CHAPTER 4

Alternative Measures of the Differentials Against Net Corporate Earnings and Stockholders' Income

THE findings presented so far have been based on a number of assumptions considered to be reasonable and relevant to the problem under investigation. But they are assumptions—made necessary to this investigation either because directly germane data were lacking, or because there appeared to be no firm body of opinion supporting one particular view among scholars of the subject. At each step a choice was made from a number of possible assumptions, definitions, or procedures, as for example: the assumption that the corporate income tax constitutes a levy on stockholders; the definition of income embodied in the tax law; and the imputation of net corporate earnings to stockholders in proportion to their dividend receipts. At some of these points the reader may have found himself a reluctant follower down the selected path; at others he may have decided that he would have chosen to go in another direction.

The most likely stumbling blocks in this connection are the incidence of the corporation income tax and the definition of income generated by the productive activity of corporations. Both these matters lie in the realm of opinion and conjecture rather than of established fact. The conjectures are manifold and diverse. The diversity of opinion about the incidence of the corporation income tax and the appropriate definition of income for tax purposes has made desirable development of several alternative measures to provide some idea of how much our results would be affected by a change in one or another of our basic assumptions.

The presentation in this chapter, then, affords the reader freedom of choice in connection with quantitative measures of the differential taxation of stockholders. Natural limitations—of time for the author, of attention and patience for the reader—preclude an attempt to exhaust the whole range of possible permutations and combinations that could be developed as alternative measures. Fortunately, however, the most important alternatives are easily distinguished, and those discussed below offer enough variety to enable the reader to choose his "favorite" (or at least get some idea of what it would look like), according to his particular views of the shifting and incidence of the corporation income tax and the "right" way to define income for purposes of this tax.

This does not mean, however, that all the alternative measures to be analyzed in this chapter are considered to be of the same degree of importance or reasonableness. Compared with our standard measure, developed and discussed in the preceding chapters, some at least of these alternatives are presented with diffidence, although they are based on opinions that seem to be widely held or positively asserted by their supporters. Reservations will be stated below as the particular alternatives are examined. All things considered, variant 2 of our standard measure—the variant used in the earlier chapters—emerges as the best single concept for answering the questions investigated in this study. But the results provided in this chapter will enable the dissenting reader to make the requisite qualifications of some of the earlier conclusions.

The data used in the alternative tests are for 1947, the most recent year for which computations are not complicated by income-splitting. In alternative B—the test that allows, in the definition of income, for the current cost of replacing inventory and depreciable assets—the 1947 data are an additional advantage because the inventory valuation correction was higher in that year than in any other included in the study.

BASIS OF THE ALTERNATIVE MEASURES

Under our so-called standard measure (variant 2) the differential tax load on net corporate earnings and stockholders was determined,

1. assuming no shifting of the corporation income tax, and
2. accepting the Internal Revenue Code definition of corporate net income.

Under these conditions stockholders are credited, on the income side, with the full amount of their pro rata share of net corporate earnings (on the basis of their dividend receipts) and, on the tax side, with their proportionate share of corporation income taxes and an estimated amount of future capital gains tax liability on reinvested earnings. Each of the alternative tests, designated alternatives A through G, involves a change in one of the assumptions or procedures underlying the standard measure.

ALTERNATIVE A—ADJUSTMENT FOR SHIFTING

Here the attempt is made to isolate the effect of using a different assumption about the incidence of the corporation income tax by measuring the differential burden on net corporate earnings and stockholders,

1. assuming that half of the corporation income tax is shifted forward, and
2. accepting the tax law definition of corporate net income.

In this test, stockholders are credited with only half of their pro rata share of corporate earnings, and are assigned only half of their proportionate share of corporation income tax. The other half of the tax is assumed to fall on all individuals in the form of higher prices for the output of corporations.

ALTERNATIVE B—TAKING ACCOUNT OF CURRENT PRICE LEVELS

Here the attempt is to take into account the current cost of replacing inventory and depreciable assets, by measuring the differential burden on net corporate earnings and stockholders,

1. assuming that the incidence of the corporation income tax is on stockholders, and
2. revising the Internal Revenue Code definition of net income, which is based primarily on standard accounting procedures, to allow for the maintenance of inventory at current price levels, and for the replacement of depreciable assets at current cost.

Under these assumptions, the full amount of their proportionate share of corporation income taxes is imputed to stockholders, while corporate income generated on their behalf and credited to them is "corrected" as indicated under 2.

ALTERNATIVE C—COMBINING THE SHIFTING AND CURRENT COST ADJUSTMENTS

This alternative represents the combined effect of A and B. The differentials are derived by

1. assuming that only half the corporation income tax falls on stockholders, the remainder being shifted forward, and
2. adjusting income as defined for the corporate tax to allow for maintenance of inventory and replacement of depreciable assets at current price levels.

ALTERNATIVE D—ADJUSTMENT FOR SAVING THROUGH CORPORATIONS

By the standard method, net corporate earnings are imputed to stockholders on the basis of their dividend receipts. For this purpose the ratio of net corporate earnings to dividends is used no matter what the stockholder's adjusted gross income level. It has been frequently asserted, however, that stockholders with sizeable incomes seek to avoid high marginal rates of personal income tax by investing in corporations that save a high proportion of earnings, for then a part of the income generated on behalf of stockholders will either be subject to

the lower rates applicable to capital gains, or it can be passed income-tax free at death. If this argument is accepted, use of the same dividend multiplier for imputation of corporate earnings at all stockholder income levels would be invalid.

This alternative attempts to measure how the results would be affected by the use of dividend to net corporate earnings ratios that vary with stockholder income levels. Thus the differential tax load on net corporate earnings and stockholders is measured,

1. assuming that the incidence of the corporation income tax is on stockholders,
2. accepting the tax law definition of corporate income, and
3. assuming that the higher the stockholder's income, the greater the tendency to hold shares in corporations which distribute a lower than average proportion of their earnings.

ALTERNATIVE E—IMPUTING ONLY EARNINGS FOR DISTRIBUTION

This test is designed, for those who, holding that "a bird in the hand is worth two in the bush," feel that there is something more "real" about what stockholders receive, i.e. dividends, than what they could have received, i.e. retained earnings.

Thus the extra tax load on stockholders is measured in a fashion differing from our standard method in two respects:

1. The income of stockholders includes only earnings for distribution which is the amount that had to be earned before corporate tax to support the dividend outpayments actually made;
2. The tax liability of stockholders includes only that portion of total corporate income tax liability that is allocable to dividends.

Setting up this calculation does not constitute an endorsement of the assumptions on which it is based. My own opinion, set forth in the Introduction and stated again below, is that the appropriate conceptual approach to the questions posed for this study calls for allocation to stockholders of all of corporate net income, and, similarly, allocation to them of the whole of the corporate income tax liability.

ALTERNATIVE F—IMPUTING ONLY A FRACTION OF RETAINED EARNINGS

This alternative is suggested by the adjustment incorporated in variant 2 of our standard method, which assumed, among other things, that only 72 cents of every dollar of reinvested earnings showed up in increased stock prices. Would it not be appropriate, then, to consider only 72 per cent of retained earnings imputable to stockholders,

since this is all the market credits them with?[1] For reasons set out in Chapter 1, 100 per cent imputation of retained earnings appears to be more relevant to the problem under investigation, but for those who may judge differently Alternative F is offered.

ALTERNATIVE G—CORRECTION FOR UNDERREPORTING OF DIVIDENDS

Imputation of all of corporate earnings to stockholders on the basis of dividend receipts as reported for personal income taxation (standard method) may be criticized because there is evidence that dividends are not fully reported for this purpose.[2] Moreover, this evidence suggests that the extent of underreporting varies among income classes. Alternative G has been developed to determine whether our findings would be substantially affected by an adjustment for underreporting.

While many other alternatives are possible, the seven outlined above cover the major sources of variation. The conceptual nature of each of these alternatives and the assumptions used in its computation will be developed more fully as each is discussed in the sections that follow. Here, too, the results yielded by the alternative procedures will be compared with the findings derived from our usual method. To aid the reader in interpreting the results of the tests reported below, it should be noted that each test involved a different basis for computing imputed gross income and, consequently, a different array of stockholder income than that furnished by the standard method. Therefore, the comparisons in Tables 9 through 11 and 19 through 22 involve average stockholders with incomes of the same size but differently defined. In other words, the level of income is standardized, but what constitutes stockholders' income varies in each case. The tests do *not* compare the differential against, say, the $3,000 standard method definition stockholder with what it would be on this same person under each of the alternatives. Rather, in every case they compare the results for two average $3,000 stockholders, one obtained from the income definition and array of the standard method, the other from the array based on the income definition appropriate to each of the alternatives.

[1] The reader is reminded that the 72 per cent, the average experience for a period ending in 1937, is used for this purpose, although it is not regarded as a precise figure.

[2] *Audit Control Program: A Summary of Preliminary Results*, Bureau of Internal Revenue, May 1951. See also: Selma F. Goldsmith, "Appraisal of Basic Data for Constructing Income Size Distributions," in *Studies in Income and Wealth*, Volume Thirteen, National Bureau of Economic Research, 1951; and Daniel M. Holland and C. Harry Kahn, "Comparison of Personal and Taxable Income," in *Federal Tax Policy for Economic Growth and Stability*, Papers Submitted by Panelists Appearing before the Subcommittee on Tax Policy, Joint Committee on the Economic Report, 1955.

RESULTS OF ALTERNATIVE MEASURES

Alternative A—Adjustment for Shifting

WHAT IF CORPORATION INCOME TAXES ARE SHIFTED?

As already noted several times, our standard method assumes that the corporation income tax constitutes a levy on stockholders in the sense that the earnings made on their behalf are lower than they would have been by the full amount of the tax. This view of corporate income tax incidence is old and venerable; it has "seniority" rights, wide acceptance, and a rationale to recommend it. The theoretical basis of the argument is simple and direct. A tax on net profit like the corporation income tax does not impinge on costs at the margin of production. Therefore, in both competitive and monopolistic markets, the quantity offered for sale will be unaffected by the tax. So too will the quantity of factor inputs. It follows, then, that the price of output and the quantity sold at that price will be unchanged; the same is true of the prices of productive factors, and the quantities employed. The corporation income tax, therefore, is not shifted forward or backward. If this is the case, it must rest on stockholders.

This is the conclusion reached, for example, in two of the most thorough examinations of this problem.[3] It is also, of course, the incidence assumption implicit in the charge of "double taxation" of corporate earnings and its several variants. This view of incidence has been cited to justify exemption from the normal tax of dividends under our personal income tax from its inception until 1936, and also the relief provisions of the Internal Revenue Code of 1954.[4] Similarly, proposals to integrate the personal and the corporate income taxes would make little sense if the incidence of the latter were not on stockholders. If the corporate tax is shifted, it is in effect a sales or payroll tax, or some combination of the two, and the justification for integrating such a tax with the personal tax is not clear-cut. Many of those who have investigated analytical or policy problems whose solution required some conclusion about corporation income tax

[3] *Report of the Committee on National Debt and Taxation*, London, H. M. Stationery Office, Cmd. 2800, 1927, p. 119; *The Shifting and Effects of the Federal Corporation Income Tax*, National Industrial Conference Board, Vol. 1, *Manufacturing and Mercantile Corporations*, 1928, p. 157. In the second volume of the latter study, however, a qualification is made for public service corporations where it is concluded that there is probably substantial shifting of the corporation income taxes levied on them.

[4] *Internal Revenue Code*, 1954, Public Law 591, H.R. 8300, 83d Cong., 2d sess., August 16, 1954, Chap. 736, Secs. 34 and 116 (see Chapter 7 of this study for a discussion of these provisions).

incidence frequently have adopted the view (with or without misgivings) that it constitutes a burden on stockholders. Examples of this reasoning are found in a number of studies dealing with the allocation of the tax burden among income classes.[5] When faced directly with a decision on incidence, Carl S. Shoup, in his program for reformulation of the Japanese tax system, proposed a measure based on the assumption that the corporation income tax rests on stockholders.[6] But, as an indication that there is considerable dissatisfaction with this conclusion, it was Shoup also, who pointed out in a 1948 article the possibility, at least, that the corporation income tax is shifted or, more accurately, shiftable.[7] This same assumption—that the corporation income tax is not shifted—was adopted by W. L. Crum, who investigated the tax burden on stockholders for 1941.[8] His reasoning is interesting.

"The above-stated point of view of the analysis obviously rests upon a fundamental assumption that the tax paid by a corporation falls proportionately on the stockholder's share of corporate net income and may be regarded as a tax on him. This assumption is in accord not only with the apparent premise of much current discussion of the double taxation of dividends and other aspects of the taxation of corporate income, but also with the doctrine which was formerly accepted that a tax levied on net income could not be shifted. That doctrine rested upon an argument which could be convincing only if the rate of tax were moderate and if the net income were realized

[5] Representative of such studies are the following: Mabel Newcomer, "Estimate of the Tax Burden on Different Income Classes," in *Studies in Current Tax Problems*, Twentieth Century Fund, 1937: *Who Pays the Taxes?* 76th Cong., 3d sess., TNEC monograph 3, 1940; Helen Tarasov, "Who Does Pay the Taxes?" *Social Research*, Supplement IV, 1942.

Some more recent studies of this problem have utilized this assumption, but have also made calculations based on alternative assumptions, for example: R. A. Musgrave, J. J. Carroll, L. D. Cook, and L. Frane, "Distribution of Tax Payments by Income Groups: A Case Study for 1948," *National Tax Journal*, March, 1951; Donald G. Miller, *Taxes, The Public Debt and Transfers of Income*, University of Illinois Press, 1950; John H. Adler and Eugene R. Schlesinger, "The Fiscal System, The Distribution of Income, and Public Welfare," in *Fiscal Policies and the American Economy*, Kenyon E. Poole, editor, Prentice-Hall, 1951.

[6] Carl S. Shoup, "Tax Reform in Japan," *Proceedings of the Forty-Third Annual Conference on Taxation Held Under the Auspices of the National Tax Association*, Ronald S. Welch, editor, 1950, p. 410. "Under this program the 35 per cent tax on corporations is regarded as in essence only a form of withholding tax on dividend income, though not legally so. The tax is assumed not to be shifted forward to consumers. . . ."

[7] Carl S. Shoup, "Incidence of the Corporate Income Tax: Capital Structure and Turnover Rates," *National Tax Journal*, March 1948.

[8] William Leonard Crum, "The Taxation of Stockholders," *Quarterly Journal of Economics*, February 1950, p. 18.

under conditions of competition in which monopolistic elements were absent or negligible. Neither of these requirements is realized in connection with the taxation of corporate income in current and recent years; and the older doctrine has therefore been challenged, although, so far as I am aware, no attempt at revision has won general acceptance.

"I do not herein attempt a revision of the doctrine, or examine in detail the major considerations which must have a bearing upon any valid revision. Instead, I first state without supporting argument my tentative opinion that a substantial, and perhaps large, fraction of the tax levied on corporate net income is probably not borne by corporations or their stockholder-owners, but is shifted to customers or non-executive employees or suppliers. In spite of this opinion, I make herein the stated assumption for the following reason.

"If any portion of the corporation income tax is shifted to one or more of the three groups mentioned above, that portion is less progressive than the prevailing standard of equity, and may even be regressive. I take as the prevailing standard of equity, for this purpose, the scale of effective rates—dependent both upon the steeply graduated surtaxes and upon certain other provisions of the law—of the individual income tax. To the extent that the above fundamental assumption is *not* realistic, we can at once assert that the present corporation tax is inequitable according to the prevailing standards of equity. Question, as to whether the tax is equitable, therefore, remains only if the said assumption *is* realistic."[9]

Many other expressions of dissatisfaction with the assumption that the incidence of the corporation income tax is on stockholders could be cited. More specifically, where does this dissatisfaction arise? It comes from several sources. The most inclusive is a point of view contained in a frequently quoted assertion by D. H. Robertson: "If you throw enough taxation mud at the businessman a good deal of it will stick."[10] A tax that is sufficiently heavy and extensive will have some effect on output and investment. How these effects will be exerted and work themselves out has been analyzed in a number of ways.

Some students, emphasizing the divergence between profits as defined by economists and profits as defined by accountants and tax authorities, have pointed out that the corporation income tax base

[9] *Ibid.*, pp. 18 and 19. Two footnotes that accompany these paragraphs in Crum's article are omitted; the italics are his.

[10] D. H. Robertson, "The Colwyn Committee, The Income Tax and the Price Level," *Economic Journal*, December 1927, p. 581.

really includes elements of cost in an economic sense, i.e. factor rewards such as return to owned capital and recompense for entrepreneurship. It is, therefore, not a tax on net income. Emphasizing this fact, J. Fred Weston takes issue with the traditional view of corporate tax incidence in a paper arguing that "accounting net income on which the corporate net income tax is levied includes elements of economic cost." The element which he considers probably to be of major significance is "the noncontractual interest return on invested capital." He distinguishes between incidence and effects of the tax: "Since this is a fixed cost, the corporate net income tax is levied on a fixed cost and itself represents an element of fixed cost. In the short period, the tax is not shifted under assumptions of competitive conditions, but may be shifted in an oligopolistic market. In the long period, the presumption indicated is that the tax is shifted. If tax incidence is defined as the effect of the tax in the short run and tax effects are defined as the consequences of the tax in the long run, it may be said that the incidence of the tax is on the common stockholder, but its effects may also be on workers in the form of lower wages and on the consumer of the product in the form of higher prices."[11] The conclusion, then, is that there is good reason to question the assumption that the corporation income tax rests in full on stockholders, particularly in the long run. But there is no definite information on how much of the tax is shifted and whether the shifting is forward via higher prices of output, or backward via lower rewards for the factors of production, or both. Weston, for example, considers determination of these unknowns to be an impossible task, and in this attitude he is joined by other students of the problem.[12]

Several types of behavioral response to the corporate tax have been emphasized by those who hold that it tends to be shifted. Representative of one line of reasoning is the set of adjustments described by C. Lowell Harriss, which begins with the premise that ". . . present taxes on business income . . . reduce the net return to investors or risk-takers." The process, in his view, is this: "The funds offered for such investment will be reduced, because of the lowered net attraction and also because business earnings are an exceptionally important source of such capital. The reduction in supply will tend to force up the gross return, until the prospective *net* rate is enough to equal the return available elsewhere. Reduction in the amount of capital will reduce output below what it would otherwise be; the product

[11] J. Fred Weston, "Incidence and Effects of the Corporate Income Tax, *National Tax Journal*, December 1949, p. 315.

[12] *Ibid.*, p. 313.

price will be higher than it would otherwise. In this way, some of the tax is shifted to consumers, and by a method which the businessman may not fully appreciate. Therefore, the tax is increasingly recognized as a mass consumption tax, like sales and pay-roll taxes. However, as some investment is thus shifted to nontax lines—bonds and durable consumer goods—their net yields will tend to fall, reducing also the net rate expected on taxed investment; some of the tax on business income is shifted to investors generally."[13]

In all likelihood, the process of adjustment would not be as clear-cut and direct as Harriss' summary might suggest. The corporate tax affects a good part of business enterprise; the postulated adjustments to it, therefore, will reverberate through all segments of the economy. What happens to the funds that would otherwise have been invested? If alternative forms of assets—bonds for example—are sought, will not the consequent fall in interest rates lead to more investment than would otherwise have occurred? If output is lower than it would have been, would not payments to productive factors likewise be lower than they would have been? If so, demand would be lower than otherwise, and therefore we cannot say positively that the price of output will be higher than it would have been. It could be higher, lower, or unchanged.

Richard B. Goode, apropos of the type of argument presented by Harriss, comments:

"The conclusion that if the corporate tax restricts total investment it will be shifted by a general increase in commodity prices is not admissible. The quantity of investment is so significant that the effects of variations in it are incompatible with the assumptions behind the conventional incidence theory. The long-run effects of the corporate income tax cannot be described by a neat chain of reasoning running from a restriction of total investment to a reduction of output and thence to a higher price level. To determine the effects of the corporate tax on output account must be taken of its impact on aggregate demand, including consumption as well as investment. These effects are meaningful only when viewed in the setting of alternative government budgets. Moreover, changes in aggregate demand and output are likely to result in price movements the opposite of those assumed by extension of the traditional incidence theory."[14]

Goode, then, points out that when aggregate or "macro-economic"

[13] C. Lowell Harriss, "Public Finance," in *A Survey of Contemporary Economics*, Bernard F. Haley, editor, Irwin, 1952, Vol. II, p. 265.

[14] Richard B. Goode, *The Corporation Income Tax*, Wiley, 1951, pp. 57-58. The reader will find a thorough and subtle analysis of corporate tax incidence in Goode's book. This section of our study draws heavily on his incidence chapter.

effects are taken into account doubt is cast on the argument that the corporate tax is shifted because, by restricting investment, it leads to a higher price of output. The very existence of a decline in investment will make unlikely the rise in aggregate demand required for an increase in prices. Rather a fall in investment will probably lead to a decline in demand and a consequent fall in prices.[15]

Another explanation of the process by which the corporate tax might be shifted focuses attention on market structure and price policy under other than purely competitive conditions. Suppose that, for some reason, in a market in which prices can to some extent at least be set by producers, the existing price is lower than that which would have maximized profits. Then the imposition of a tax on corporate income or an increase in the rate of an existing tax might be followed by an increase in prices, because the tax might encourage the producers to take greater advantage of their market power. An example is given by Musgrave, Goode, and Colm: "In the immediate postwar period, the existence of large unsatisfied demands for products such as automobiles is evidence that producers did not raise their prices to the maximum possible, and an increase in tax rates might have induced them to revise their price policy. (This, incidentally, might have meant lower dealer's profits rather than higher customer prices.)" Therefore: "Where monopoly positions are exploited with restraint, imposition of the tax might thus lead to higher prices. Shifting might occur." But the authors doubt the importance of this possibility, for, they argue, ". . . this is not likely to be the typical case. The fact remains that any such price increase would also have been profitable in the absence of the tax, and chances are that the adjustment would be forthcoming in the course of time with or without tax. Shifting, accordingly, is more likely for a new tax (or recent increase in rates) than for an old one. Moreover, shifting in the case of rate increase is more likely than 'unshifting' in the case of rate reduction. Since the public is more likely to react unfavorably to a price increase than to a failure to reduce prices (even though profits will go up equally in both cases), the shifting argument based upon restraint in monopoly pricing is not readily reversible."[16]

It is frequently asserted that in inflationary periods the corporate

[15] For some qualification of Goode's criticism, see Richard D. Slitor, "The Corporate Income Tax: A Re-evaluation," *National Tax Journal*, December 1952, p. 306.

[16] Richard A. Musgrave, Richard Goode, and Gerhard Colm, "Economic Effects of the Corporation Income Tax" (Appendix of Preliminary Report of the Committee on the Federal Corporate Net Income Tax of the National Tax Association, 1949), *Proceedings of the Forty-Second National Conference of the National Tax Association*, 1949, p. 462.

tax is passed on to consumers, for the cost of corporate output rises.[17] This is primarily a matter of terminology. Can the rise in prices be attributed to the corporation income tax? Is it not due, rather, to rising money incomes which lead to inflation? In other words, prices would have risen anyway. The real question here (and it is very difficult to assess) is whether, given the expenditure-revenue-borrowing complex of the particular period, a greater price rise can be attributed to the corporate tax than to some other tax that might have been substituted for it.[18]

Somewhat similar considerations cast doubt on the argument that businessmen, reckoning the corporate income tax among their costs, mark up prices as a consequence of the tax, and thereby pass the tax on to the consuming public. For, as Goode points out, "A widespread attempt to raise prices to recoup the tax can succeed only to the extent that total money demand increases relative to real output. The price rise can be maintained only if consumers, business, or government will finance it by saving less and spending more. Some increases in the price level might be effected in this way, provided that the initial markup of prices was not too great, but an offsetting influence would be the probable curtailment of output and cumulative contraction of incomes."[19]

One other possibility remains to be considered—the matter of tax capitalization. Very simply, when, as a result of the imposition of a tax, the net income stream from an asset is cut—as would be the case for the corporate earnings of holders of common stock if the incidence of the tax were on profits—the capital value of the asset should fall as a reflection of this reduction in the net income flow. With stock selling at ten times earnings, i.e., with the capitalization rate at 10 per cent, for example, a reduction in per share earnings of one dollar due to the tax should cause a ten dollar fall in the selling price per share. In other words, the selling price of shares should fall by the present value of all future expected corporate income tax payments. This capital loss is experienced by those holding the shares at the time the tax is imposed. Those acquiring shares after that date buy them "free of tax."

In common with other investigations of the tax burden, the present study leaves out of account the capital losses (if any) suffered by stockholders due to tax capitalization. Throughout the analysis the corporation income tax is taken to be an annual burden in the sense that,

[17] This is not a scholarly argument and it cannot be specifically documented, but it is a commonly held opinion.

[18] Goode, *op. cit.*, pp. 61-62.

[19] *Ibid.*, p. 62.

assuming its incidence to be on profits, its imposition lowers the potentially disposable income of stockholders.[20] It is difficult to determine how serious, for the present study, is the failure to allow for tax capitalization. For to the question whether, in fact, the corporate income tax is capitalized and to what degree, it is impossible to find a quantitative answer or even some general consensus on broad ranges of magnitudes. Thus, while Dan T. Smith has pointed out that an "increase in the corporation income tax, assuming a constant price-earnings ratio for the stock, will depress the price of the stock commensurately,"[21] we cannot (and he does not) stop here. Crucial to the argument in this precise form is the assumption of a constant price-earnings ratio, i.e. a constant capitalization rate. But it is unlikely that this will actually be the case. For the corporate tax cuts such a wide swath that repercussions due to it will affect the rate by which the capital value of assets is reckoned; in other words, it partakes of the nature of a general tax whereas the capitalization argument strictly applies to a partial tax—a tax that affects one industry or type of asset.

Further complexities in assessing the degree to which the corporate income tax is capitalized have been pointed out by Goode:

First, "General market conditions are reflected in the level of money income. To the extent that imposition of the corporate tax is deflationary and causes a contraction of money income, it will reduce corporate profits before taxes and hence will depress stock prices more than the capitalization theory alone suggests . . . But, if the corporate tax replaces a more deflationary tax or is itself replaced by such a tax, the change in stock prices will be smaller than the capitalization theory would indicate. These influences may be reinforced by changes in optimism or pessimism of investors that usually accompany significant changes in general business conditions."

Secondly, "The corporate tax may influence the rate at which future earnings are capitalized by the securities market in a way that will partly offset the effects of tax capitalization with respect to stocks but will extend the effect of the tax to prices of other assets. Since stock prices will not be adjusted instantaneously to an increase in the tax rate, stocks will become a less attractive investment as compared with bonds and other assets. Old investors and new investors who would otherwise

[20] The reader is reminded that the amount of this reduction is less than the actual corporate tax liability because from this liability is deducted personal income tax that would have been levied on that portion of corporate income used to meet corporate tax payments.

[21] Dan Throop Smith, *Effects of Taxation: Corporate Financial Policy*, Division of Research, Graduate School of Business Administration, Harvard University, 1952, p. 87.

have bought stock will try to shift from stocks to bonds and other assets and in the process will bid up the price of bonds and other assets. This will reduce the yield of other assets and will check the drop in comparative yield of stocks. Moreover, as the price of stocks falls, funds that would otherwise have been used to buy stocks will be left free to compete for bonds and other assets. The result will be equivalent to a general decrease in the rate of capitalization. The prices of assets whose returns are not directly affected by the corporate tax—high-grade bonds, for example—will rise, while the price of stocks will fall less than in proportion to the decrease in their expected earnings net of tax."[22]

Smith, too, has noted a number of qualifications to the capitalization argument:

"The exact relationship between changes in corporate income tax rates and stock prices is vastly involved. Though prospective earnings per share are probably the most important single factor influencing the market value of most securities, they are certainly not the only, or even at all times the dominant, one. Present dividends, book value, estimated liquidating value, and prospective changes in all of these are among the other interrelated factors which make impossible any assurance about the precise effects of changes in tax rates on market values.

"Also, any general readjustment of stock prices arising from a change in corporate income tax rates would lead to significant but quantitatively indeterminate changes in the yields of other forms of investments, with inevitable readjustment in investors' portfolios and a new pattern of yield differentials. Even more fundamentally, a full analysis of the effects of corporate taxation is complicated by such important but very elusive problems as the effects of the government expenditures financed by the tax on the general level and direction of economic activity and the comparative effects of alternative revenue sources. These more involved analytical problems can only be noted here as important qualifications to any simple conclusions on the extent of influence of corporate income taxation on stock prices."[23]

These comments on capitalization appear to be in agreement at two points: first, for any degree of capitalization to occur the initial incidence of the corporation income tax must be on stockholders; secondly, whether the corporation income tax is capitalized and, if so, to what extent remains a problem fraught with uncertainty, and about which there is no consensus.

Finally, mention should be made of one area where the assumption

[22] Goode, *op. cit.*, p. 70.

[23] Smith, *op. cit.*, pp. 86-87.

that the corporate income tax is not shifted is clearly unreasonable. Public utility regulatory bodies are required to take into account income as well as other taxes in determining rates that will yield a fair return. Income taxes are considered an operating expense. Therefore, the corporation income tax on regulated utilities tends to be shifted.[24] The lag in regulation and rate adjustment constitutes a qualifying factor, however.[25] (Relevant in this connection also is the partial abatement of corporate income taxes on dividends of preferred stock issued before 1942 by public utility companies.)[26]

No allowance has been made for the special treatment accorded public utilities. The figures on public utility income and taxes from *Statistics of Income* cover a wide range of such enterprises, some of which are probably not under formal regulation and, therefore, do not as a matter of course treat the corporation income tax as a cost, and others because of the lag in regulation may not have been able to shift taxes promptly or completely. So it cannot be assumed that all of the tax total listed for public utilities was shifted. But some of the tax undoubtedly was shifted. In 1950, about $1.8 billion in corporation income tax was reported for public utilities in *Statistics of Income*. The total of income taxes for all corporations was $17.3 billion. The potentially shiftable taxes on public utilities were a not inconsiderable part of the total—about 10 per cent. An adjustment for the corporation income taxes levied on public utilities would have changed our aggregate totals, but these were not of prime interest. The differentials by income levels, which were the main subject of inquiry, would not have been so greatly affected, for any allowance made for public utility income taxes would apply proportionately to stockholders in each income class.

CONCLUSION ON INCIDENCE

A brief summary of a number of points of view on the problem of the incidence of the corporation income tax cannot do justice to the richness, refinement, and complexity of recent discussions. It is apparent from such cursory treatment that it is impossible to arrive at a general consensus. The conclusions and assumptions on incidence in two previously cited studies merit further examination at this point.

Goode's study—in the author's opinion the most thorough study of the corporation income tax to date—includes the following conclu-

[24] This argument implicitly assumes that prices set by regulation are lower than prices that would maximize revenue.

[25] Jesse V. Burkhead, "The Changing Incidence of Public Utility Taxation," *The Journal of Land and Utility Economics*, November 1939, pp. 383-385.

[26] *Internal Revenue Code*, 1954, Chap. 1, Sec. 247.

sions on incidence: "These conclusions do not permit a simple statement that the corporation income tax is 'shifted' or is not. Whether the tax may be said to be shifted is partly a matter of terminology. Certainly it adversely affects groups other than stockholders, and in the long run it probably causes some changes in relative commodity prices. On the other hand, there seems to be little foundation for the belief that a large part of the corporate tax comes out of wages or is passed on to consumers in the same way that a selective excise tends to be shifted to buyers. For both analytical and policy purposes, the most important conclusion is that the initial or short-run incidence is largely on corporate profits."[27]

Or again, and perhaps even more strongly, in explaining the use in some of his computations of the assumption that the corporation income tax is a levy on stockholders, Goode writes: "It is assumed that the whole corporation income tax rests on distributed and undistributed profits. The critical reader will recognize that this assumption is not definitely supported by the findings of the preceding chapter and that indeed it is to some extent inconsistent with them. The argument of Chapter Four, however, holds that in the short run the tax does rest mainly on profits. If this is so, the approach adopted in the present chapter shows what would happen to the distribution of income and wealth immediately after increase or decrease of the corporate tax. This itself is a matter of great importance for tax policy. Even for the long run it is not clear what other assumption would be more realistic or useful. In particular, there is no basis for assuming that any specific fraction of the tax is passed on to consumers. The assumption that the corporate tax rests on corporate profits seems only slightly less justifiable than the usual working hypotheses that assign excises entirely to consumers and the individual income tax wholly to its original payers."[28]

In 1947 the National Tax Association (with a membership of accountants, lawyers, tax administrators, and academic students of public finance) appointed a committee headed by Harold M. Groves "to make a thorough study of the federal income tax with attention to fiscal, economic and legal aspects. . . ." In its final report (1950) the committee summed up its views as follows:

"Our preliminary report analyzed the problem of short-run incidence and, as previously stated, concluded that the corporate tax is passed on in the short period to a minor extent only." The report then asks, "Is a different answer required when the long run is brought

[27] Richard B. Goode, *The Corporation Income Tax*, Wiley, 1951, p. 72.
[28] *Ibid.*, p. 75.

into the picture?" No definite conclusions emerge from an extended discussion which admits its inability to go beyond deductive reasoning in an "area not amenable to much empirical evidence." The section on incidence closes with this sentence: "Whereas short-run shifting of the corporate tax figures heavily in equity considerations, long-run effects are seen to be relevant principally as they bear on a desired level of investment."[29] This conclusion is particularly germane to our study, for ours is primarily a study in equity, i.e., a study of the equality or inequality of tax burdens on individuals with incomes of similar sizes but derived in part from different sources.

While no general agreement exists on where the burden of the corporation income tax rests, enough evidence has now been marshalled to show that the assumption that it rests on profits is neither unreasonable nor unsupported. This choice—a part of the framework of this study—is open to criticism but is probably less vulnerable than any other choice. In view of the uncertainties, however, an alternative computation was undertaken to explore the effects of the assumption that the corporation income tax is shifted in part.[30]

RESULTS ASSUMING SHIFTING

For this test computation the most reasonable alternative possibility appears to be that, as under alternative A, half the corporation income tax is assumed to be shifted forward. This arbitrary choice of half the tax is the simplest sort of compromise—between full forward shifting and zero shifting.[31] Since, as will be seen, the results based on this

[29] *Final Report of the Committee on the Federal Corporate Net Income Tax*, Proceedings of Forty-Third National Conference, National Tax Association, 1950, pp. 56-58.

[30] While the personal income tax is assumed in this study and widely among scholars not to be shifted, its incidence is also open to some of the arguments that are relevant to the corporate tax. For instance, since some personal taxable income arises from the activity of business units (individually owned and partnerships), the question of shifting arises—in this case shifting of the personal tax. The argument that corporation income taxes limit the spirit of enterprise and the rate of investment and lead to lower output, higher prices, and hence shifting of the tax might with equal force be applied to the personal income tax of businessmen. It might also be claimed that workers would be spurred by higher income taxes to seek higher wages to maintain the same take-home pay, thus tending to force costs and prices up, if suitable finance for this higher level of payments is forthcoming.

[31] Miller (*op. cit.*) used two assumptions: (1) that the corporate tax falls fully on stockholders, and (2) that one-third of the tax is shifted forward, leaving two-thirds resting on stockholders. Musgrave, Carroll, Cook, and Frane (*op. cit.*) used as their standard case the assumption that one-third of the tax is shifted forward to consumers, one-eighth backward to wage-earners, and the rest falls on profits. In addition they considered two limiting cases: (1) full forward shifting, and (2) the incidence solely on profits. Adler and Schlesinger (*op. cit.*) used two assumptions: (1) that the tax is borne solely by stockholders (this was necessary for comparability with a previous study), and (2) that half of the tax is shifted forward to consumers.

assumption differ systematically from the results based on our standard method, the reader may assess, qualitatively at least, the effect of assuming the percentage shifted to be more or less than 50. More specifically, under this alternative corporations are assumed to act as tax collectors for the government—as retailers do in the case of a retail sales tax—to an amount of 50 per cent of the corporate tax. Therefore only half the corporate tax is taken to be a direct liability on stockholders and only half of the corporate tax is included in the earnings imputable to stockholders.

The procedures outlined earlier in connection with the standard method were employed, except that a smaller amount of income was imputed to stockholders and a smaller corporate tax burden was allocated to them. The pattern of these results compared with those of the standard method is therefore predictable, at least in direction. With the same absolute adjustment made on both the income and tax side, a greater proportionate reduction will occur in the tax liability. The effective rate of corporate tax is lower, and therefore the net extra burden against corporate earnings (both distributed and retained) and stockholders will be smaller. The differentials as measured under alternative A are significantly lower than those obtained by the standard method.

A comparison of the differentials against net corporate earnings and stockholders under the 50 per cent shifting assumption with the results by the standard method appears in Table 9.[82] Note how much smaller the alternative A values are. Compared with the results by the standard method, the differential against net corporate earnings is from 9 to over 13 percentage points lower (column 3). The standard method indicates an extra burden equal to 25 per cent of net corporate earnings at the bottom of the income scale; the assumption that 50 per cent of the corporate tax was shifted results in a differential less than half as great. At the $25,000 stockholder income level, the standard method results in an extra burden of 2 per cent; alternative A results in a tax benefit of 10 per cent. For the average stockholder with $500,000, the standard method shows an actual tax rate on the net corporate earnings component of his income some 26 percentage points

[82] This and the following tables compare the differentials against average stockholders having incomes of the same size but defined differently according to the standard method and to that of each of the alternatives. The level of income is standardized, but the constituents of the stockholder's income vary in each case. The comparison is *not* of the burden on the $3,000 income level (standard method definition) stockholder, for example, with the burden on the same stockholder under the alternative A assumption; rather, the comparison is of results for two $3,000 average stockholders under different income definitions.

TABLE 9

Comparison of Differentials under Standard Method and Alternative A, 1947
(per cent)

AVERAGE STOCKHOLDER IMPUTED GROSS INCOME ($000's)	DIFFERENTIAL AGAINST NET CORPORATE EARNINGS			DIFFERENTIAL AGAINST STOCKHOLDER INCOME		
	Standard method (1)	*Alternative* A (2)	(2) — (1) (3)	*Standard method* (4)	*Alternative* A (5)	(5) — (4) (6)
1	24.6	11.1	—13.5	5.9	2.3	—3.6
3	23.8	10.7	—13.1	4.8	2.5	—2.3
5	22.5	9.4	—13.1	5.2	2.4	—2.8
10	17.7	5.0	—12.7	6.0	1.6	—4.4
25	2.0	—10.0	—12.0	1.0	—4.5	—5.5
50	—7.6	—18.1	—10.5	—4.8	—10.9	—6.1
100	—16.2	—26.3	—10.1	—11.9	—18.4	—6.5
250	—24.5	—33.9	—9.4	—19.4	—26.6	—7.2
500	—25.7	—34.8	—9.1	—22.7	—31.1	—8.4

lower than would have been the case had this component been reached promptly and in full by the personal income tax; the assumptions of alternative A, however, result in a greater degree of undertaxation—an effective tax rate almost 35 points lower than that of the personal income tax alone. As a corollary of the lower effective rates of alternative A we find its cross-over point (the income level at which undertaxation begins) to be much lower down the income scale than that of the standard method—$15,000 of imputed gross income as compared with $30,000.

The value of this test lies not in the precise amounts of the differentials based upon the assumption that half the corporate tax is shifted. The 50 per cent is an arbitrary choice and the differentials would change with assumptions of a greater or a smaller degree of shifting. The test does enable us to conclude that if the corporate tax is in fact shifted, the measures derived from our standard method overstate the extra burden against net corporate earnings (understate it where it is negative). If shifting occurs to a degree greater than 50 per cent of the tax, the overstatement is greater than Table 9 indicates; if, however, less than 50 per cent of the tax is shifted, the overstatement is smaller. As among different income levels, the overstatement of the differential against corporate earnings by our standard method, if shifting actually is the case, is greatest in absolute terms for the lower incomes. But the income level differences are not large. Finally, the general pattern traced out by the differentials against net corporate

earnings in our standard method appears distinctly in the alternative A values—a steady decline in the differential as the level of stockholder income rises.

What shifting of the corporation income tax implies for the extra burden related to the whole of stockholder income is shown in columns 4-6 of Table 9. If as much as half of the corporation income tax was shifted in 1947, it appears that the double taxation of stockholders compared with the single taxation of other personal income taxpayers led to a relatively slight extra burden on the owners of corporate shares. In no case did it result in more than 2.5 percentage points of extra tax liability. The benefit to stockholders with larger incomes was more significant; at the $500,000 level the tax burden was more than 30 percentage points lower than it would have been if there had been no corporate tax and all their corporate earnings had been taxed as personal income (see column 5 for the differential at other levels). How much these results differ from those provided by our standard method can be determined by the comparison in column 6 of Table 9.

CONCLUSION ON SHIFTING

We may conclude from the results of the test that, if there is any validity in the contention that the corporate tax is shifted and if the degree of shifting is significant (as much as 50 per cent of the tax), the main concern on equity grounds is "undertaxation" of stockholders. In 1947, for example, the "overtaxation" that occurred for the stockholders in income classes of $10,000 and below was relatively slight compared with the results based upon imputation of the whole corporate tax to stockholders. For those in the classes above $10,000 (more precisely, $15,000), however, "undertaxation" of sizeable proportions would have existed if half the corporate tax was really shifted forward.[33]

[33] These generalizations apply to our test as far as it was carried. But it might be argued it was not carried far enough for it does not trace out the burden of the shifted part of the corporate tax on stockholders and others. To do this would be difficult, but the type of difference it would have made can be suggested.

Stockholder income always includes an imputed component. Consumption expenditures, however, upon which the shifted corporate tax would fall, are geared more closely to income actually received than to imputable income. If our comparison is taken to be between stockholders and non-stockholders with a similar amount of income, albeit differently defined, the non-stockholders will show a larger amount of consumption and will bear more of the shifted corporate tax than the stockholders. Thus the differentials against corporate earnings and stockholders would be smaller and the negative differentials would be larger than those shown in Table 9, with the difference being more pronounced the higher the income level.

Alternative B—Taking Account of Current Price Levels

So far, throughout this study we have used the Internal Revenue Code definition of corporate net income, which generally follows the accepted usages of accounting practice,[34] and therefore is most valid for periods of unchanging prices. In the last decade and particularly since the end of the war, this definition of corporate income has been criticized because conservative accounting usages provide inadequate allowance for the cost of replacing inventory and plant in the determination of taxable income. Some part of what is called net corporate earnings in this study, it is contended, is not net at all because it is required to maintain capital intact in real terms. However, there is disagreement about what this connotes for the proper definition of taxable income. This section presents briefly some representative points of view on this matter and the results of a test designed to take account of current price levels in the determination of taxable income.

CHANGING PRICE LEVELS

While there is general agreement that there exists no one definition of income that is most appropriate for all the uses to which the concept of income is put, the discussion of what income is, or should be, is very voluminous and complex. This section proposes not to add to this discussion or to explore many of the facets of it, but simply to explain what alternative B is and why it was developed.

With constant price levels, the conventional accounting practices for computing cost of inventory used up (or converted) and value of physical capital destroyed during the productive process provide an accurate measure of net income. This view implies that if dividends equal to the designated net income were paid out, a company would be able to continue a physical level of operations exactly similar to its previous scale, with its capital remaining intact. Stationary price levels would limit a change in value of inventory to a physical change, and estimated depreciation would amount to a total just sufficient to purchase replacement units of capital.[35] Under conditions of changing price levels, however, this strict equivalence is destroyed. With rising prices, part of what is reported as net income, by conventional accounting standards, must be devoted to replenishing inventories and replacing depreciated assets. The steep rise in prices during the period following World War II focused attention on this problem. But even

[34] Dan Throop Smith and J. Keith Butters, *Taxable and Business Income*, National Bureau of Economic Research, 1949, p. 9.

[35] This neglects any changes in technology that would make it less costly to obtain replacements for the depreciated assets.

before this, there had been noticeable discontent with acceptance of standard accounting procedures by the Internal Revenue Service, particularly in connection with the valuation of inventories.[36]

There is general agreement that, for some purposes at least, standard accounting usages do not provide the most relevant measure of income generated during a given period. As set forth by Lintner in 1949:

"When the purpose in view . . . is to evaluate the results of ordinary current operations of business firms, it is generally most appropriate to use profits figures which exclude, so far as is practicable, all elements of capital gains and losses which reflect changes in price levels as such, rather than the operating characteristics of the enterprise. To this end it is necessary to express all costs as well as all receipts in terms of current price levels, and this requires that the entire amount of what are generally called 'inventory profits' be eliminated from reported profits data, together with the excess of current replacement costs of book values of the capital equipment 'used up' in the course of producing current outputs."[37] Or, again, as stated by Fabricant in 1950:

"To obtain comparable figures that measure business income from a consistent economic point of view, economists are therefore driven to make adjustments of accounting data, or at least to attach qualifications to them. Economists follow the principle that costs should be related to revenues on the same price level basis, and that the income of one period should be compared with the income of another period on the same price level basis. In accord with this principle, economists believe that inventory revaluations should be excluded from business income, and the income estimates of the National Bureau of Economic Research and of the Department of Commerce do exclude them. Economists believe, also, that revaluations of fixed assets should be excluded from business income, and the income estimates of the National Bureau and Department of Commerce both exclude realized capital gains and losses. The estimates of the National Bureau further exclude revaluations of fixed assets arising from the charging of depreciation at original cost. The Department of Commerce also accepts the prin-

[36] Since 1938, taxpayers have been permitted to use the last-in-first-out method of inventory valuation which tends to tone down inventory profits and losses. In 1947, it is estimated, this method, Lifo, was being used by companies with inventories representing about 9 per cent of the total book value of manufacturers' inventories, or, translated to 1947 prices, somewhere between 13 and 17 per cent (see J. Keith Butters, assisted by Powell Niland, *Effects of Taxation: Inventory Accounting and Policies*, Harvard University Press, 1949, pp. 54-55). The inventory valuation adjustment of the National Income Division of the Department of Commerce, used in the test to be described below, makes allowance for the fact that some companies use Lifo.

[37] John Lintner, *Corporate Profits in Perspective*, American Enterprise Association, 1949, p. 13.

ciple, but has so far implemented it only by a textual qualification of its figures."[38]

Acceptance of this concept of income as most appropriate for income tax purposes is not, however, universal. An illustration is Lintner's statement:

"For many purposes, however, it is entirely appropriate that elements of capital gain or loss be included in profit figures. For instance, one of the distinguishing characteristics of the ownership and management of property and business enterprise, as compared with supplying current labor services, is that the former provide opportunities for the realization of capital gains, as well as risks of incurring capital losses. An appraisal of the relative changes which have occurred in the *total* economic position of different groups in the economy over any period of time which failed to allow appropriately for such changes in capital position would obviously be incomplete and misleading."[39]

Goode has made a strong case for historical cost valuations in defining income for tax purposes:

". . . Lifo in practice has proved to be a tax-relief device for a relatively small group of taxpayers. The method cannot be convincingly defended on general grounds as a refinement of the definition of taxable income. To be sure, it has eliminated a speculative element of profit that is largely extraneous to the primary activities of the businesses using it. But general price fluctuations make speculators of everyone who holds tangible wealth or money claims or who engages in long-term contracts. A case in equity can be made for eliminating inventory profits and losses from the tax base, while including other speculative gains and losses, only by showing that the situation of the inventory holders is peculiar to a degree warranting special classification. This case has not been made for that group of taxpayers who have found it feasible to use Lifo. . . .

". . . An objection to the adoption of the current-cost approach for depreciation, however, is that the economic-power concept is not consistently followed in the statutory definition of taxable income. Gains and losses are ordinarily recognized for tax purposes only when 'realized' as the result of a bona fide transaction. Unrealized gains and losses are ignored. As a matter of principle, recognition of an increase in costs not yet objectively realized in a transaction can hardly be

[38] Solomon Fabricant, "Business Costs and Business Income Under Changing Price Levels," in *Five Monographs on Business Income*, Study Group on Business Income, American Institute of Accountants, 1950, p. 154.

[39] Lintner, *op. cit.*, p. 13 (italics are his).

justified unless unrealized gains on capital assets are also recognized for tax purposes, or all capital gains and losses are ignored.

"The problem may be illustrated by considering an asset with a normal life of twenty years bought in year 1 at a cost of $100. At the end of year 5 one-fourth of the original cost will have been written off if the straight-line method is followed, and the depreciated value will be $75. Suppose that in year 6 the price of comparable new assets rises by 20 per cent, to $120. On the current cost basis the true cost of the old asset in year 6 will be one-twentieth of $120, or $6, rather than the $5 of normal depreciation. But the price increase has also raised the value of the remaining useful life of the asset, from $75 to $90. If both this unrealized capital gain of $15 and the unrealized increment in cost are taken into account, the taxpayer has a net gain in year 6 of $14. In each of years 7 through 20, the taxpayer's income will be $1 smaller than under normal depreciation. Over the whole period the unrealized gain and the unrealized cost increment will exactly cancel. Of course, the net tax may be affected by the timing of income in the absence of complete averaging of income for tax purposes.

"The foregoing illustration brings out an elementary fact that, surprisingly enough, has been largely ignored in recent discussion of depreciation policy: Owners of physical assets benefit from an inflation as compared with holders of fixed money claims . . . Along with organized labor and farmers, the owners of business assets enjoy an increase in money income. Since the additional money income is generally subject to taxation, regardless of source and its real purchasing power, there seems to be no case in equity for special tax treatment of the owners of depreciable property."[40]

On the other hand, a substantial body of opinion holds that for income tax purposes the costs of replacing inventory and depreciable assets at current price levels should be taken into account. Representative of this point of view are: a statement by W. A. Paton,

". . . It is to be hoped that, in revising the Internal Revenue Code, Congress will give serious attention to the possibility of authorizing the use of current replacement cost of materials used and the replacement cost of plant facilities expired, as of the end of the taxable year, as deductions in lieu of deductions based on unadjusted book costs. I understand that developments along this line have occurred in the

[40] Goode, *op.cit.*, pp. 171 and 174-175. For a more extended treatment of this question see E. Cary Brown, *Effects of Taxation: Depreciation Adjustment for Price Changes*, Harvard University Press, 1952, especially Chap. IV.

income-tax statutes of some foreign countries."[41] And one by G. O. May,

"If the Group should feel, as the present writer does, that an increase in charges for exhaustion is called for in the public interest as well as by sound accounting, the best prospect of implementing that view would seem to lie in a revision of the tax law which would (as in the case of LIFO inventorying) allow the increased deduction for tax purposes, provided the same method was employed in the regular accounting of the taxpayer."[42]

In summary, both standard accounting techniques and the tax code regulations, with the exception of the Lifo option, include inventory profits in income and make no allowance for increased cost of replacing fixed assets. To some students it is not completely clear on equity grounds that any change in this practice is required in defining taxable income. Others, however, support a change to allowances based on current costs. In deference to this latter point of view adjustments were devised to assess the change in findings that would result from use of a more "real" concept of income.[43]

TAKING ACCOUNT OF INVENTORY PROFITS AND DEPRECIATION AT CURRENT COST

To compare the 1947 differentials obtained by the standard method with those taking account of current prices for replacement of inventory and depreciable assets, adjustments were made in net corporate earnings to be allocated to stockholders.

The fact that the sharp price rises in the course of 1947 led to inventory profits was first taken into account. As a measure of the change in inventories due to price rather than quantity changes the inventory valuation adjustment figure estimated by the National Income Division of the Department of Commerce was used.[44] The adjustment figure for 1947 of $5.8 billion was subtracted from corporate earnings imputable to stockholders. The adjustment for inventory valuation is difficult to estimate and is not among the more firmly

[41] William A. Paton in *Profits, Report of a Subcommittee of the Joint Committee on the Economic Report on Profits Hearings*, 80th Cong. 2d sess., 1949, p. 143.

[42] George O. May, *Business Income and Price Levels, An Accounting Study*, Study Group on Business Income of the American Institute of Accountants, 1949, p. 65.

[43] This does not imply support (or condemnation) of a "real" definition for tax purposes. It was not employed for our standard method because the approach in this study has been to compare stockholders with other personal income taxpayers, and the latter including business enterprises subject to the personal tax have received no special tax abatements because of inflation.

[44] *Survey of Current Business*, Dept. of Commerce, July 1953, p. 13.

based items in the national income accounts,[45] but it is the best figure available. Choice of 1947 for the year of test was, as previously noted, fortunate, for in this year the inventory valuation adjustment was higher than in any other of the period and points up the change most dramatically. Parenthetically, had the test been made for 1949 or 1952, an addition to stockholder income would have been necessary on this score.[46]

The second adjustment deals with depreciation. Data bearing on this are scant, but fortunately, there is E. Cary Brown's estimate of the extent to which current costs of replacement exceeded historical costs[47]; for 1948-1951 he estimated that current costs exceeded historical costs by about 50 per cent.[48] Assuming the same ratio to have been applicable in 1947, an adjustment was made in the total of corporate earnings imputable to stockholders by subtracting $2.6 billion, half of the total depreciation reported by all corporations in that year.[49] Table 10 gives figures for comparison of the differentials by the standard method and by alternative B.

For 1947, after defining income net of costs computed in relation to current price levels, we find the differentials against net corporate

[45] *National Income Supplement, 1954, Survey of Current Business*, Dept. of Commerce, pp. 122-125.

[46]

Inventory Valuation Adjustment
(*billions of dollars*)

Year	Amount
1940	—0.1
1941	—2.6
1942	—1.2
1943	—0.8
1944	—0.3
1945	—0.6
1946	—5.2
1947	—5.8
1948	—2.1
1949	2.1
1950	—5.0
1951	—1.3
1952	1.0

Source: *Survey of Current Business*, Dept. of Commerce, July 1953, pp. 12-13.

[47] Brown, *op. cit.*, p. 28. Details of his estimate will be found on pp. 151-154.

[48] Actually, it is his judgment that 30 per cent is more correct, but he rounded to 50 to "prevent any understatement." This, then, constitutes an upper limit of possibilities.

[49] Another source provides a figure on the same order of magnitude. In a study published by the National Association of Manufacturers ("Major Tendencies in Business Finance," Economic Policy Division series No. 57, p. 69) depreciation at current price levels was estimated as $2.2 billion higher than corporations actually took for 1947.

TABLE 10

Comparison of Differentials under Standard Method and Alternative B, 1947
(*per cent*)

AVERAGE STOCKHOLDER IMPUTED GROSS INCOME ($000's)	DIFFERENTIAL AGAINST NET CORPORATE EARNINGS			DIFFERENTIAL AGAINST STOCKHOLDER INCOME		
	Standard method (1)	*Alternative* B (2)	(2) — (1) (3)	*Standard method* (4)	*Alternative* B (5)	(5) — (4) (6)
1	24.6	39.5	14.9	5.9	7.9	2.0
3	23.8	39.5	15.7	4.8	8.2	3.4
5	22.5	38.1	15.6	5.2	9.4	4.2
10	17.7	33.4	15.7	6.0	11.1	5.1
25	2.0	18.3	16.3	1.0	7.4	6.4
50	—7.6	10.1	17.7	—4.8	5.7	10.5
100	—16.2	1.7	17.9	—11.9	1.2	13.1
250	—24.5	—5.3	19.2	—19.4	—4.1	15.3
500	—25.7	—6.1	19.6	—22.7	—5.6	17.1

earnings to run anywhere from 15 to 20 points higher than the values provided by our usual method. Whereas the latter procedure, at the $1,000 income level, for example, indicates that 25 per cent more of stockholders' pro rata share of net corporate earnings went into taxes than would have been the case under the personal income tax alone, alternative B places the extra tax liability at almost 40 per cent. At the $25,000 average stockholder income level, the usual method shows a slight degree of overtaxation of net corporate earnings—some 2 per cent; under alternative B, however, it is much greater—over 18 per cent. At the top of the income range a similar discrepancy exists. By the standard method stockholders, on average, were undertaxed on the net corporate earnings component of their income to a much larger degree—nearly 26 per cent—than by alternative B just about 6 per cent.

However, it should be noted that, while the alternative B differentials are higher, they follow the same general pattern disclosed by our standard method; the higher the average stockholder's income, the lower the differential against the net corporate earnings component of his income. Also, both methods show, after a point, a tax benefit for stockholders who enjoyed a lower tax under the combined corporate-personal income tax structure than would have been due if there had been no corporate tax but instead the whole of the corporate earnings component of their income had been subject currently to the personal income tax. In the case of alternative B, however, the tax

saving was much lower and started higher up the income scale, the "cross over" point being about $135,000 while for the usual method it was $30,000. The same type of difference shows up in the differential against stockholders when the results of the standard method and alternative B are compared. The differences between results by the alternative adjustments and by the usual method become increasingly pronounced as the proportion of corporate earnings increases with rising imputed gross income level of stockholders (column 6).

CONCLUSION ON COST ADJUSTMENTS

We may conclude that the reader who thinks that alternative B embodies a more meaningful definition of income than our standard method should view the results of the latter as understating the differentially heavier effective rates of tax to which most stockholders are subject, and overstating the degree of tax benefit that the stockholders at the top of the income scale received.[50]

Alternative C—Combining the Shifting and Current Cost Adjustments

Alternatives A and B are not mutually exclusive. Some readers may hold it most realistic to assume that the corporation income tax is shifted and also that it is appropriate to define income for purposes of the corporation income tax exclusive of the cost of inventory maintenance and depreciable asset replacement at current price levels. To illustrate how much, under these conditions, the results would differ from those obtained through our standard procedure, alternative C has been developed.

This alternative is a simple combination of alternative A (in which the adjustments tend to lower the differentials) with alternative B (in which the adjustments tend to raise them). What is the net result when both sets of adjustments are incorporated in our calculations? The data of Table 11 provide the answer.

Over the lower portion of the average stockholder income range up to about $10,000, the alternative C differentials are about the same as those obtained by the standard procedure; but above this level, the

[50] This interpretation of results holds for most years of the study which, however, show variations in the degree of over- and understatement, probably most pronounced in 1947, and least in 1952 when the inventory valuation adjustment was opposite in sign to (but smaller than) the adjustment for current cost depreciation. For 1949, however, the two definitions would probably give closely similar results, for the inventory revaluation allowance was positive, necessitating an addition to stockholder income, and was just large enough to cancel out the excess of current over historical cost of depreciable assets.

TABLE 11

Comparison of Differentials under Standard Method and Alternative C, 1947
(*per cent*)

AVERAGE STOCKHOLDER IMPUTED GROSS INCOME ($000's)	DIFFERENTIAL AGAINST NET CORPORATE EARNINGS			DIFFERENTIAL AGAINST STOCKHOLDER INCOME		
	Standard method (1)	*Alternative* C (2)	(2) — (1) (3)	*Standard method* (4)	*Alternative* C (5)	(5) — (4) (6)
1	24.6	24.0	0.6	5.9	5.4	—0.5
3	23.8	24.8	1.0	4.8	4.4	—0.4
5	22.5	23.7	1.2	5.2	5.0	—0.2
10	17.7	19.4	1.7	6.0	5.1	—0.9
25	2.0	7.1	5.1	1.0	3.0	2.0
50	—7.6	0.2	7.8	—4.8	0.1	4.9
100	—16.2	—7.1	9.1	—11.9	—4.1	7.8
250	—24.5	—12.5	12.0	—19.4	—8.9	10.5
500	—25.7	—13.2	12.5	—22.7	—10.9	11.8

differentials are larger. Also, from this point on, the higher the stockholder income, the greater the difference between results of the two procedures. The cross-over from over- to undertaxation, which in the usual procedure occurred at $30,000, takes place under alternative C at about $51,000.

The reader who regards alternative C as the most accurate and reasonable framework in which to analyze our problem probably will have few reservations about the standard method's findings over the lower portion of the income range, but he will consider those findings over the rest of the income array an understatement of the extra burden on net corporate earnings and stockholders. He is reminded that columns 3 and 6, providing some idea of the quantitative nature of the amendments he will want to make, apply strictly only to 1947. For most other years, except 1949, the changes would be in the same direction as for 1947. Moreover, the 1947 adjustments are derived from a 50 per cent shifting assumption. Should the reader prefer to assume a greater degree of shifting than this, the alternative C values of the differential would lie closer to those of the standard method at the top of the income scale, and below them at lower stockholder incomes. On the other hand, if a smaller than 50 per cent assumption were employed, the comparative understatement of differentials by the standard method would be greater.

Alternative D—Adjustment for Saving through Corporations

WHAT IF CORPORATE SAVINGS ARE USED TO AVOID PERSONAL INCOME TAXES?

In this investigation, the standard method imputes all of net corporate earnings to stockholders on the basis of their dividend receipts, the ratio for imputation being the same for every income-dividend size stockholder cell.

However, it has been frequently pointed out that, because corporate distributions are subject upon receipt as dividends to personal income tax, stockholders (particularly in the higher income classes subject to stiff marginal rates) are induced to save via the corporate mechanism and thereby avoid personal income taxes on the retained portion of corporate earnings, until realized in the form of (less heavily taxed) capital gains or passed on income-tax free at death.

Such an attitude has been expressed by one investor as follows: "We, that is, my wife and I, prefer common stocks as an investment, but not for all our funds. We choose corporations which pay out a minimum of earnings in order to have our holdings grow in intrinsic value. We like to save by having corporations plow back a substantial portion of their earnings tax-free to us. If the corporations pay us dividends, we have to pay taxes on the income."[51]

If there is a systematic tendency for upper-income stockholders to blunt the impact of high personal income surtax rates by holding shares in corporations known to pay out a small fraction of their earnings, and if this is quantitatively important enough so that the distribution ratio (i.e. the ratio of dividends to net corporate earnings) for high-income taxpayers is lower than the average distribution ratio for all taxpayers, then the results obtained by our standard method may be in error. The upper-income stockholders will really be claimants to more of the total of net corporate earnings than our method credits them with; those lower down the income scale should really be credited with less. For example, suppose that there are only two classifications of stockholders, one "high-income" and the other classification comprising the rest. Let dividends received total $20,000 for all stockholders, with the high-income group receiving $5,000 and all the rest $15,000. Net corporate earnings are assumed to equal $100,000. Now assume that the high-income group purposely holds stock in high-saving corporations which have only a 10 per cent distribution

[51] J. Keith Butters, Lawrence E. Thompson, and Lynn L. Bollinger, *Effects of Taxation: Investments by Individuals*, Harvard University Press, 1953, p. 200. The investor quoted had a net worth over $1,000,000 and an income of about $100,000.

ratio. The other shareholders, on average, receive their dividends on shares in corporations which average a 30 per cent distribution ratio. Thus, the high-income stockholders should be credited with $50,000 or 50 per cent of the net corporate earnings, and all other shareholders with a similar amount. However if, as in our standard method, the over-all average distribution ratio of 20 per cent for both classes of stockholders were used, the high-income shareholders would have $25,000 (which is less than their actual share) allocated to them, and to the others would be imputed $75,000 (which is more than their actual share). While the average distribution ratio is 20 per cent for all stockholders, for the high-income group it is only 10 per cent (i.e. below average) and for the other, 30 per cent (i.e. above average).

It is desirable, therefore, to assess the quantitative importance of the choice of distribution ratios by a comparative test. Unfortunately little information is available for this purpose. The only data I have been able to find that bear on this problem are not focused directly on it, but they are better than nothing.

ANALYSIS OF AVAILABLE EVIDENCE

There is available for 1936 a cross-tabulation which gives the asset size of dividend paying corporations and the net income class of dividend recipients filing income tax returns for that year.[52] The dividends received by shareholders, tabulated by 27 net income classes, are classified on the basis of asset size (10 in all) of the originating corporations. For instance, stockholders in net income class $70,000 and under $80,000 received 0.37 per cent of their dividends from corporations with assets less than $50,000; they received 0.52 per cent from corporations with assets of $50,000 and under $100,000, etc. These data, more refined than those available for any other year, can be used to estimate differences in average distribution ratios associated with the dividend receipts of taxpayers in the various net income classes, because, on average, corporations in each asset size class had different distribution ratios. These ratios tend to increase with the asset sizes of the dividend distributing corporations.[53] (See Table 12.) Note that these ratios, at best, only approximate the information relevant to the problem posed for alternative D. Directly relevant would be data derived from an array in which the distribution ratio itself constituted the basis for classifying the data. Use of an approximation qualifies the result of

[52] *Bulletin of the Treasury Department*, Dept. of the Treasury, January 1943, pp. 3-6.

[53] Cf. George E. Lent, *The Impact of the Undistributed Profits Tax*, Columbia University Press, 1948, p. 43.

TABLE 12

Ratio of Net Dividends Paid Out to Net Corporate Earnings for Net Income Corporations, by Asset Size Classes, 1936
(dollars in thousands)

ASSET SIZE CLASS	*Net dividends paid out*	*Net corporate earnings*	*Distribution ratio*
Under $50	$ 79,902	$ 148,818	0.5369
$50 and under 100	93,349	154,577	0.6039
100 and under 250	218,687	349,336	0.6260
250 and under 500	238,476	374,159	0.6374
500 and under 1,000	272,306	453,423	0.6006
1,000 and under 5,000	718,404	1,234,418	0.5820
5,000 and under 10,000	343,452	567,963	0.6047
10,000 and under 50,000	902,773	1,334,255	0.6766
50,000 and under 100,000	414,546	548,464	0.7577
100,000 and over	1,280,608	1,531,202	0.8363
All net income corporations	4,562,500	6,696,613	0.6813

Source: *Statistics of Income for 1936*, Part 2, Bureau of Internal Revenue.

the test (summarized in Table 13) and tends to damp the figures finally obtained compared with the results that would have been obtained from data classified directly by dividend distribution ratios. Basically, the test involved computing a distribution ratio for each net income class, by weighting each asset size distribution ratio (Table 12) by the proportion that dividends paid by corporations in this asset size class comprised of the total dividend receipts in each net income class.

These test procedures and their results are merely indicative and are not directly comparable with the standard method developed in this study. In the latter, stockholders in each adjusted gross income class were divided into a number of dividend size groups, corporate earnings were imputed on this basis, and stockholders were rearrayed in imputed gross income classes. In the test a much rougher calculation was undertaken. Corporate earnings were allocated to stockholders in each income class (net for 1936) in accordance with the average amount of dividends for all stockholders in that class, without rearraying. The relevant values for all net income classes appear in Table 13. The pattern of deviations from the overall average distribution ratio is surprisingly regular.[54] Starting with the lowest net income class

[54] The deficit income class is neglected for purposes of this discussion because the calculations covered taxpayers only. Moreover, purposeful conduct cannot be inferred from the deficit class since, presumably, deficits are involuntary.

TABLE 13

Net Income Class Weighted Average Distribution Ratios, 1936

NET INCOME CLASS ($000's)	*Weighted average distribution ratio*
Under 1	0.730
1 and under 2	0.737
2 and under 3	0.729
3 and under 4	0.720
4 and under 5	0.710
5 and under 10	0.701
10 and under 15	0.691
15 and under 20	0.686
20 and under 25	0.685
25 and under 30	0.682
30 and under 40	0.682
40 and under 50	0.678
50 and under 60	0.679
60 and under 70	0.683
70 and under 80	0.690
80 and under 90	0.689
90 and under 100	0.696
100 and under 150	0.693
150 and under 200	0.695
200 and under 250	0.710
250 and under 300	0.735
300 and under 400	0.726
400 and under 500	0.734
500 and under 750	0.735
750 and under 1,000	0.754
1,000 and over	0.775
Total	0.701

and moving up, we find distribution ratios above the overall average, but the extent of departure from the general average tends to decline. Dividends representing distribution ratios below average were received by all classes from $10,000 up to $200,000. The lowest ratio was reached in the $40,000 and under $50,000 net income class; above this class the extent of departure from the overall average distribution ratio becomes gradually less until at the $200,000 and under $250,000 net income level a distribution ratio above average is once more reached. This above-average ratio is characteristic of the rest of the income distribution, with the extent of departure from the average increasing steadily as the income level increases, and reaching its maximum in the $1,000,000 and over class. If the behavior of these divergences in distribution ratio were plotted with income on the horizontal axis, above-average distribution ratios on the vertical axis

above the origin, and below-average distribution ratios below the origin, then a plot of the net income class distribution ratios would be U-shaped.

How important are these differences in the distribution ratios characterizing the investments of the various net income classes? They are really very small. It is only at the extreme levels that the divergence from the average for all classes is over 5 per cent. But, as pointed out above, if the data were classified by distribution ratio of each dividend paying corporation, relatively greater differences would probably have been obtained. An interesting feature of this pattern of distribution ratio is its regularity. With only a few minor exceptions it varies smoothly from one income class to the next falling constantly to a minimum and thereafter rising constantly. This pattern is not exactly what would have been expected solely on personal income tax avoidance grounds. It is true that over a significant range the distribution ratios for the higher net income receivers are below average and this is reasonable. But if it is rational for a $45,000 net income shareholder to seek to hold personal taxes down more than average, via corporate saving, is not the pressure to do this even greater on the $450,000 net income stockholder? But the latter typically received dividends representing a distribution ratio higher than average.

The results of this test do not permit positive generalizations for 1936 for a reason beyond the lack of precise and suitable data: uncertainty arises because the undistributed profits tax, instituted in 1936, stimulated dividend distribution and changed the relative pattern of distribution ratios of different asset size class corporations.[55] There is certainly no basis for concluding that many higher income class taxpayers did not choose investments in companies with very meager distribution policies in order to forestall high personal surtaxes. But, in 1936 at least, this tendency appears to have been almost completely counterbalanced and even swamped (in the case of top income classes) by the opposite choice of stock in corporations with distribution ratios above average.[56] In that year, considerations other than corporate

[55] Cf. Lent, *op. cit.* According to Lent, while all but one asset size class were induced by the undistributed profits tax to distribute more liberally, the greatest relative increase was made by corporations in asset size classes in which a higher proportion of stock was held by taxpayers in the middle range of net income classes. Over this income interval the test disclosed distribution ratios below average—despite the influence of the new tax. Therefore, in the absence of the undistributed profits tax, the overall average distribution ratio of Table 13 would have been higher and, for each income class, the extent of the deviation from this average would have been greater (but in the same direction as the table shows).

[56] There may be, in some cases, a close relationship between capital gains or resale value of a stock and the corporation's distribution policy which would encourage

saving rates evidently affected the relationship between size of personal income, including dividends, and distribution ratios of corporations from which the dividends were received.

While the above test, fragmentary though it is, suggests that there was on net balance no pronounced tendency in 1936 for the rich to seek investment in high-saving corporations, it is possible that in the years after 1936, when opportunities for tax saving on capital gains increased, such a tendency became marked. Table 14 provides the effective tax rate on an added dollar of ordinary income and the effective rate on an added dollar of net long-term capital gains for taxpayers at selected net income levels. In the years after 1936, the effective rate on an incremental dollar of ordinary income increased substantially and the tax saving represented by the preferential rate on capital gains was much greater. These factors should create an impetus for those subject to high marginal rates of personal income tax to hold shares in high-saving corporations, but against this is the deterrent imposed by the fact that the market prices of shares frequently fail to reflect reinvested earnings. However, other things equal, the rate could be an important factor in the pattern of investment choices of taxpayers in the higher income classes and also in the distribution policies of corporations controlled by them. Hence the necessity for an inquiry into the effects of such a possibility upon the relationships under investigation.

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investors to choose stock in corporations that distribute a high proportion of their earnings. A stockholder explained it in this way:

"One of the main factors that enters into the market value of stock is the dividend it pays.

"To show how dividends affect prices, I have tried to find a parallel example with which to compare Jersey, and I believe that American Can fills the bill. Both are fine companies; their stocks are really 'prime.' They are rated equally by Fitch. In 1947 they closed within a half point of each other, around 81. Their high prices of 1948 were within one-eighth point, around 93. The book value of Can is $10 or so less than that of Jersey, yet Can sold at 91⅛ yesterday, and Jersey sold at 64⅜. Why? Perhaps because Can, while earning only $9.71 a share in 1948 increased its dividends from $3 to $4, while Jersey, earning over $12 in 1948, decreased its dividends from $4 to $2. I venture the theory that if Jersey had paid us $4 last year the stock would now be selling right up where Can is, perhaps even higher" (from a statement by Mr. Wolf, a stockholder, at the 1949 Annual Meeting of Standard Oil Company [New Jersey], pp. 20-21 of a transcript published by the company for its stockholders, July 18, 1949).

Cf. also J. Keith Butters, John Lintner, and William L. Cary assisted by Powell Niland, *Effects of Taxation: Corporate Mergers*, Harvard University Press, 1951, p. 49: "It is entirely conceivable that Ashland's policy of paying out a larger percentage of earnings as dividends would increase the market value of its securities more than a policy of negligible distributions; the market value of listed securities—as contrasted with closely held, untraded securities representing a controlling interest in a company—depends in considerable part on their dividend records."

TABLE 14

Effective Rate on an Added Dollar of Ordinary Income (Odd Numbered Columns) and on an Added Dollar of Net Long-Term Capital Gains (Even Numbered Columns) for Selected Statutory Net Incomes[a] and Years, 1935-1952

(*per cent*)

YEAR	*Net income $5,000*		*Net income $10,000*		*Net income $25,000*		*Net income $50,000*		*Net income $100,000*		*Net income $1,000,000*	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1935[b]	4.0	2.4	9.0	5.4	19.0	11.4	31.0	18.6	54.0	32.4	62.0	37.2
1936-37[b]	4.0	2.4	9.0	5.4	19.0	11.5	31.0	18.6	59.0	35.4	76.0	45.6
1938-39[c]	4.0	2.0	9.0	4.5	19.0	9.5	31.0	15.0	59.0	15.0	76.0	15.0
1940[d]	4.4	2.2	11.0	5.5	34.1	16.5	48.4	16.5	66.0	16.5	78.4	18.5
1941	13.0	6.5	21.0	10.5	48.0	15.0	59.0	15.0	68.0	15.0	78.0	15.0
1942	22.0	11.0	34.0	17.0	58.0	25.0	69.0	25.0	83.0	25.0	88.0	25.0
1943[e]	24.8	11.0	36.8	17.0	60.8	25.0	71.8	25.0	88.0	25.0	90.0[f]	25.0
1944-45	25.0	12.5	37.0	18.5	62.0	25.0	75.0	25.0	90.0	25.0	90.0[f]	25.0
1946-47	20.9	10.5	32.3	16.2	56.1	25.0	68.4	25.0	82.7	25.0	86.5	25.0
1948-49	16.6	8.3	19.4	9.7	33.4	16.7	51.9	25.0	63.4	25.0	82.1	25.0
1950	17.4	8.7	20.0	10.0	34.6	17.3	53.7	25.0	65.5	25.0	84.4	25.0
1951	20.4	10.2	22.4	11.2	39.0	19.5	60.0	25.0	73.0	25.0	91.0	25.0
1952	22.2	11.1	24.6	12.3	42.0	21.0	66.0	26.0	75.0	26.0	92.0	26.0

Source: For 1935-1950, Lawrence H. Seltzer, *The Nature and Tax Treatment of Capital Gains and Losses*, National Bureau of Economic Research, 1951, pp. 523-4; for 1951 and 1952, Internal Revenue Code.

[a] Married person, two dependents, maximum earned income credit.

[b] Rates on gain from sale of capital assets held over two, but not over five years.

[c] Rates on gain from sale of capital assets held more than two years.

[d] Includes Defense Tax.

[e] Includes Victory Tax.

[f] Takes account of maximum effective rate limitation of 90 per cent.

Data for 1949 on the patterns of financial asset holdings of individuals in Wisconsin, made available by Thomas R. Atkinson, permit inferences to be drawn as to whether high income taxpayers, as a group, take advantage of the preferential tax rate on capital gains by concentrating their holdings in corporations having low distribution ratios. The Wisconsin law requires reporting on state income tax returns not only dividend receipts but also stock holdings. Having access to the returns, Atkinson was able to estimate the value of the stock from which a sampled group of taxpayers received dividends in 1949.[57] For this purpose he divided common and preferred stocks into two categories—traded and untraded. Stock issues for which dividend and price quotations were available in investment manuals fall in the traded category and the rest are classified as untraded. The value of traded stock holdings was determined by multiplying the average number of shares of the particular issue held by the individual in 1949 "by the unweighted mean between the high and low 1949 market price." For untraded stock Atkinson used book value.[58] His estimates for all Wisconsin taxpayers are presented in Table 15.

The hypothesis that the stock investments of the rich as a group

TABLE 15

Yield on Traded and Untraded Common Stock Held by Wisconsin Individuals, Arrayed by Income Classes, 1949
(*per cent*)

INCOME CLASS	YIELD ON COMMON STOCK	
	traded[a]	*untraded*[b]
	(1)	(2)
Negative	5.6	7.4
$0-4,999	7.3	3.2
5,000-5,999	6.8	3.1
10,000-19,999	6.7	4.3
20,000-49,999	6.5	4.9
50,000 and over	7.3	5.1
All income classes	6.9	4.6

Source: Thomas R. Atkinson, *The Pattern of Financial Asset Ownership: Wisconsin Individuals, 1949*, Princeton University Press for National Bureau of Economic Research, 1956, p. 131.

[a] Based on market value.

[b] Based on book value.

[57] Thomas R. Atkinson, *The Pattern of Financial Asset Ownership: Wisconsin Individuals, 1949*, Princeton University Press for National Bureau of Economic Research, 1956.

[58] *Ibid.*, p. 49.

are characterized by a lower pay-out percentage than the average percentage for stock holdings of all dividend recipients can be tested most straightforwardly by the data for untraded corporations. For these companies are more typically small and closely held, and the operations of such enterprises can be more easily geared to the owners' personal requirements than is the case for widely owned corporations. Moreover, with traded stock, a low dividend pay-out policy might lead to a fall in the value of the stock (or prevent a rise); therefore the ratio of dividends to stock value, i.e. the yield, would not be useful data for testing the hypothesis. Book valuation would not be affected in this way.

An examination of the data most relevant here (column 2, Table 15) shows that in general the higher the income class, the greater the dividend return in proportion to stockholders' equity. On the face of it, these figures appear to contradict the hypothesis under test, but such a direct conclusion is not warranted. It is not the ratio, D/B ($D =$ dividends and $B =$ book value) which is relevant evidence in this connection, but more properly it is D/Y ($Y =$ earnings) which is the product of D/B and B/Y. Only if B/Y is constant or rises from one stockholder income class to another can the pattern of movement of the values of D/B be taken definitely to indicate the direction of the ratio D/Y. In other words, since D/B increases reading up the stock holder income scale, if B/Y rises or remains constant then D/Y will increase with stockholder income. Without evidence on the behavior of B/Y by stockholder income classes, the argument must be inferential. For income corporations (responsible for almost all corporate net dividend payments in the years covered) W. L. Crum has demonstrated that the rate of return on net worth, Y/B, tends to fall as asset size rises.[59] This means that its inverse, B/Y, rises with asset size. And since the 1936 data suggest a loose correlation between corporate asset size and dividend recipient income class, the D/B ratios in the untraded column of the table can be taken to indicate a D/Y that moves in the same direction, rising with stockholder income class. The same result would follow if it were the case that corporations whose stock is untraded tend to fall within a narrow asset size range, with B/Y roughly constant for all relevant corporation asset size and stockholder income classes.

Thus, the analysis apparently ends with the conclusion that the

[59] William Leonard Crum, *Corporate Size and Earning Power*, Harvard University Press, 1939, pp. 27-30. Crum's findings are for each of the years 1931 through 1936. Similar computations for 1944, 1947, and 1952 confirm the occurrence of this pattern over the period of this investigation.

data do not support the hypothesis that high income stockholders, as a group, tend to invest proportionately more heavily than lower income stockholders do in corporations that save a higher than average proportion of their earnings. But this is not a conclusion to be pressed strongly. The chain of argument is not complete; some links are missing. In particular, the transition from corporation asset size to stockholder income classes is a rather rough and ready procedure. Moreover, data for one state in one year are obviously not a valid basis for generalization.[60] The data are too tangential to the problem at hand and generally too imperfect to sanction a firm conclusion that, in fact, personal income tax relief via the route of retained earnings is not sought to a greater relative extent by stockholders in the higher income classes.

[60] Indicative of the need for caution in interpreting these data is the following information supplied by Atkinson:

"Finally I did some investigating on the reason that the per cent return on closely-held stocks behaves in an opposite manner than your thesis would require. I broke the tabulation down into holdings of stocks in corporations from which the holder also received wages, and stocks in corporations from which they did not. No luck there. The ratios continued to rise for each type of holding. However, the proportion of low yielding bank stock out of the total closely held stocks owned by each income group falls as income rises which may account for some of it. Similarly, the holdings of stock in personal holding companies rise percentage-wise as income increases and these stocks have an extremely large rate of return when computed on book value basis as the underlying assets, real estate and stocks for the most part, are carried on the books, for the most part, at purchase price. For instance, the Able Company is a holding company whose principal assets consist of Baker Company stock. The Baker stock must have been valued at the original cost for Able paid out almost as much in dividends as its total book value in 1949. Thus, even if the operating company retained a high percentage of earnings, the per cent return on the book value of the holding company would be very high.

"These factors may account for some of the reasons that the ratios rise. However, I think the more important reasons have to do with the character of the closely held corporations the stock of which is held by people in different income groups. Low income groups hold closely held stock of banks, retail and wholesale concerns and service concerns, all of which are small businesses which have extremely low earnings after payment of the wages of the manager who is probably also the principal stockholder. Their earnings would be much smaller both absolutely and relative to book value than some larger closely held corporations. Furthermore, undoubtedly the larger closely held corporations are owned somewhat more widely, i.e., outside of management and family circles, and there is a pressure to distribute dividends to the outsiders, perhaps due to mistrust, and also due to the inability in many cases for capital gains to be taken by the outsiders because of lack of market or a market composed only of 'insiders.' Finally, perhaps unions will accept a six per cent return on investment more easily than high salaries to management in their bargaining considerations." Letter from Thomas R. Atkinson, February 25, 1951. Able and Baker are substituted for the names of specific companies in this quotation.

A TEST DESIGNED TO MEASURE THE POSSIBLE EFFECT ON THE FINDINGS OF SAVING THROUGH RETAINED EARNINGS

Because information on the differential rate of individual saving via corporate reinvestment is fragmentary, because pressures toward minimizing personal surtaxes have become increasingly powerful in the last decade, and because of a widespread feeling that this applies particularly to higher income stockholders, it seemed desirable to undertake a test calculation on the assumption of a distribution of net corporate earnings reflecting this practice. This test, like those devised for the preceding alternatives, was made with data for 1947.

The possibility of preferential tax rates on realized capital gains, an important part of the argument, was used in setting up the alternative distribution. It was assumed that the degree to which stockholders at various income levels consciously sought retained earnings varied directly with the degree of tax saving achieved by obtaining an incremental dollar as long-term capital gain rather than as ordinary income. This of course is a rather mechanical view of human nature, particularly when applied to something as complex as the motives that surround stock ownership. Nonetheless it serves to focus directly on the point whose effects, if any, the test is designed to isolate.

Nontaxable dividend recipients, having the same marginal rate on their capital gains and dividend receipts, were assigned a benchmark weight of one. For all taxable persons, on the other hand, there was a difference between the marginal rates, a difference that always ran in favor of long-term capital gains, but varied in relative strength, growing stronger the higher the taxpayer's income level. For example, as in Table 16, for the class with taxable incomes ranging between $0 and under $10,000, the marginal rates on capital gains were on average only half the rates on dividends, a proportion expressed by the multiplier of 2 assigned to this class; for the income class $100,000 and under $500,000, the capital gains marginal rates were on average just over three-tenths of the personal income tax marginal rates, a proportion expressed by the multiplier of 3.311. Such multipliers were developed for a number of broad income classes. (See Table 16.)

These multipliers were applied to the amount of retained earnings after taxes as computed by our standard method. But, of course, the total retained earnings obtained by this method greatly exceeded the actual amount of retained earnings. The new values were reduced proportionately to bring them into line with the actual totals. This set of figures takes into account the postulated tendency for stockholders at the higher income levels to hold stock in corporations that retain a higher than average proportion of their earnings. With the

TABLE 16

Multipliers Used for Alternative D

TAXABLE INCOME CLASS ($000's) (1)	*Ratio of marginal capital gain rate to marginal personal rate* (2)	*Multiplier [reciprocal of (2)]* (3)
0 and under 10	0.500	2.000
10 and under 25	0.473[a]	2.114
25 and under 50	0.406[b]	2.463
50 and under 100	0.334[c]	2.994
100 and under 500	0.302[d]	3.311
500 and under 1,000	0.295[e]	3.390
1,000 and over	0.289[f]	3.460

Source: For data, column 2, Lawrence H. Seltzer, *The Nature and Tax Treatment of Capital Gains and Losses*, National Bureau of Economic Research, 1951, p. 525.

[a] Average of rates applying at $10,000 and $25,000.
[b] Average of rates applying at $25,000 and $50,000.
[c] Average of rates applying at $50,000 and $100,000.
[d] Rate applicable to $100,000 (little variation between $100,000 and $1,000,000).
[e] Average of rates applicable at $100,000 and $1,000,000.
[f] Rate applicable to $1,000,000.

total of corporate earnings given, these figures mirror also the assumption that stockholders in the lower income classes receive dividends from corporations that retain a lower than average proportion of their earnings.

For 1947, the standard method implied for every income class a ratio of retained earnings after taxes to dividends of 1.86. For alternative D, after adjustment, the ratio varies with income class, as shown in Table 17. With these ratios, the next step was to impute new

TABLE 17

Ratio of Retained Income after Taxes to Dividends under Alternative D, by Taxable Income Classes, 1947

TAXABLE INCOME CLASS ($000's)	*Ratio of retained income after taxes to dividends*
0 and under 10	1.52
10 and under 25	1.61
25 and under 50	1.87
50 and under 100	2.27
100 and under 500	2.52
500 and under 1,000	2.58
1,000 and over	2.63
Average	1.86

Note: There is nothing peculiar about the fact that all but two classes in the table show a ratio above average, because the nontaxable and the taxable under $25,000 classes together account for a high proportion of total dividends.

amounts of corporate earnings and corporate income tax liability to each stockholder dividend-income size cell used in the standard method. What did all this computational maneuvering achieve? In our standard method, at all levels of imputed gross income, the ratio of dividends to corporate earnings net of corporation income tax stood at 0.349. Under alternative D the distribution ratio varies all along the line, tending to fall as stockholder income rises. (See Table 18.)

TABLE 18

Distribution Ratios under Alternative D, 1947

AVERAGE STOCKHOLDER IMPUTED GROSS INCOME ($000's)	*Distribution ratios*
1	0.399
2	0.396
3	0.397
4	0.396
5	0.397
6	0.396
8	0.396
10	0.395
12	0.393
15	0.393
20	0.389
25	0.386
50	0.373
75	0.363
100	0.350
150	0.332
200	0.318
250	0.312
500	0.293

CONCLUSION

With the rearrayed data, by procedures previously described in connection with the standard method, values of the differentials against earnings for distribution, earnings for retention, net corporate earnings and stockholders' income were calculated. The results (variant 2 only) are presented in Table 19.

These data suggest that, in all likelihood, the findings of our standard method are substantially correct, even if it should turn out that there is a consistent tendency (its strength correlated with the degree of tax saving involved in converting a dollar of income into a dollar of long-term capital gain) for the higher income taxpayers so to arrange their stockholdings that a higher than overall average

TABLE 19

Comparison of Differentials under Standard Method and Alternative D, 1947
(per cent)

AVERAGE STOCKHOLDER IMPUTED GROSS INCOME ($000's)	DIFFERENTIAL AGAINST NET CORPORATE EARNINGS			DIFFERENTIAL AGAINST STOCKHOLDER INCOME		
	Standard method (1)	*Alternative* D (2)	(2) — (1) (3)	*Standard method* (4)	*Alternative* D (5)	(5) — (4) (6)
1	24.6	24.5	—0.1	5.9	5.4	—0.5
3	23.8	24.1	0.3	4.8	4.5	—0.3
5	22.5	23.0	0.5	5.2	5.5	0.3
10	17.7	18.4	0.7	6.0	6.5	0.5
25	2.0	2.4	0.4	1.0	1.2	0.2
50	—7.6	—7.0	0.6	—4.8	—4.3	0.5
100	—16.2	—16.1	0.1	—11.9	—11.8	0.1
250	—24.5	—26.1	—1.6	—19.4	—20.8	—1.4
500	—25.7	—28.5	—2.8	—22.7	—25.1	—2.4

proportion of the earnings made on their behalf is retained in the corporate till.

Alternative E—Imputing Only Earnings for Distribution

Up to this point, the imputed gross income of stockholders used in the study has included all of net corporate earnings—distributed as dividends, paid out as taxes, and retained by corporations—on the premise that this is what they could have had as part of their personal income if there had been no corporate tax, and if corporations had distributed all of their earnings. This appears to be the most reasonable concept as a basis for analysis of the differential taxation of stockholders. However, some recent policy proposals have been primarily concerned with the distributed segment, and some students have suggested that the problem be analyzed on this basis.

President Eisenhower proposed, in his Budget Message to Congress for the fiscal year 1955, that relief from the "double taxation of dividends" be granted stockholders. The relief provisions finally incorporated in the Internal Revenue Code of 1954 called for an exclusion from taxable income of the first $50 ($100 for joint returns) of dividends from domestic corporations, and a personal income tax credit of 4 per cent of all dividend receipts in excess of the excluded amount.[61] This tax relief applies solely to the distributed portion of

[61] *Internal Revenue Code of 1954*, Public Law 591, H.R. 8300, 83d Cong., 2d sess., August 16, 1954, Chap. 736, secs. 34 and 116. These relief provisions are analyzed in Chapter 7 of this study.

corporate earnings. Similarly, in criticizing a study of the 1948 tax burden by Richard Musgrave and three associates, Rufus S. Tucker stated that "there is no justification for allocating undistributed profits to the income of stockholders. They are not available to the stockholders, except to the extent that they may result in raising the market price of the stock. They usually have only a slight influence on the market price, and even if that were not the case the stockholder could only realize them by selling, and his profit from such sales is generally not regarded as income, either by accountants or economists or statisticians, but as capital gains. Even tax authorities do not regard unrealized capital gains as income."[62]

For reasons given earlier, the view appears justified that the full answer to the question of the differential heaviness of the tax load on stockholders should run in relative terms, i.e., relative to how heavy their tax load would have been under the personal income tax. This can be assessed only if stockholders' potential personal income levels are ascertained, and for this, imputation of undistributed earnings is necessary.

But, at this point in our examination of the effects of alternatives of the standard method on the results, it appeared desirable to provide the reader with some information on what the picture would look like if the comparison were to deal only with distributed earnings (and the corporate taxes allocable to them). For this purpose, alternative E has been developed. For it earnings for distribution serve as the measure of personal income from corporate activity. Therefore to stockholders' income is imputed the excess of what corporations had to earn before corporation income tax over dividends received by stockholders, i.e. the corporate tax liability on earnings for distribution.[63] This same figure is, of course, included in their tax liability also. The rearrayed stockholder incomes are then processed as under the standard method. Alternative E gives two differentials, one against net corporate earnings (equal to earnings for distribution) and the other against stockholders. The assumptions and methods embodied in alternative E lead to results substantially different from those produced by the assumptions

[62] Rufus S. Tucker, "Distribution of Tax Burdens in 1948," *National Tax Journal*, September 1951, p. 277.

[63] As before, let E equal the earnings made for distribution, D the dividends paid out, and C_e the effective rate of corporate tax (as a fraction), then

$$E - C_e E = D \quad \text{or}$$

$$E = \frac{D}{1 - C_e}$$

and the difference between E and D is equal to $C_e E$.

of the standard method. A comparison of the results under the two methods is found in Table 20.

TABLE 20

Comparison of Differentials under Standard Method and Alternative E, 1947 (*per cent*)

AVERAGE STOCKHOLDER IMPUTED GROSS INCOME ($000's)	DIFFERENTIAL AGAINST NET CORPORATE EARNINGS			DIFFERENTIAL AGAINST STOCKHOLDER INCOME		
	Standard method (1)	*Alternative* E (2)	(2) — (1) (3)	*Standard method* (4)	*Alternative* E (5)	(5) — (4) (6)
1	24.6	27.9	3.3	5.9	7.3	1.4
3	23.8	27.9	4.1	4.8	4.9	0.1
5	22.5	27.3	4.8	5.2	4.2	—1.0
10	17.7	24.7	7.0	6.0	5.2	—0.8
25	2.0	16.4	14.4	1.0	4.2	3.2
50	—7.6	11.9	19.5	—4.8	3.6	8.4
100	—16.2	7.9	24.1	—11.9	3.5	15.4
250	—24.5	5.0	29.5	—19.4	2.7	22.1
500	—25.7	4.7	30.4	—22.7	2.2	24.9

Differentials against the net corporate earnings component are higher under alternative E at all levels of stockholder income. (Remember, this comparison is undertaken for stockholders with incomes of similar size but different definition.) As a corollary, for alternative E there is no cross-over, even at the peak incomes, from extra burden to benefit. For the differential against stockholders a somewhat different result makes the extra burden, compared with that of the standard method, about the same at the lower income levels, and considerably more severe at the upper income levels. The result over the lower portion of the income range occurs because, while the differential against net corporate earnings is higher under alternative E, net corporate earnings comprise a much smaller proportion of stockholders' total income under the definition used in this alternative than in our standard method. We can conclude that if it is deemed more "sensible," in analyzing the differential tax burden on stockholders, to consider only that portion of net corporate earnings distributed to stockholders then our standard method involves an understatement of the differentials against net corporate earnings over the whole income range, and of the differentials against stockholders at the higher income levels.

Alternative F—Imputing Only a Fraction of Retained Earnings

In Chapter 2, in estimating the future increase in capital gains tax liability due to retained earnings imputed to each average stockholder

income, it was assumed (according to variant 2 which is the standard method) that stock prices mirror only 72 per cent of the earnings retained by corporations. In imputing to stockholders their proportionate share of retained earnings, however, the full value—100 per cent—was considered appropriate for the problem at hand. Because some readers may feel that the proportionate share of retained earnings credited to stockholders should be no more than the change in the value set on their assets by the market, alternative F has been developed. The adjustment incorporated in this alternative is simple and direct: only 72 per cent of stockholders' pro rata share of total retained earnings is imputed to them.[64] Stockholders' corporate earnings and total income are lower than under the usual procedure, but their tax liability is unchanged.[65] It follows, therefore, that the alternative F differentials would be larger than those derived by our usual procedure. That these differences are not very important, however, can be seen from an examination of the data of Table 21.

TABLE 21

Comparison of Differentials under Standard Method and Alternative F, 1947
(per cent)

AVERAGE STOCKHOLDER IMPUTED GROSS INCOME ($000's)	DIFFERENTIAL AGAINST NET CORPORATE EARNINGS			DIFFERENTIAL AGAINST STOCKHOLDER INCOME		
	Standard method (1)	*Alternative* F (2)	(2) — (1) (3)	*Standard method* (4)	*Alternative* F (5)	(5) — (4) (6)
1	24.6	27.7	3.1	5.9	6.0	0.1
3	23.8	27.7	3.9	4.8	5.3	0.5
5	22.5	26.3	2.8	5.2	6.3	1.1
10	17.7	21.5	3.8	6.0	7.7	1.7
25	2.0	5.1	3.1	1.0	2.4	1.4
50	—7.6	—4.5	3.1	—4.8	—2.8	2.0
100	—16.2	—13.8	2.4	—11.9	—9.8	2.1
250	—24.5	—21.8	2.7	—19.4	—17.1	2.3
500	—25.7	—22.8	2.9	—22.7	—20.3	2.4

The alternative F differentials against net corporate earnings exceed those of our standard method by between 2.5 and 4 points, lying close to the upper value at the lower income levels, and nearer 2.5 at the

[64] In a sense, alternative *F* is another way of allowing for the same considerations that suggested variant 3 of our standard method, in which the 28 per cent attrition is treated as an additional tax and stockholder income is unchanged.

[65] The adjustment here is not precise. In view of the time required for retained earnings to be reflected in stock prices, the present value of this component is somewhat less than 72 per cent of reinvested earnings.

top of the income range. The familiar pattern of decline in severity as stockholder income rises and, after a point, a turn in favor of net corporate earnings persists under alternative F. The cross-over point is higher, however—$38,000 compared with $30,000 for the standard method. The differential against stockholders is also slightly higher as measured under alternative F than by our usual method. The difference between them is almost imperceptible at the lower incomes, but it rises with stockholder income, reaching a peak of 2.4 percentage points at the top of the income range. The growing divergence between the differentials of alternative F and the standard method is explained by the increase in the proportion of corporate earnings as stockholder income rises.

Those who prefer as more appropriate inclusion of a fraction rather than the whole of retained corporate earnings in the income of stockholders will conclude that the standard procedure overstates the differentials against net corporate earnings and stockholders. But if imputing 72 per cent is judged to be reasonable, the overstatement is quite small. While the specific findings of this test rest, of course, on the data for 1947, the general conclusions they suggest hold for the other years in our period. Moreover, in these other years, the overstatement would be even smaller because in 1947 retentions represented a higher proportion of corporate earnings than in any other year covered by the study.

Alternative G—Correction for Underreporting of Dividends

One step in the standard method is imputation to stockholders of their full pro rata share of corporate earnings (before tax) on the basis of their dividend receipts as reported on their personal income tax returns. But there is evidence suggesting that dividends have not been fully reported for this purpose.[66] (While this is true of other types of income also our concern here is with dividends.) For example, for 1952 there was an estimated gap of about $1.1 billion between the dividends paid out to individuals and total dividends reported on personal income tax returns.[67] The data do not permit a precise statement, but, undoubtedly some of this gap, perhaps a very high fraction, can be attributed to purposeful underreporting. Thus, the Treasury has estimated for 1950 that if dividends "not accounted for" on personal income tax returns (about $1 billion) were reached by a

[66] *Audit Control Program: A Summary of Preliminary Results*; Goldsmith, *op. cit.*; Holland and Kahn, *op. cit.*; Revenue Revisions of 1950, Hearings on H.R. 8920 before the Senate Committee on Finance, 81st Cong., 2d sess., pp. 15-19.

[67] Holland and Kahn, *op. cit.*, pp. 320 and 336.

withholding tax an increase in revenue of $150 million would have resulted.[68] That stockholders have failed to report all their dividends under the personal income tax is clear. The Audit Control Program obtained data suggesting that the degree of underreporting varies among income classes, generally tending to decline in relative importance as stockholder incomes rise. Unfortunately the full statistical substantiation for this statement, based upon unpublished material examined by the author, cannot be set forth here.

In brief summary this was the procedure: The data consisted of the amount of tax change disclosed by audit on returns with major errors in dividends and minor errors in dividends so classified that they could be arranged in four broad adjusted gross income classes—under $7,000,[69] $7,000 and under $25,000, $25,000 and under $100,000, and $100,000 and over. By assuming all of the tax change disclosed by audit on returns with major dividend errors and half of the tax change on returns with minor errors to be due to dividend underreporting, and applying the average marginal rates prevailing in each of these four broad income classes (different rates for separate and joint returns), an estimate was obtained of the amount of unreported dividends.[70] Underreporting showed a general tendency to decline in relative importance as stockholder income increased.

Estimated Underreporting, 1948

Adjusted gross income class ($000's)	Unreported dividends as a per cent of all dividends
Under 7	6.0
7 and under 25	7.9
25 and under 100	2.2
100 and over	0.6
Total	4.4

[68] Revenue Revisions of 1950, *op. cit.*, p. 19.

[69] This class includes returns with up to $25,000 of gross receipts from business or profession.

[70] The criteria for placing a return in the major error in dividends category were: the error was responsible for the largest portion of the change in adjusted gross income; the change in adjusted gross income, in turn, was responsible for a larger part of the tax change than that due either to exemptions, personal deductions, or arithmetical error. The estimate of the amount of unreported dividends in our test is too high because it is likely that less than the assumed 100 per cent (for major dividend errors) and 50 per cent (for minor errors in dividends) of the tax change were due to the dividend errors. It seemed appropriate, in view of the illustrative nature of the figures, to make these extreme assumptions which provided the maximum possible value for the factor the effect of which the test incorporated in alternative G was designed to isolate.

Finally, on the assumption that these same ratios applied in 1947, they were used to "correct" the imputation ratios employed in the various dividend-size income class cells. Whereas our standard method used a single imputation ratio of net corporate earnings to dividends, 4.56, for all income classes, the alternative G ratio varied as follows:

Adjusted gross income class ($000's)	Imputation ratio—net corporate earnings to dividends
Under 7	4.85
7 and under 25	4.94
25 and under 100	4.66
100 and over	4.58

Application of these ratios furnished the corporate earnings and imputed gross income that would have been obtained if stockholders had been more "truthful" or more accurate in remembering or recording their dividends reported.

The previously noted lack of precision in this test stems also from the unknown degree of success attained by the Audit Control Survey in digging up unreported dividends,[71] and from the whole string of assumptions made. But the adjustment under alternative G has illustrative value. What does it show?

RESULTS OF TEST OF ALTERNATIVE G

Had the data used incorporated "fuller" reporting of dividends, the findings would have been virtually the same as those drawn from the standard method (see Table 22). In general under alternative G the differentials are slightly higher at the lower income levels; the degree of tax saving slightly greater at the top of the range.

[71] Very rough calculations indicate quite a gap between the total underreporting estimated from the Audit Control data and that suggested by the other studies cited in footnote 66.

TABLE 22

Comparison of Differentials under Standard Method and Alternative G, 1947
(*per cent*)

AVERAGE STOCKHOLDER IMPUTED GROSS INCOME ($000's)	DIFFERENTIAL AGAINST NET CORPORATE EARNINGS			DIFFERENTIAL AGAINST STOCKHOLDER INCOME		
	Standard method (1)	*Alternative* G (2)	(2) — (1) (3)	*Standard method* (4)	*Alternative* G (5)	(5) — (4) (6)
1	24.6	23.6	—1.0	5.9	6.0	0.1
3	23.8	24.0	0.2	4.8	4.8	0.0
5	22.5	22.4	—0.1	5.2	5.9	0.7
10	17.7	17.9	0.2	6.0	6.7	0.7
25	2.0	2.1	0.1	1.0	1.1	0.1
50	—7.6	—7.4	0.2	—4.8	—4.8	0.0
100	—16.2	—16.3	—0.1	—11.9	—12.1	—0.2
250	—24.5	—25.4	—0.9	—19.4	—20.1	—0.7
500	—25.7	—26.6	—0.9	—22.7	—23.6	—0.9