	24	3	11.5	30.1	58.5
16,000-19,999..	488	19	21	8	27	28	1	15.4	34.3	50.3
20,000-24,999..	311	22	24	10	32	33	1	19.3	36.6	44.1
25,000-49,999..	384	30	32	14	44	44	0	28.0	28.8	43.3
50,000 or more.	73	49	50	10	59	57	-2	19.3	51.9	28.8
Total.....	7,393	7	9	3	10	12	2	5.4	66.3	28.3

a/ For 1977, each dollar of earnings in excess of $3000 (for recipients less than age 72) reduced benefits by 50 cents. For married couples the unit head's rate is used unless the head is not a recipient, in which case the spouse's rate is used.

b/ Column 2 plus column 4. See footnotes 21 and 22.

c/ Column 3 for those not subject to the earnings test. Column 4 plus three-quarters of column 3 for those subject to the earnings test. See footnotes 21 and 22.

Table B3.2.--Combined Marginal Percentage Rates of Income Tax and Earnings Test Before and After Taxing Half of Social Security Benefits, Aged Individuals, 1977

Total Income (dollars)	Total Units (000)	Average Marginal Tax Rate Before (percent)	Average Marginal Tax Rate After (percent)	Average Marginal Earnings Test Rate (percent) a/	Average Combined Rate Before (percent) b/	Average Combined Rate After (percent) c/	Average Change in Combined Rate (percent)	Direction of Change in the Combined Rate: Percent of Total Units		
								Down	Same	Up
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Less than 2,000	893	0	0	0	0	0	0	0.0	100.0	0.0
2,000-3,999....	4,932	0	0	0	0	0	0	.1	99.9	.0
4,000-5,999....	2,167	0	2	1	2	3	2	.9	85.4	13.7
6,000-7,999....	1,010	5	15	4	9	18	9	4.6	20.5	74.9
8,000-9,999....	525	15	19	5	20	24	4	9.8	18.4	71.9
10,000-11,999..	261	19	22	7	26	28	2	14.7	17.6	67.7
12,000-13,999..	219	22	24	8	30	31	1	16.0	22.7	61.3
14,000-15,999..	142	24	25	11	35	35	0	22.1	19.4	58.5
16,000-19,999..	125	26	28	8	34	35	1	15.4	17.1	67.5
20,000-24,999..	80	31	33	5	36	37	1	10.4	6.4	83.2
25,000-49,999..	58	41	42	11	52	51	-1	21.7	47.6	30.7
50,000 or more.	11	57	60	17	73	72	-1	33.4	27.9	38.7
Total.....	10,425	3	5	2	5	7	2	2.6	78.2	19.2

a/ For 1977, each dollar of earnings in excess of $3000 (for recipients less than age 72) reduced benefits by 50 cents. For married couples the unit head's rate is used unless the head is not a recipient, in which case the spouse's rate is used.

b/ Column 2 plus column 4. See footnotes 21 and 22.

c/ Column 3 for those not subject to the earnings test. Column 4 plus three-quarters of column 3 for those subject to the earnings test. See footnotes 21 and 22.

Table B3.3.--Combined Marginal Percentage Rates of Income Tax and Earnings Test Before and After Taxing Half of Social Security Benefits, Non-Aged Couples, 1977

Total Income (dollars)	Total Units (000)	Average Marginal Tax Rate Before (percent)	Average Marginal Tax Rate After (percent)	Average Marginal Earnings Test Rate (percent) a/	Average Combined Rate Before (percent) b/	Average Combined Rate After (percent) c/	Average Change in Combined Rate (percent)	Direction of Change in the Combined Rate: Percent of Total Units		
								Down	Same	Up
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Less than 2,000	13	0	0	0	0	0	0	0.0	100.0	0.0
2,000-3,999....	144	0	0	0	0	0	0	.0	100.0	.0
4,000-5,999....	230	0	0	0	0	0	0	.0	98.8	1.2
6,000-7,999....	220	2	3	1	3	5	2	1.8	81.9	16.3
8,000-9,999....	207	3	9	1	4	10	6	.8	47.5	51.8
10,000-11,999..	140	10	14	2	12	16	4	3.7	26.4	69.9
12,000-13,999..	137	14	16	5	19	21	2	9.5	43.1	47.4
14,000-15,999..	103	15	17	5	20	21	1	9.7	55.6	34.7
16,000-19,999..	161	20	21	6	26	26	1	11.6	51.6	36.8
20,000-24,999..	91	22	23	9	31	31	1	17.7	47.9	34.4
25,000-49,999..	84	29	31	17	46	45	-1	32.8	30.9	36.3
50,000 or more.	8	43	43	19	62	58	-4	38.2	61.8	.0
Total.....	1,539	9	11	3	12	14	2	6.4	63.3	30.3

a/ For 1977, each dollar of earnings in excess of $3000 (for recipients less than age 72) reduced benefits by 50 cents. For married couples the unit head's rate is used unless the head is not a recipient, in which case the spouse's rate is used.

b/ Column 2 plus column 4. See footnotes 21 and 22.

c/ Column 3 for those not subject to the earnings test. Column 4 plus three-quarters of column 3 for those subject earnings test. See footnotes 21 and 22.

Table B3.4.--Combined Marginal Percentage Rates of Income Tax and Earnings Test Before and After Taxing Half of Social Security Benefits, Non-Aged Individuals, 1977

Total Income (dollars)	Total Units (000)	Average Marginal Tax Rate Before (percent)	Average Marginal Tax Rate After (percent)	Average Marginal Earnings Test Rate (percent) a/	Average Combined Rate Before (percent) b/	Average Combined Rate After (percent) c/	Average Change in Combined Rate (percent)	Direction of Change in the Combined Rate: Percent of Total Units		
								Down	Same	Up
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Less than 2,000	328	0	0	0	0	0	0	0.0	100.0	0.0
2,000-3,999....	1,148	0	0	0	0	0	0	.2	98.5	1.3
4,000-5,999....	554	2	6	8	11	14	3	10.1	59.4	30.5
6,000-7,999....	249	7	11	15	22	25	3	22.8	41.9	35.3
8,000-9,999....	127	11	13	22	32	33	1	34.6	34.7	30.7
10,000-11,999..	90	12	16	27	40	40	1	47.7	31.1	21.2
12,000-13,999..	64	18	20	25	43	42	-1	49.5	24.1	26.3
14,000-15,999..	46	18	21	35	52	51	-1	65.5	14.9	19.7
16,000-19,999..	43	22	24	43	65	62	-4	81.4	12.6	6.0
20,000-24,999..	19	27	29	45	72	67	-5	90.5	9.5	.0
25,000-49,999..	14	35	37	23	57	56	-2	45.4	23.3	31.3
50,000 or more.	7	54	54	2	56	56	0	4.7	86.7	8.6
Total.....	2,688	4	5	7	11	12	1	12.0	74.5	13.5

a/ For 1977, each dollar of earnings in excess of $3000 (for recipients less than age 72) reduced benefits by 50 cents. For married couples the unit head's rate is used unless the head is not a recipient, in which case the spouse's rate is used.

b/ Column 2 plus column 4. See footnotes 21 and 22.

c/ Column 3 for those not subject to the earnings test. Column 4 plus three-quarters of column 3 for those subject to the earnings test. See footnotes 21 and 22.

Table B3.5.--Combined Marginal Percentage Rates of Income Tax and Earnings Test Before and After Taxing Half of Social Security Benefits, All Beneficiaries, 1977

Total Income (dollars)	Total Units (000)	Average Marginal Tax Rate Before (percent)	Average Marginal Tax Rate After (percent)	Average Marginal Earnings Test Rate (percent) a/	Average Combined Rate Before (percent) b/	Average Combined Rate After (percent) c/	Average Change in Combined Rate (percent)	Direction of Change in the Combined Rate: Percent of Total Units		
								Down	Same	Up
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Less than 2,000	1,295	0	0	0	0	0	0	0.0	100.0	0.0
2,000-3,999....	6,885	0	0	0	0	0	0	.1	99.7	.2
4,000-5,999....	4,255	1	2	2	2	4	1	1.8	87.2	11.0
6,000-7,999....	2,904	3	7	3	6	10	4	3.9	63.9	32.1
8,000-9,999....	1,874	6	10	4	10	14	4	5.7	48.6	45.7
10,000-11,999..	1,229	9	16	6	15	21	6	9.7	21.7	68.6
12,000-13,999..	932	15	19	7	22	25	4	13.1	26.8	60.1
14,000-15,999..	715	17	20	9	26	28	2	16.8	30.7	52.6
16,000-19,999..	817	21	22	9	30	31	1	18.1	33.9	47.9
20,000-24,999..	501	24	26	10	34	34	0	20.2	32.8	47.0
25,000-49,999..	539	31	33	14	46	45	-1	28.5	31.0	40.5
50,000 or more.	99	50	51	11	61	59	-2	21.5	52.5	26.0
Total.....	22,045	5	7	3	8	10	2	4.9	72.7	22.3

a/ For 1977, each dollar of earnings in excess of $3000 (for recipients less than age 72) reduced benefits by 50 cents. For married couples the unit head's rate is used unless the head is not a recipient, in which case the spouse's rate is used.

b/ Column 2 plus column 4. See footnotes 21 and 22.

c/ Column 3 for those not subject to the earnings test. Column 4 plus three-quarters of column 3 for those subject to the earnings test. See footnotes 21 and 22.

Appendix C

The Incremental Benefit to Contributions Ratio

The specific individual equity principle endorsed by the Advisory Council is that: "all current and future workers should be able to expect that social security benefits generated by increased earnings will provide a reasonable return on the increased employee tax payments on those earnings."[48/] To illustrate the effect of income taxes and other relevant variables on individual equity, a particular measure is presented here. It is the ratio (R) of incremental annual benefits (ΔB) to incremental payroll tax contributions (ΔC) for an individual at the end of the year just prior to retirement:

$$R = \frac{\Delta B}{\Delta C} = \frac{bD(1-a)(1-it)}{np}$$

where: $\Delta B = \Delta E(\frac{1}{n})bD(1-a)(1-it)$

$\Delta C = p\Delta E$

b = the marginal replacement rate in the benefit formula (currently this is .90 for low earners, .32 for most earners, .15 for high earners).

D = a multiple for dependents (currently this is 1.0 for none, 1.5 for one, and goes up to a family maximum of 1.9).

n = the number of years in the computation period (currently this is the year in which the worker attains 62 minus 1956, to a maximum of 35).

a = the actuarial reduction factor for retirement prior to age 65 (this is currently 5/9 of 1% for each month).

i = the inclusion fraction (this is 0 for current law, and .5 for the Advisory Council's proposal).

t = the marginal income tax rate in retirement (currently this ranges from zero to a top bracket rate of .70, but the recently enacted tax bill provides for a .50 maximum starting in 1982).

48/ Social Security Financing and Benefits, p. 56.

p = the marginal payroll tax rate (in 1981 the employee rate is .047 for OASI or .0535 for OASDI. After 1989 the rates are scheduled to be .051 for OASI and .062 for OASDI.).

ΔE = the increment to taxable earnings (in 1981 earnings up to $29,700 are taxed and enter the benefit calculations. The taxable maximum increases each year with an index of wages. This means that even those with earnings in excess of the maximum will have an increment to taxable earnings each year.).

This relationship has the advantages of being a simple multiplicative formula which contains only policy variables. Also, by making an assumption about the expected number of years over which benefits will be paid (L), annuity tables can be used to translate the ratio into a real[49/] after tax rate of return (r).[50/] These advantages are gained by making a variety of simplifying assumptions: incremental earnings are at the end of the year just prior to retirement (thus we can ignore the time difference between contributions and first benefits and we can ignore the wage indexing of earnings prior to age 60); the year's earnings are not dropped out of benefit calculations; the age of first benefits is 62 (thus we can ignore price increases between age 62 and the year of first benefits); all we need assume about earnings in other years is the resulting marginal benefit bracket; life expectancy can be treated as a number of years rather than by using year by year survival probabilities.

Table C.1 shows rates of return for hypothetical individuals at age 61, the year just prior to retirement, with different values of the policy variables. Case 1 is a single individual (D=1.0) with a history of high earnings (b=.15) facing the 26 year averaging period which obtains for those 61 in 1981. For each dollar of incremental earnings this individual pays $.047 of OASI taxes and increases benefits by an amount equivalent to 6.4% annuity for 17 years. Case 2 shows that if half of benefits were made taxable (i=.5), even

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49/ Benefits are indexed for changes in the CPI after age 62.
50/ The formula from which the annuity tables are derived is:

$$R = \frac{r}{1-(1+r)^{-L}}$$

Table C 1.--Incremental Benefit/Contributions Ratios and Real After-Tax Rates of Return for Hypothetical Individuals at Age 61, Just Prior to Retirement at Age 62 a/

Case	n	p	D	b	a	i	t	R	L b/	r
1981:										
(1) Single, high-earner	26	.047	1.0	.15	.2	0	-	.0982	17	.064
(2) Tax half of benefits	26	.047	1.0	.15	.2	.5	.50	.0736	17	.026
1990 and after:										
(3) Single, high-earner	35	.051	1.0	.15	.2	0	-	.0672	17	.015
(4) Tax half of benefits	35	.051	1.0	.15	.2	.5	.50	.0504	17	-.017
(5) Tax and Council's new b	35	.051	1.0	.27	.2	.5	.50	.0908	17	.053
(6) p = OASDI rate	35	.062	1.0	.15	.2	0	-	.0553	17	-.007
(7) p = both shares of OASI	35	.102	1.0	.15	.2	0	-	.0336	17	-.056
(8) One dependent, high earner	35	.051	1.5	.15	.2	0	-	.1008	17	.068
(9) Single, average earner	35	.051	1.0	.32	.2	0	-	.1434	17	.124

a/ See text for variable definitions and the formula for R.
b/ The IRS's Pension and Annuity Income publication (p.12) gives a life expectancy of 16.9 years for a male nearest his 62nd birthday.

an individual in the 50% income tax bracket could expect a 2.6% real after tax return. This appears to be a reasonable return especially since the "worst case" assumptions[51/] of the example will be met by a very small fraction of recipients with others receiving a higher return.

There are, however, two important changes scheduled over the next nine years which will substantially lower the ratio of incremental benefits to costs: the number of years in the computation period will increase to 35 and the OASI payroll tax rate will rise to 5.1%. These changes lower the before tax rate of return for an individual reaching age 61 in 1990, in the 15% benefit bracket, and with no dependents to 1.5% (case 3). The inclusion of half of benefits would mean an individual in the 50% tax bracket would expect a negative real return (case 4).

In order to improve individual equity, the Advisory Council proposed that the lowest marginal benefit rate be raised to 27%.[52/] This recommendation was not tied to their proposal to tax half of benefits,[53/] but the combined effect of both changes is a rate of return of 5.3% (case 5).

51/ There are, of course alternative assumptions which would yield an even lower return. Some could have individual life expectancies considerably lower than the cohort average. Others could have marginal b's of zero: (1) Those who qualify for a minimum benefit may get no addition from marginal earnings—but they have extremely high average rates of return; (2) Those who have spouses with relatively higher earnings may do better as dependents than as recipients on their own; (3) Since only the highest earnings years enter the benefit formula (the highest 26 for those age 61 in 1981), age 61 earnings will be dropped out for some. Working against this possibility is the fact that nominal earnings for age 61 (or later) will be compared to earnings from earlier years indexed to age 60 dollars.

52/ Social Security Financing and Benefits, p. 59.

53/ A minority of council members did condition their support for the taxation of benefits on the benefit formula change, Social Security Financing and Benefits, p. 65.

The remaining cases illustrate the relative importance of some of the other variables in the benefit-contributions relationship. Take case 3--with the scheduled increases in n and p--as a reference. If the OASDI (not OASI) payroll tax rate is used in the formula, then the rate of return is negative even before the taxation of benefits (case 6).[54/]

If the employee plus the employer shares of the OASI payroll tax are used in the formula[55/] then the contributions denominator doubles and the rate of return is substantially negative even before the taxation of benefits (case 7).

Case 8 indicates the considerable advantage in rate of return to retirees with extra benefits for dependents. Case 9 shows the high marginal rate of return for the majority of earners who are in the 32% benefit bracket.[56/]

54/ I do not believe that the DI portion belongs in retirement annuity calculations, but in order to qualify for increased benefits an earner must pay both taxes, and Congress has met short term funding problems by changing the levels of OASI and DI within the same total tax rate. See Congressional Budget Office, Paying for Social Security: Funding Options for the Near Term (February 1981), p. 2. On the other hand, some authors factor out DI and SI "as term insurance against the risk of earnings loss due to worker death or disability prior to retirement," Alan Freiden, Dean Leimer and Ronald Hoffman "Internal Rates of Return to Retired Worker-Only Beneficiaries Under Social Security 1967-70," Studies in Income Distribution, No. 5, U.S. Department of Health, Education, and Welfare, Social Security Administration (October 1976), p. 7. Factoring out SI would increase rates of return slightly but would still yield a negative return if benefits are taxed.

55/ I argue that it is not appropriate to assume that the employer's share is shifted with marginal work decisions by one worker. Even if long run shifting to average wages is accomplished by lowering wages paid below what they otherwise would be, the wage rate for a given worker is set in the short run and will not be lowered with increments to work. Also, the Advisory Council's individual equity statement concerned employee contributions only.

56/ In 1980 the 32% bracket spanned Average Indexed Monthly Earnings of $194 to $1,171. See U.S. House of Representatives, Doc. No. 96-332, 1980 Annual Report of the Board of Trustees of the Old-Age and Survivors Insurance Trust Funds, 96th Congress, 2d Session, Washington: U.S. Government Printing Office (June 19, 1980), p. 86. These "bend point" amounts are indexed to future wage increases.

The formula can be modified for retirement at ages other than 62. Benefits need only be indexed for increases in the Consumer Price Index from age 62 to the calculation age.[57/] Table C2 gives ratios and rates of return for individuals at age 64, just prior to retirement at age 65. The rates of return are a good deal higher than the corresponding cases from Table C1, since the inflation adjustment and the elimination of the actuarial reduction more than offset the effect of lowered life expectancy. But note that for case 4--with the scheduled changes in n and p and the taxation benefits--the rate of return is only 0.7%.

For increments to earnings other than in the year just prior to retirement, the rate of return would depend on all the variables in the formula plus the rate of growth of average earnings which is used to index individual earnings prior to age 60. Other things being equal (or "just fair"), the question becomes whether the growth in the earnings index represents an equitable rate of nominal, after-tax return. Also, evaluation of the return to earlier year's contributions should recognize the finite probability of death before the age of first benefits and thus should use more detailed survival probabilities. The calculation of average rates of return would require additional knowledge or assumptions about earnings in all years.

57/ Note that benefit adjustments for price increases after the year of calculation are already accounted for by interpreting the rates of return as real rates.

Table C 2.--Incremental Benefit/Contributions Ratios and Real After Tax Rates of Return for Hypothetical Individuals at Age 64, Just Prior to Retirement at Age 65 a/

Case	n	p	D	b	a	ΔCPI b/	i	t	R'	L c/	r
1981:											
(1) Single, high-earner	23	.047	1.0	.15	0	.25	0	-	.1735	15	.153
(2) Tax half of benefits	23	.047	1.0	.15	0	.25	.5	.50	.1301	15	.098
1993 and after:											
(3) Single, high-earner	35	.051	1.0	.15	0	.12	0	-	.0941	15	.047
(4) Tax half of benefits	35	.051	1.0	.15	0	.12	.5	.50	.0706	15	.007
(5) Tax and Council's new b	35	.051	1.0	.27	0	.12	.5	.50	.1271	15	.094
(6) p = OASDI rate	35	.062	1.0	.15	0	.12	0	-	.0774	15	.019
(7) p = both shares of OASI	35	.102	1.0	.15	0	.12	0	-	.0471	15	-.041
(8) One dependent, high-earner	35	.051	1.5	.15	0	.12	0	-	.1411	15	.113
(9) Single, average earner	35	.051	1.0	.32	0	.12	0	-	.2008	15	.185

a/ $R' = R(1+\Delta CPI)$. See text for variable definitions and the formula for R.

b/ Benefits are increased for inflation in the Consumer Price Index (ΔCPI) from age 62 to age 64 (future increases will start on July 1 of the year of age 65). The 25% increase for 1979 plus 1980 is based on actual experience. The 1980 OASDI Trustees Report intermediate assumptions are a 6.5% increase in the CPI for 1990 and 5.5% for 1995 (p. 24). The compound rate for 1991 plus 1992 is here assumed to be 12%.

c/ The IRS's Pension and Annuity Income publication (p. 12) gives a life expectancy of 15.0 years for a male nearest his 65th birthday.