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# INSTITUTE FOR RESEARCH ON POVERTY DISCUSSION PAPERS

## WHY CHANGING THE SIZE DISTRIBUTION OF INCOME THROUGH THE FISC IS NOW MORE DIFFICULT: HYPOTHESES FROM U.S. EXPERIENCE

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# Why Changing the Size Distribution of Income through the Fisc is Now More Difficult: Hypotheses from U.S. Experience

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September 1976

This paper was prepared for the International Public Finance Association Meetings, Edinburgh, September 1976. The research was supported in part by funds granted to the Institute for Research on Poverty at the University of Wisconsin-Madison by the Department of Health, Education, and Welfare pursuant to the Economic Opportunity Act of 1964. We wish to thank Sheldon Danziger and Robert Lampman for commenting on an earlier draft. The opinions expressed are those of the authors.

When the benefits of all government expenditures are added to the labor and capital incomes of U.S. households and the burden of taxes subtracted, the distributions of net income were about the same in 1970 as they were in 1950 [Reynolds and Smolensky, 1977]. There was no detectable trend in income inequality after all taxes and expenditures are assigned to households, although distributions of income which explicitly allocated government budgets to households were significantly closer to equality than distributions of factor or money income in both years (for example, the post-fisc Gini ratio was about 15 percent smaller than the concentration ratio for factor income). This presents something of a puzzle: In any year for which the calculation is made, government appears to reduce the magnitude of income differences because of modest progressivity in taxation and because a relatively large share of expenditure benefits are received by low-income households. But despite this annual pattern of distribution, rapid growth of government budgets relative to the private sector has not produced a more compact distribution of net income in the post-World War II era. The increase in the ratio of government spending to gross national product from 23 to 32 percent since 1950 has not reduced post-fisc inequality. Though evidence on U.S. income dispersion during the years pre-World War II is fragmentary, the information we have suggests that the record for the first half of this century must have been quite different.

The contrast leads to the reasonable conjecture that government budgets reduced post-fisc income inequality sometime before 1950 and that rapid government growth since 1950 has done little or nothing to

further diminish income differences. This conjecture suggests the primary question of this paper: has it become more difficult to alter the distribution of net income through government budgets? An indirect approach to our query is to examine the longer historical record for evidence of how government may have altered the overall distribution of post-fisc income through public budgets.

## 1. Pre-Fisc Income Distribution before 1950

There is something of a conventional wisdom about the years before World War II [Kuznets, 1953; Goldsmith, 1954; Kravis, 1962; Lindert and Williamson, 1976]. Kravis holds that a period of increasing income dispersion ended around 1890 followed by a phase of diminishing dispersion which lasted until about 1920. Lindert and Williamson, in contrast, believe that inequality increased between the 1820s and 1880, and increased further between 1890 and World War I. Kravis, Kuznets, and Lindert and Williamson all agree that inequality increased during the twenties but declined during the thirties. Subsequently, the U.S. is generally believed to have experienced something of an "income revolution" with dispersion in money income declining sharply during WWII and thereafter remaining stable. Evidence for this revolution derives first from Kuznets' study [1953] of the income shares of the upper-income groups of the population. His estimates, based upon tax returns which then covered only part of the total population, reveal a long swing but no trend in the shares of the top 1 and 5 percent from 1919 to 1938, but a sharp decline between 1938 and 1944. A second Kuznets series [Office of Business

Economics, (OBE)] shows a similar though dampened decline for the top income groups starting in 1929. The relative share of the top 5 percent of consumer units was estimated at 30 percent in 1929 and at less than 21 percent in 1944. Goldsmith [1957] argues that related statistical series covering this period tend to support Kuznets' description of the period since 1929. For example, labor's share of national income rose, wage differentials narrowed, farm and nonfarm mean incomes became more similar, and interstate income inequality declined. Smolensky [1963] shows that income inequality in Kuznets' size distribution as well as a series on interstate income inequality fell over time and that both trends were produced by the factors enumerated by Goldsmith.

Challenges to the conventional wisdom center on the quality of the data. Representations of income inequality depend critically upon the definitions of income, recipient unit, income period, and data accuracy, as well as the statistical methods used to summarize and interpret the data. All these factors have been cited when the World War II reduction in inequality has been questioned, but a key criticism has been that high income earners have adjusted to the high personal and corporate income taxes of the New Deal and the second war in ways that reduce their measured share but may not reflect any actual reduction. Tax avoidance and evasion devices include lower pay-out rates for corporate dividends (reducing personal income taxes for stockholders), the growth of expense accounts, spreading income over time in deferred compensation and executive retirement plans, conversion of personal income into capital gains by stock-purchase options for executives, and outright evasion by underreporting of income.[1] Of course, the incentive to avoid

and evade taxes always exists, but the incentive increases as tax rates increase, as they did markedly when pre-fisc income became more equal. Kolko [1962] has assembled supportive data, (although only imperfectly comparable) by income deciles for the half-century since 1910. Data for 1910-1937 are from the National Industrial Conference Board and for 1941-1959 from the Survey Research Center. Kolko concluded that the income share of the lowest 20 percent had fallen and that the relative gains had come in the second and third deciles from the top. Bronfenbrenner [1971, p. 70] computed concentration ratios for these data, fitted time trends, and found them not statistically significant.

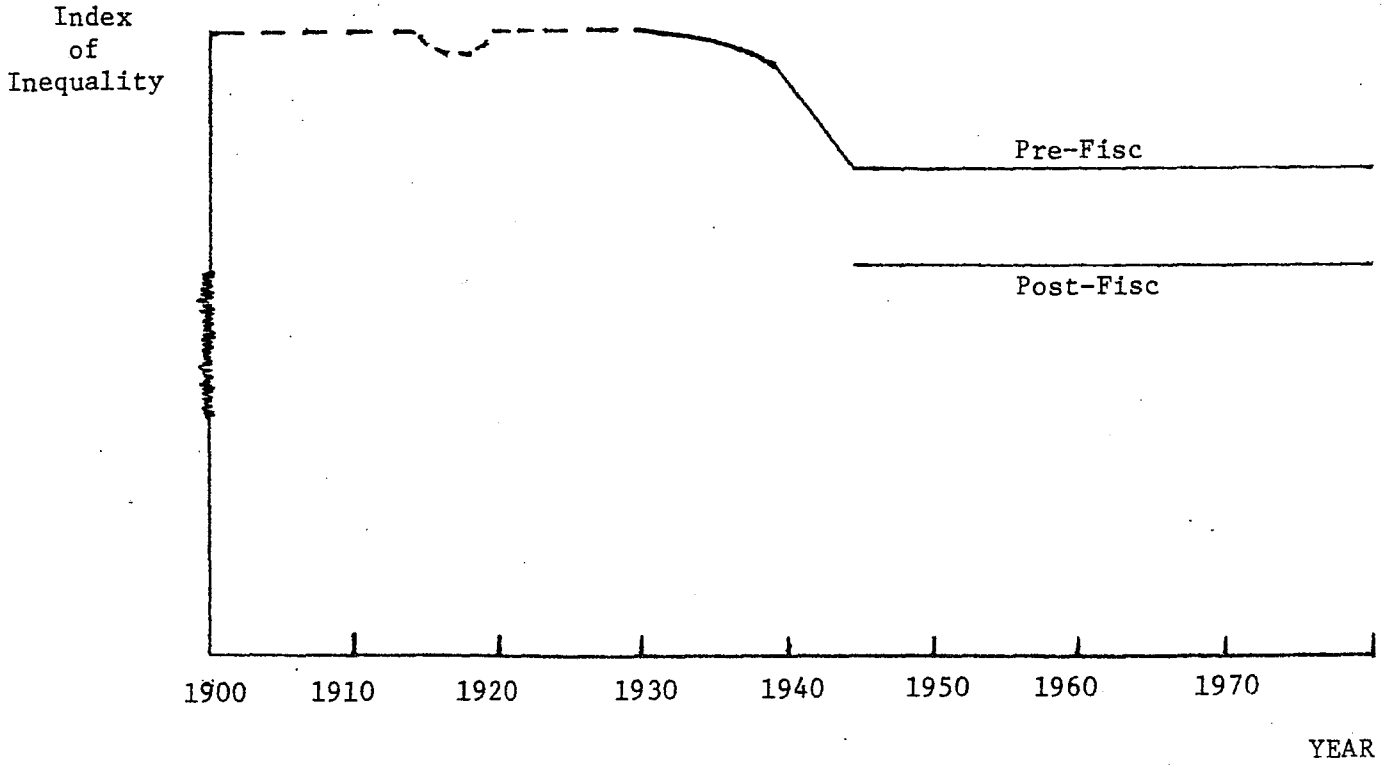
Another major source of dissatisfaction with the alleged reduction in income dispersion during World War II stems from the possibility that it was a cyclical phenomenon, at least in part, rather than a secular change. The greater dispersion during the Great Depression relative to World War II and subsequent years may merely reflect the imperfect data for the prior period. For example, the use of 1929 as the initial date for the OBE estimates may exaggerate the decrease in inequality. Kuznets' estimates showed that the income share of the top groups in 1929 was above average for the decade (26.1 percent in 1929 compared with 24.6 percent in the 1919-1928 period). Another strand of evidence suggesting the same possibility is the work of Kravis [1962] that shows income dispersion in 1901 and 1918 to be no higher than that for recent years but greater during the Great Depression. The most recent study by Lindert and Williamson [1976, p. 4], however, reaffirms

the earlier wisdom that the "revolutionary levelling was indeed as great as Kuznets' data first implied." They argue that the primary data sources underlying both the Kolko and Kravis estimates prior to 1920 were either devoid of documentation or unrepresentative because the surveys covered only a narrow part of the income distribution. Fragmentary data based upon pay ratios, ownership of nonhuman wealth, and factor shares lead Lindert and Williamson to argue that income dispersion was at historic highs from 1900 to 1929, with a brief movement toward equality during WWI. In the years since the Second World War, for which there is better data, income inequality has varied with the business cycle [Metcalf, 1972] but has never moved far from the levels that prevailed at the end of World War II.

This leaves us with somewhat inconsistent stories about pre-fisc inequality, especially before 1930, but Figure 1 plots a time trend which is perhaps nearest to the conventional wisdom. It depicts a long-run decline in pre-fisc dispersion but with the secular decline concentrated in the late 1930s and early 1940s. The path shows a high plateau of inequality from 1900 to 1929 (temporarily reduced during World War I), a modest decline during the 1930s, a precipitous decline during the War, and a stationary trend thereafter. The broken line for the pre-1929 period indicates the less reliable data for the period, although the entire path is meant to be nothing more than a stylized rendition of the alleged trend since 1900. We can at least safely claim that no scholars have argued that pre World War II inequality was any lower than today, and some have argued that income inequality was significantly greater before 1929.

FIGURE 1

A Popular History of the Degree of Income Inequality in the U.S. 1900 to Present



## 2. The Post-Fisc Income Distribution

How should post-fisc inequality before 1950 be shown? Post-fisc inequality has been trendless since 1950 at roughly 85 percent of pre-fisc inequality (also charted in Figure 1). We do not have the requisite data to be sure about the earlier period, but we can make an educated guess. The degree of post-fisc inequality depends upon four ingredients: the distribution of pre-fisc income, the relative size of government, the distribution of expenditure benefits, and the distribution of tax burdens. The latter two factors depend upon the composition of expenditures and taxes over time, as well as changes in the incidence pattern for each component. We have described what we know about the pre-fisc distribution; we now consider the impact of government budgets upon the distribution of net income.

A brief review of the record on receipts and expenditures at all levels of government during the first half of this century appears in the Appendix. It suggests three major hypotheses and two deriviative ones to explain the substantial widening of the pre- and post-fisc wedge that occurred sometime before 1950:

1. The near doubling in the rates of government spending to GNP during the 1920s to 11 - 12 percent, especially the growth in education spending at the state and local level.[2]

2. The jump in the ratio of government spending to GNP during the 1930s to 20 percent, especially the growth of transfer spending for agriculture, welfare and other relief.

3. Federal income taxes established as a major tax during WWI and their dramatic expansion during WWII.

The same factors--the share of government, the role of educational expenditures, support to agriculture, the income maintenance system and

the federal income taxes--were largely responsible for the difference between pre- and post-fisc income as it existed in 1950. Table 1 disaggregates the differences between pre- and post-fisc Gini ratios in 1950 and 1970 [Reynolds and Smolensky, 1977]. It shows that the size of general government and the federal income tax were very large sources of the difference in 1950, and that income maintenance (other than Social Security), expenditures on agriculture, and veteran's benefits followed in importance. Social Security payments emerged as important but had not yet come to dominate transfer programs. The role of education is surprisingly unimportant.

The fiscal sources of the large difference in both 1950 and 1970 between pre- and post-fisc Gini ratios changed dramatically between the two years. The net effect of all taxes in reducing inequality had eroded to such an extent that the tax system was slightly regressive by 1970--that is, the distribution of income after taxes had a higher Gini ratio than the distribution of factor income before taxes. Each tax became less progressive (or more regressive) during the period, although the small changes for most of the individual taxes would not pass reasonable tests for statistical significance. The only really sizable decline was the downward trend in the effective progressivity of the personal income tax. About 60 percent of the redistributive effectiveness of the federal personal income taxes had vanished by 1970.

The large change in the distributive effect of taxes was offset by an equally large increase in the redistributive effects of expenditures. Education grew more important; but the really dramatic change was in the

Table 1

Difference Between Pre- and Post-Fisc Gini Ratios, By Source of Difference, 1950 and 1970

| (percent) | 1950 | 1970 |
|---|---|---|
| 1. General expenditures (e.g., public safety, justice, etc.) | 27 | 34 |
| 2. Taxes | 14 | -7[a] |
| a. Personal income | 20 | 7 |
| b. Social security | -5[a] | -6[a] |
| c. Corporation income | 5 | 2 |
| d. Property tax | -4[a] | -7[a] |
| e. Other[b] | -5[a] | -4[a] |
| 3. Transfer payments | 34 | 50 |
| a. Social security | 11 | 32 |
| b. Other[c] | 22 | 19 |
| 4. Other specific expenditures | 22 | 24 |
| a. Federal[d] | 18 | 8 |
| b. State and Local[e] | 3 | 16 |
| | 100% | 100% |

Source: Computed from Reynolds and Smolensky [1977], Ch. 6, Table 6.3. Totals do not necessarily add to 100 percent due to rounding.

[a]Negative sign indicates that the term adds to post-fisc relative to pre-fisc inequality.

[b]Sales, excises and custom, estate and gift.

[c]Public assistance, other welfare, unemployment compensation and other transfers.

[d]Veteran's benefits; net interest paid; agriculture; higher education; elementary, secondary and other education; highways; labor and housing; and community development.

[e]Same as d, except for Housing and Community Development.

role of Social Security payments, which more than tripled during the two decades. Hence, two items calling for closer study to explain post-war stability in the overall figures are the growth of Social Security payments and the erosion of progressivity in the personal income tax.

Social Security, of course, cannot account for the wedge between pre- and post-fisc distributions before 1950 because payments were only one-quarter of 1 percent of GNP as late as 1950. This ratio rose to 4.2 percent by 1970 and to 5.0 percent by 1974. In more vivid terms, social insurance and veterans' payments went from 3 percent of personal income in 1950 to more than 9 percent in 1973.[3] In 1939, 56 percent of the labor force was covered by Old Age and Survivors' Insurance (OASI), 65 percent in 1950, and 92 percent in 1973.[4] There were 113 thousand beneficiaries in 1940, 3 million in 1950, and 22 million in 1973.[5] The ratio of annual benefits for retired workers (excluding dependent's benefits) to per capita disposable income has varied without any trend around a mean level of 0.41. Hence, the explosion in expenditures has been largely a consequence of the expansion in the number of eligibles. That Social Security payment did more to reduce post-fisc inequality in 1970 than in 1950 was due to the tremendous growth in expenditures (a nonnegligible proportion went into medical insurance, which is not income conditional): payments were more concentrated on low income recipients when the program was on a smaller scale. For example, the lowest 14 percent of households received 62 percent of the benefits in 1950 but the lowest 18 percent of all households received only 30 percent of the payments in 1970 [Reynolds and Smolensky, 1977, ch. 6]. In fact, if total payments had not increased

dramatically over these two decades, the program would have contributed far less to the arithmetic reduction in post-fisc inequality than in 1950. It appears that as Social Security broadened its enrollment, its distribution of payments also moved closer toward distributional neutrality. To a considerable extent, of course, this results from the aged having more property and private pension income in 1970. (Given that the U.S. Treaury estimated the Social Security system had a $2 trillion actuarial deficit in 1972 and the Wall Street Journal guessed it to be $4 trillion in 1976, a major restructuring of the system is now inevitable. But we doubt that the revised system will be more redistributive toward low incomes than it is currently).

Federal income taxes on both individuals and corporations have enjoyed a longer history than the Social Security system, which makes them candidates to explain the sizable gap established between pre- and post-fisc inequality prior to 1950. The 1913 Act that initiated the modern federal income tax was expected to apply to only 1 percent of the population and the actual number was smaller. For almost thirty years after its adoption the tax applied mainly to a small group of high-income people [Goode, 1964, p. 4]. Exemptions were very large by current standards and relatively few incomes were large enough to be subject to the lowest tax rate, much less the higher graduated rates. The tax rates and the income intervals to which they applied have changed often over the years, but they have always been quite progressive in statutory terms.[6] The first bracket rates were always 4 percent or less prior to 1940. During World War II and most postwar

years up to 1964, rates ranged from 20 percent or more in the first bracket to a maximum of more than 90 percent. In contrast, rates now begin at 14 percent after a substantial exemption and rise to a top of 50 percent on labor earnings and 70 percent on capital income.

The effect of personal income taxes upon post-fisc inequality depends upon two factors: effective progressivity and the amount of taxes collected relative to income. The historical record suggests that the progressivity of the personal income tax has simply withered with age. For all practical purposes, when the tax was more progressive, it was not so much because of its graduated rate structure, as because of the personal exemptions and deductions that excluded low-income people from the tax. Certainly this was true up to World War II when the tax was less than 1 percent of GNP and was largely confined to the top 10 percent of the income distribution. (Even if the tax were only proportional in real terms, this would represent a reduction in post-fisc inequality, ceteris paribus.) Goode [1976: 217-218] reported recently that, ". . . rate graduation accounts for little more than one-fourth of the difference between the income payable for a four person family at the top of the bottom fifth of family income and that payable at the lower limit of the highest fifth." The declining real value of exemptions means that they have contributed less to progressivity as incomes rose over time. Reynolds and Smolensky [1977] found that the Lorenz curve for personal taxes had moved toward the line of equality between 1950 and 1970, and that declines in the associated concentration ratios were accounted for by the shift of relative taxes

from the upper end toward the middle of the distribution. All this despite recognition of the problem, which resulted in such changes as establishing a minimum standard deduction in 1965. Personal income taxes still remain progressive, however.

### 3. Sources of the pre-1950 and post-1950 Wedge Between Pre- and Post-Fisc Inequality

Although this story brings us somewhat closer to discovering the source of the wedge between pre- and post-fisc inequality before 1950, we can do better if we are willing to make some empirical assumptions about the incidence of pre-World War II government budgets. Three major hypotheses have been suggested: government growth in the 1920s, government growth in the 1930s, and imposition and expansion of the federal income tax. Assume that in each of three years (1913, 1927, and 1940) the bottom 20 percent of households received 4 percent of pre-fisc income (GNP) while the top 20 percent received 45 percent. Further, assume that the entire tax burden was proportional to income, that the bottom quintile received 15 percent of benefits, and that the top quintile received 30 percent of the expenditure benefits. These incidence assumptions are similar to what Reynolds and Smolensky [1977] found in 1950 and 1970.

Under these conditions, the bottom quintile would have had 4.8 percent of post-fisc income in 1913 and the expansion of government by 1927 would have only increased their share to 5.2 percent. By 1940, however, under the assumed incidence pattern, their share would have increased to 6.1 percent, considerably higher than the pre-fisc 4 percent and quite close to the 6.4 percent estimated for 1950. This suggests that the relative expansion of government spending during the 1920s was not sufficient to create a much larger pre-post wedge than previously but that the expansion

in the 1930s might have been large enough. The top quintile on the other hand, suffers relatively modest reductions in its share from a pre-fisc 45.0 percent--to a post-fisc share of 43.9 percent in 1913 and 43.3 percent in 1927, and a further fall to 42.2 in 1940.

Altering the assumed incidence pattern for taxes gives us some feel for the distributive importance of the personal income tax. Suppose the entire burden of personal income taxes were borne by the top quintile while all other taxes were proportional to income, and expenditure incidence was unchanged from our previous assumption. The result is that assignment of all personal income taxes to the top quintile (further lowering its post-fisc share to 41.6 percent) makes a small though noticeable reduction in the share of the top quintile in 1940, but has virtually no effect upon the share of the bottom quintile.

Although the definitive history is yet to be written, our best guess is that the trend in pre-fisc inequality was more or less stationary between 1900 and 1929 and between 1950 and 1970, but with a one-time decline in pre-fisc inequality between 1929 and the Korean War. The trend in post-fisc inequality seems to have followed pre-fisc inequality. Around the turn of the century the wedge must have been quite small, less than 7 percent, and the difference between pre- and post-fisc inequality probably widened a bit in the twenties, enlarged in the thirties, and increased by negligible amounts during each decade since World War II.[7] The expansion in the wedge since 1950 is certainly well within the range of measurement error. The wedge widened during the twenties, thirties, and perhaps the early forties because nearly all relevant factors

operated in the same direction: government grew relative to GNP the more progressive federal taxes grew relative to the regressive state and local taxes (although as one offset sales and excise taxes grew very rapidly), relevant taxes probably became more progressive and pro-poor expenditures grew relative to pro-rich expenditures. The wedge has been stable since 1950 because changes in these factors were not quite so indirectional. In particular, erosion by growth and inflation of the progressivity of the tax system was offset, in an accounting sense, by massive increases in transfer spending.

Why? Why was the relative growth of government associated with a significant reduction in post-fisc inequality up to World War II but not since? Producing a convincing explanation is more demanding than uncovering facts, but we can at least speculate about the factors which could have produced the observed pattern. First, we look at the more technical, then at the more political factors.

Diminishing distributive returns may be inherent in existing government programs. For example, the Social Security system and the personal income tax suggest that programs which significantly altered income inequality early in their history tend toward distributional neutrality over time. Maintaining the initial effect seems to require either ever increased spending on existing programs, or their drastic alteration, or entirely new subprograms. This pattern, if accurately portrayed, is analogous to one documented for the regulated industries--where initial monoploy gains to producers tend to be dissipated as other pressure groups are lobbying for equal favor [Hilton, 1972].

It is the very scale of government programs which today militates against augmenting their capacity to sharply redistribute net income downward. When government was relatively small early in the twentieth century, modest spending programs could be pro-poor without sharply increasing the number of people who would choose poverty as we measure it, and taxes could be antirich (a low yield personal income tax) without drastic unwanted side effects. Under the mass taxation and spending of today, however, even program changes with small extra benefits per recipient imply large aggregate benefits to recipients and large individual costs to nonrecipients. Even if government initially targeted additional benefits and costs efficiently, that efficiency would be hard to sustain with such large sums at stake.

The passage of time has permitted people to alter the pre-fisc distribution of income in response to the incentives of old programs. An obvious instance is withdrawal of the aged from the labor force and their corresponding lower share of wage income in response to Social Security benefits.[8] Increasingly, household heads in the bottom quintile are out of the labor force and, increasingly, households consist of dissolved units that could not have separated in earlier years when incomes were lower and transfer programs smaller. These adjustments sharply reduce the measured effect of spending programs upon post-fisc inequality by increasing pre-fisc inequality. Increases in pre-fisc inequality offset program effects, at least in the aggregate, because the post-fisc distribution contains the pre-fisc within it.

Similar adjustments appear to have gradually blunted the progressivity of the tax system. Stigler [1970] has argued that in the nineteenth century there were relatively few tax bases or expenditure activities

closely related to income, but that in the twentieth century it became more feasible to align tax burdens and spending benefits more closely to special groups, especially income groups. This flexibility encouraged the growth of government and its income redistribution activities. Redistribution through the tax system appears to have peaked, however. One reason may be that in maximizing the present value gains of a perpetual stream of redistributions account must be taken of the avoidance behavior which will inevitably follow. There are many such adjustments, which have thwarted dramatic progressivity in the tax system. One example is the growth of fringe benefits from 1 percent of employee compensation in 1929 to 10 percent in 1969 [Rees, 1973, p. 205].

Finally, income redistribution by government is a form of coercion best exercised by the central government. Since people can vote with their feet by crossing state and local boundaries, redistributive power at the local level is rather limited. Unlike the 1930s and 1940s, since 1950 state and local have grown relatively more rapidly than federal taxes. (Expenditures grew even more rapidly as the federal government took on greater responsibility for financing state and local spending.)

## 4. Conclusion

Politics, not economics, determines how much income government will attempt to redistribute.[9] It seems safe to say, however, most of the redistribution by government in the U.S. occurs by indirection rather than conscious design. Certainly public controversy and government behavior have not generally turned on whether income inequality would widen or narrow. In a credible bid for a place in Bartlett's,

Lampman [1973, p. 88] has written, "No political party has adopted a slogan of 'A .300 Gini ratio or fight'." Despite current scholarly fascination with more redistribution for its own sake, political opposition to more redistribution is now, as great or greater than ever [Bronfrenbrenner, 1975].

Has resistance by the median voter to explicit redistribution by government been uniformly high, or has it wavered with economic conditions? Probably the latter, especially during the thirties when the bewilderment generated by depression overwhelmed hostility to government activism (though much evidence indicates antagonism has generally been high). Lebergott [1975, pp. 56-60] has calculated, for example, that the income guaranteed to public assistance recipients has been between 25 and 30 percent of the earnings of common labor since 1850. Total public assistance cash payments have been 1 percent of personal income for the last twenty-five years. Most government benefits depend not upon income, but upon such categorical characteristics as being in poor health, or a farmer, or a veteran, or an automobile driver, or a college student, or being over age 65. As a consequence, most redistribution is back and forth within the middle income-groups [Tullock, 1971].

Evidence can also be drawn from the appeals made by the proponents of redistribution. They have found it expedient to "deny that they are concerned with redistribution" and to cloak their aims with "an array of apparently politically useful rationales such as 'fairness in taxation,' relief for those 'unable' to work, replacement of income lost without fault, sharing the cost of extraordinary expense, and helping people get a minimum of 'essentials' in order to insure 'equality of opportunity'." [Lampman, 1974, p. 73.][10]

At first it seems surprising that explicit income redistribution makes for bad politics. In a deomcratic state with income maximizing voters and competitive politicians, the bottom 51 percent of the income distribution is a winning coalition because it can gain a larger amount of receipts than any other coalition of 51 percent. But the "Robin Hood" tendency is restrained by a number of factors. For example, the rich may be able to thwart massive redistribution by bribing some, especially the poorest, out of the majority coalition--in any event, low income people have low voter participation rates. Other examples include (1) individual mobility within the distrubution is high, (2) people are divided along many lines besides income and wealth, (3) they share a distrust of government and the restrictions massive redistribution requires, and (4) rapid growth deflects attention from shares. This litany is hardly novel; what is new is the seriousness with which it has been lately cited by some liberal democratic economists. Okun [1975] has emphasized that adverse efficiency effects deter acceptance of more redistributive policies in an argument aptly relabelled the "leaky Okun bucket" by Bronfenbrenner [1976]. Okun specifically cites administrative costs, tax avoidance (including reduced work effort), reduced investment, and socioeconomic effects like weakening the drive to achieve in the marketplace.

One reason for liberal revisionism is the aura of failure that surrounds the "Great Society" policies of the sixties. Perhaps by coincidence, but perhaps not, the War on Poverty and Program, Planning, and Budgeting arrived in Washington at the same time. New programs were subjected to numerous evaluations via benefit-costs analysis, a fate older

programs escaped. Lampman [1974] argues that the War on Poverty failed its benefit-cost tests because it was judged by an escalating standard--not only did the incomes of the poor have to rise to count programs as successful; they had to rise faster than median income. This is not to claim that the programs would not have proved disappointing to the public anyway, only that benefit-cost studies did little to promote an image of success. At the moment, liberal economists seem to be reduced to caustic calls for new ideas [Rivlin, 1975].

It strikes us that redistribution for its own sake has been unpopular throughout U.S. history and there is every reason to believe that it will continue to be unpopular.[11] The fundamental reason is that the median voter in the U.S. is philosophically near to Nozick [1974] than to Rawls [1971]. That is, Americans are more likely to judge the rules of the game, by a priori notions about the fairness of the institutional structure in which incomes are produced rather than by such numerical measures of the outcomes of the play of the game as statistical indexes of income differences. Tobin [1970] emphasizes the same point:

> "Our society,..., accepts and approves a large measure of inequality, even of inherited inequality. Americans commonly perceive differences of wealth and income as earned and regard the differential earnings of effort, skill, foresight, and enterprise as deserved. Even the prizes of sheer luck cause very little resentment. People are much more concerned with the legitimacy, legality, and fairness of large gains than with their sheer size."

Our analysis has emboldened us to conclude with a forecast for the next decade or two of the future of the wedge established by government taxing and spending.[12] Advocates of explicit redistribution will continue to encounter implacable opposition from the median voter.

This will limit further redistribution to additional spending on existing programs or on new programs that are not explicitly redistributive but do promise equal access to certain services, such as health care. Government spending may rise relative to GNP as a consequence which ceteris paribus reduces post-fisc inequality, but significant reductions in post-fisc inequality are not likely to follow. Although we do not imagine that the tax system will drift toward further regressivity, the tendency of expenditure programs to move toward distributional neutrality as they age and grow in scale makes it easier to envision a modest narrowing in the pre- and post-fisc wedge rather than a widening. We foresee little to offset the lack of voter enthusiasm for further reductions in post-fisc inequality. Even if voter opinion were to change, and we know of no reason why this should happen, formidable technical obstacles would remain.[13]

# APPENDIX

Table A-1 traces the overall growth of spending relative to GNP at each level of government by major category, for selected years from 1902 to 1950. Government was relatively small before WWI, spending only 6 or 7 percent of GNP. After the burst of spending during WWI, expenditures slid back but only as far as 11 or 12 percent of GNP. State and local governments continued to outspend the federal government by a factor of two.

The pattern of federal spending changed little between 1902 and 1927. National defense and other general spending remained less than 1 percent of GNP and most of the spending gains involved interest payments, agriculture, transportation, and hospitals. Major expansions in state and local spending were for education and highways, each of whose share of GNP more than doubled, with smaller increases for hospitals, police, and sanitation.

The dramatic changes in the relationship between government and the economy brought about by the depression are partly reflected in Table A-1. Total government spending expanded sharply, to about 20 percent of GNP, although the initial expansion occurred largely because government spending did not fall between 1927 and 1932 (indeed, dollar spending increased by 12 percent) but GNP fell by 40 percent. The federal government grew more rapidly than state and local government; both levels stood at about 10 percent of GNP during the depression years. The federal government started many new programs during the 1930s, but most were not large enough to have a substantial effect upon the distribution of post-fisc income. For

Table A-1

Government Expenditures As A Percent of GNP, Selected Years, 1902-1950

| | | 1902 | 1913 | 1922 | 1927 | 1932 | 1936 | 1940 | 1946 | 1950 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. | Total Exp as Percent GNP | 6.52 | 7.52 | 12.08 | 11.14 | 20.38 | 19.41 | 10.85 | 37.00 | 23.75 |
| 2. | Federal Direct Exp. | 2.33 | 2.38 | 4.93 | 3.54 | 6.90 | 9.98 | 9.12 | 31.15 | 14.91 |
| 3. | Natl Def. | .68 | .62 | 1.18 | .64 | 1.23 | 1.13 | 1.58 | 23.95 | 6.45 |
| 4. | Other General Exp | .26 | .25 | .38 | .22 | .68 | .93 | 1.07 | .67 | .48 |
| 5. | OASI | - | - | - | - | - | - | .02 | .15 | .26 |
| 6. | Veterans | .58 | .44 | .58 | .62 | 1.63 | 2.08 | .57 | 1.36 | 2.07 |
| 7. | Interest | .12 | .06 | 1.34 | .79 | .99 | .87 | .89 | 1.84 | 1.55 |
| 8. | Agric & Nat. Res. | .03 | .07 | .11 | .12 | .28 | 2.38 | 2.50 | 1.33 | 1.52 |
| 9. | Educ. | .01 | .01 | .01 | .01 | .02 | .23 | .19 | .17 | .87 |
| 10. | Highways & Other Transportation | .09 | .22 | .42 | .28 | .38 | .96 | .98 | .57 | .26 |
| 11. | Public Welfare and Unempl Comp. | .02 | .01 | .01 | .01 | - | .21 | .17 | .02 | .05 |
| 12. | RR & Fed. Employee Retirement | - | - | .01 | .01 | .05 | .05 | .18 | .20 | .20 |
| 13. | Health, Hosp., Police, Housing | .01 | .02 | .15 | .10 | .27 | .26 | .18 | .24 | .41 |
| 14. | Postal | .52 | .67 | .75 | .74. | 1.36 | .91 | .80 | .66 | .80 |
| 15. | State and Local Expenditures | 4.19 | 5.14 | 7.15 | 7.60 | 13.48 | 9.43 | 9.86 | 5.85 | 8.84 |
| 16. | Gen. Exp. | .99 | 1.06 | 1.05 | 1.08 | 1.72 | 1.20 | 1.18 | .77 | 1.10 |
| 17. | Public Welfare & Unempl. Comp | .15 | .13 | .16 | .16 | .76 | 1.00 | 1.64 | 1.13 | 1.68 |
| 18. | Employee Retire & Other Trust Fund | - | .02 | .10 | .11 | .21 | .19 | .19 | .16 | .19 |
| 19. | Interest | .28 | .36 | .52 | .61 | 1.27 | .89 | .65 | .20 | .16 |
| 20. | Nat. Res, Parks | .16 | .18 | .20 | .26 | .53 | .36 | .38 | .23 | .34 |
| 21. | Educ. | 1.00 | 1.31 | 2.11 | 2.12 | 3.55 | 2.35 | 2.33 | 1.40 | 2.13 |
| 22. | Higher Educ. | .05 | .12 | .19 | .20 | .40 | .28 | .29 | .19 | .39 |
| 23. | Highways | .72 | 1.04 | 1.75 | 1.88 | 2.98 | 1.72 | 1.56 | 79 | 1.34 |
| 24. | Hosp., Health, Police, Fire, Sanitation, Housing | .83 | .92 | 1.07 | 1.18 | 2.06 | 1.44 | 1.64 | .98 | 1.51 |

Source: Calculated from Historical Statistics of the United States: Colonial Times to 1957, U.S. Bureau of the Census, pp. 139, 725, 727.

example, Social Security expenditures ($16 million in 1940) were far too small to affect the distribution of current income. Major expansions in federal spending occurred in defense and other general expenditures, which went from less than 1 percent of GNP in 1927 to over 2.5 percent in 1940; the role of agricultural support programs, reflected in "natural resources and agriculture", exploded, from about 0.1 to 2.5 percent of GNP in 1940; spending also increased substantially for highways, education, and public welfare.

State and local spending did not expand as sharply as federal spending between 1927 and 1940, but growth was heavily concentrated in two activities with potentially important distributive implication: public welfare and unemployment compensation which accounted for $1.7 billion of the $2.6 billion increase in state-local spending between 1927 and 1940.

World War II, of course, brought record levels of defense spending and by 1950 federal spending had risen to 15 percent of GNP, another sizable leap from the 10 percent of the 1930s. Most of the increase, however, was due to the additional 5 percent of GNP consumed by defense spending, plus education and large, temporary increases in the relative importance of veterans' benefits. Social Security outlays were still well under $1 billion but their distributive impact was already substantial. There were no dramatic changes in the pattern of state and local spending between 1940 and 1950, and their share of GNP decreased slightly.

What do these expenditure patterns imply for the distribution of post-fisc income? One inference that can be drawn with reasonable

confidence is that the composition of federal spending did relatively little to reduce post-fisc inequality compared to pre-fisc inequality before the 1930s. A number of factors in Table A-1 support this assertion. Not only was federal spending relatively limited, it also appears to have been limited to spending on collective consumption goods (loosely speaking). Virtually none of the federal spending could have been labelled "pro-poor," redistributive, or plausibly advertised as sure-fire schemes to reduce relative income differences. They seem rather to have been made for efficiency reasons (loosely speaking again).

Since state and local government spending was considerably larger than federal spending, the potential for redistribution was also larger, ceteris paribus, but the pattern of spending was not markedly pro-poor.[1] Transfer spending, for example, was trivial by contemporary standards. The only spending that might have been concentrated on the poor was public welfare and this was only one-sixth of 1 percent of GNP for all levels of government from 1902 to 1927.[2] The only component of government spending that grew substantially from 1902 to 1927 and probably benefitted the lower-income families disproportionately was elementary and secondary education. Given this pattern of government expenditures prior to the Great Depression, it seems highly unlikely that government expenditures were more redistributive then than now (i.e., 1950 to the present). Since post-fisc Gini ratios were about 15 percent lower than pre-fisc Gini ratios from 1950 to 1970, and governments were a considerably smaller fraction of GNP up to 1930, certainly less than one-half as large, the post-fisc Gini ratio could not have been more than 7 percent below the

pre-fisc Gini ratio. Before this assessment can be accepted, however, we must also look at the distributive pattern of taxes during the first part of the century.

Table A-2 shows tax receipts for all levels of government as a percent of GNP for selected years from 1902 to 1950. Before the First World War the federal government relied primarily upon excises and customs taxes, supplemented by miscellaneous receipts like those from the sale of public lands. During the First World War and the 1920s however, income taxes for both individuals and corporations became very important, with each collecting about 1 percent or more of GNP and about one-half of federal taxes. With excise and customs taxes declining relative to income taxes, the federal tax structure probably became more progressive during the 1920s. Neither income tax rose as a fraction of GNP during the 1930s, but during WWII the personal income tax became a mass tax and corporate income tax rates were sharply raised. Receipts from the two income taxes jumped from about $1 billion each in 1940 to almost $20 billion for the personal income tax in 1944 and to almost $15 billion for the corporate income tax that same year. After WWII the two income taxes continued to account for about two-thirds of federal tax receipts. During the 1930s major growth in federal taxes was concentrated in excises and to a lesser extent, estate and gift taxes. Both retained their prominence during the 1940s. The payroll tax for Social Security had become sizable by 1940, although it continued to collect a sum less than 1 percent of GNP through 1950.

Changes in the composition of state and local taxes were somewhat less dramatic. Prior to the Great Depression, two-thirds of state and local

TABLE A-2

Government Tax Receipts As A Percent of GNP, Selected Years, 1902-1950

| | 1902 | 1913 | 1922 | 1927 | 1932 | 1936 | 1940 | 1946 | 1950 |
|---|---|---|---|---|---|---|---|---|---|
| All Tax Receipts as percent GNP | 6.62 | 6.80 | 12.39 | 12.30 | 16.51 | 15.15 | 16.56 | 28.18 | 22.65 |
| Federal Receipts | 2.32 | 1.80 | 5.55 | 4.28 | 3.43 | 4.98 | 5.86 | 21.00 | 14.52 |
| Personal Income Tax | - | .07 | 1.16 | .95 | .73 | .81 | .98 | 8.88 | 6.03 |
| Estate and Gift | .02 | - | .19 | .10 | .08 | .46 | .36 | .32 | .25 |
| Corporate Income | - | .11 | 1.06 | 1.36 | 1.08 | .91 | 1.14 | 5.96 | 3.81 |
| Excise | 1.10 | .68 | 1.93 | .57 | .78 | 2.06 | 1.97 | 3.34 | 2.67 |
| Customs | 1.05 | .79 | .48 | .63 | .56 | .47 | .35 | .21 | .15 |
| Payroll | - | - | - | - | - | - | .83 | .81 | .93 |
| Other | .15 | .15 | .73 | .68 | .20 | .26 | .24 | 1.66 | .51 |
| State and Local Receipts | 4.30 | 5.01 | 6.84 | 8.02 | 13.09 | 10.17 | 10.74 | 7.18 | 8.14 |
| Personal Income Tax | - | - | .06 | .07 | .13 | .19 | .22 | .20 | .28 |
| Corporate Income | - | - | .08 | .10 | .14 | .14 | .16 | .21 | .21 |
| Sales and Excise | .12 | .14 | .21 | .49 | 1.29 | 1.79 | 1.97 | 1.42 | 1.81 |
| Property | 2.92 | 3.31 | 4.49 | 4.91 | 7.67 | 4.95 | 4.40 | 2.37 | 2.58 |
| Miscellaneious licenses, trust funds, Utility charges, other taxes | 1.27 | 1.56 | 2.01 | 2.45 | 4.04 | 3.11 | 3.99 | 2.98 | 3.26 |

SOURCE: Calculated from Historical Statistics of the United States: Colonial Times to 1957, U.S. Bureau of the Census, pp. 139, 712-713, 727-729.

receipts came from property taxes and the remainder from miscellaneous fees, excises, and user charges. This pattern did not change much through 1950. Income taxes gradually increased but remained a relatively minor source of revenue through 1950. Property taxes gradually fell in relative importance and general sales taxes gradually grew more important. What does this tax history imply for the distribution of post-fisc income? Certainly state and local taxes were no more progressively distributed before 1950 than after. It is highly doubtful that the sales and excise taxes, property taxes, and miscellaneous fees and other taxes were any more progressive in the first half century. The only serious objection to this interpretation is that, contrary to widespread belief, the property tax may be a progressive tax, if so, its much larger role in financing local governments prior to WWII would mean that local government finance fell disproportionately upon the rich in the first part of this century.[3]

If we concentrate on conventional taxes and (ignore those like conscription and inflation) the major changes up to the 1950s were the expansion of federal taxes relative to state and local taxes during the 1930s and 1940s and the major expansion of income taxes during World War I and the early 1920s, their continuation during the 1920s and 1930s, and their huge jump during Wold War II. The growth of income taxes during both wars emerge, then, as the only serious source of a wedge between pre- and post-fisc inequality on the tax side of the budget.

## APPENDIX NOTES

[1]To illustrate how little this could reduce post-fisc inequality, suppose that the lower quintile of income recipients received 4 percent of a broad income base like GNP. In 1902, GNP was $24.2 billion and 5 percent of this total is $968 million. If all public welfare spending ($41 million) went to the bottom quintile, their share of final income would have risen to 4.17 percent.

[2]Social Security Bulletin, Annual Statistical Supplement, 1973, p. 37, Table 4. By contrast to OASI, public assistance payments were 1 percent of personal income in both 1950 and 1973.

[3]For development of this argument see Aaron et al., 1974, pp. 212-235.

## NOTES

[1]Burgess [1963] found that the top three executives in each of the 25 largest manufacturing corporations partly avoided the income tax by obtaining a greater part of their compensation in the form of stock options and deferred compensation and pension but did not get nearly as large a percentage increase in before-tax or after-tax pay as the average employee in manufacturing from 1929 and 1958. If this were generally true, we might conclude that changes in the forms of compensation have not destroyed the reliability of statistics showing declines in the share of income earned by high income groups. But there is not enough information to decide. For example, in the distributions of wage and salary income among full-time males in 1959, only about half of the top 2 percent of earners were managers, proprietors, and officials [Rees, 1973, p. 201].

[2]This begs the question of whether local governments have any long run power to redistribute income [Stigler, 1965, pp. 167-176].

[3]Social Security Bulletin, Annual Statistical Supplement, 1973, p. 37.

[4]Ibid., p. 43.

[5]Loc. cit.

[6]Pechman, [1966, Table A-1, p. 243] provides a convenient history of tax schedules.

[7]Indirect evidence that the narrowing of the wedge proceeds World War II comes from Adler [1951]. From Adler's data internally consistent

pre- and post-fisc Gini coefficients can be calculated for 1938-1939 and 1946-1947. The increase in the wedge is about the same as between 1950 and 1961.

[8]As Lebergott [1975, p. 15] put it, "...But suppose Barry Goldwater had succeeded in abolishing Social Security. Many older people would still be at work instead of in retirement. Given their years of seniority and skill, they would almost certainly be earning incomes above the poverty level. Hence, because social security induced them to stop working, and live on a lower money income, it induced them to join--indeed, to lead--the ranks of 'those who have remained impoverished.' But they are not impoverished 'in spite of' the American capitalist 'welfare state.' They are in poverty because of it."

[9]This section is written in terms of redistribution rather than the wedge since it seems more natural, but the wedge is a poor measure of redistribution [Behrens and Smolensky, 1973].

[10]Friedman [1972, p. 1401] cites one form of this deception in a social security booklet where "the impression is given that a worker's 'benefits' are financed by his own 'contributions'. The fact is that currently collected taxes are being used to pay current benefits."

[11]In a rather refreshing moment of candor from the left, Christopher Jencks [1972, p. 263] moans that "the crucial problem today is that relatively few people view income inequality as a serious problem."

[12]Fortunately, little courage is demanded for such predictions since they are sufficiently distant that no one will remember them anyway.

[13]Two technical devices suggest themselves as promoting a larger wedge or maintaining the existing one. The first is indexing benefits and taxes, as is now the case in Old Age Security and the other is federalization of state programs which thereby establish nationwide uniform benefit levels, as with the Supplementary Security Income program.

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