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QUARTERLY DISTRIBUTION OF OASDI CONTRIBUTIONS WITHIN A CALENDAR YEAR, PARTICULARLY WHEN A CHANGE IN FINANCING IS MADE

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The distribution of OASDI contribution receipts within a particular calendar year is subject to several significant influences, such as the effect of the earnings base and the deferment of contribution payments (especially by the self-employed). This Note will analyze the distribution of the contribution receipts as between the several quarters of a calendar year, both for the situation when the tax rate and the earnings base remain unchanged and for the situation when these elements vary. Actuarial Note No. 17 made a similar study for half-yearly periods; the figures presented in the current Note are from the same basic data, but a small error is corrected.

For purposes of illustration, let us consider the calendar year 1965, with three alternatives: (1) the continuation of the present 7- $\frac{1}{4}$ % combined employer-employee contribution rate and the \$4,800 earnings base; (2) an increase in the tax rate of 1/2%; and (3) an increase in the earnings base to \$5,800.

The following table shows the percentage distribution of the contribution receipts within the calendar year:

Period in 1965	Percentage distribution of contributions within year		
	7- $\frac{1}{4}$ % on \$4,800	7- $\frac{3}{4}$ % on \$4,800	7- $\frac{1}{4}$ % on \$5,800
1st qtr.	23.4%	23.0%	22.2%
2nd qtr.	34.0	33.9	32.9
3rd qtr.	24.9	25.2	25.2
4th qtr.	17.7	17.9	19.7
Entire year	100.0%	100.0%	100.0%

As would be anticipated, somewhat more than half of the receipts come in the first half

of the year--as a result of the effect of the earnings base (since employees contribute during the year only until their cumulative earnings reach the base). In fact, about a third of the annual receipts are in the second quarter; the first quarter is relatively low because it includes receipts for the last month of the previous year, when the effect of the earnings base was in the opposite direction. The figures on which this analysis is made include receipts in 1965 with respect to 1964 earnings--an item that is particularly important for the vast majority of the self-employed, who pay their taxes on 1964 employment in the early part of 1965 (by April 15). When the contribution rate is increased in a particular year, or when the earnings base is similarly increased, a slightly smaller proportion of the contribution receipts fall in the first half of the year (because of the lag involved, particularly for the self-employed), although the proportion is still well above 50%.

The situation is further analyzed by the following table, which shows the percentage increase in the contribution income over that under present law, for each of the changes considered:

Period in 1965	Percentage increase over present law	
	7- $\frac{3}{4}$ % on \$4,800	7- $\frac{1}{4}$ % on \$5,800
1st quarter	4.0%	0.9%
2nd quarter	5.5	2.7
3rd quarter	6.9	7.5
4th quarter	6.9	17.8
Entire year	5.8%	6.2%

As it so happens, the increase of $\frac{1}{2}\%$ in the contribution rate without changing the earnings base produces about the same percentage increase in contribution income over the course of the entire year as does the increase in the earnings base to \$5,800. However, the incidence within the several quarters of the year is considerably different. When the tax rate is increased, the percentage increase in the contribution income as compared with present law is about the same in all quarters (although slightly higher in the last two quarters). On the other hand, when the earnings base is increased, the rise in contribution income in the first quarter of the year is relatively small, but increases rapidly for each successive quarter (for the reason indicated previously, as to persons reaching the earnings base at different periods throughout the year).

Finally, the following table shows the proportion of the increase in contributions (resulting from the financing change) that occurs in each quarter of the year:

Period in 1965	Proportion of increase in contributions occurring in period	
	7- $\frac{3}{4}\%$ on \$4,800	7- $\frac{1}{4}\%$ on \$5,800
1st quarter	16.5%	3.6%
2nd quarter	32.6	14.9
3rd quarter	29.8	30.3
4th quarter	21.1	51.2
Entire year	100.0%	100.0%

As indicated previously, there is almost a 50-50 split of the additional contribution income between halves of the year when the tax rate is increased, but over 80% of the increase that occurs when the earnings base is raised falls in the second half of the year. The latter situation is, of course, to be expected, since with the present \$4,800 base, the vast majority of individuals contribute on all their earnings during the first half of the year (since they have earnings at a rate of less than \$9,600 per year), but throughout the second half of the year they tend to have their contributions cease much earlier than would be the case under a substantially increased earnings base.