

INCIDENCE AND EFFECTS OF THE CORPORATE INCOME TAX

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THERE continues to be considerable disagreement and uncertainty about the incidence of the corporate income tax. The state of the theory is aptly described by Robertson's statement, "If you throw enough taxation mud at the business man a good deal of it will stick."¹

VIEWS ON INCIDENCE

The traditional doctrine of the incidence of an income tax was cogently formulated by E. R. A. Seligman.² Briefly the doctrine is as follows. Under competitive conditions, the prevailing market price of a commodity is

equal to the average cost of some (the "marginal") firms at their (short- and long-run) equilibrium output. Since these (marginal) firms pay no tax, firms which do pay the income tax cannot shift it either to consumers or workers because of the competition of nontaxpaying firms. Under monopolistic conditions, the firm maximizes its net income before the levying of the tax. The imposition of the tax which is based on "net income" will not alter the firm's price or output policy, because it cannot increase its income after the tax, by altering either price or output.

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¹ D. H. Robertson, "The Colwyn Committee, The Income Tax and the Price Level," *Economic Journal*, XXXVI (December, 1927), 581.

² See E. R. A. Seligman, *The Shifting and Incidence of Taxation* (London: Macmillan Company, 1902), pp. 269-94. Also, J. Stamp, "Taxation, Risk-Taking, and the Price Level," *Economic Journal*, XXXVIII (June, 1928), 204-15; W. H. Coates, *Memorandum on the Incidence of the Income Tax*, Appendices to the Report of the Committee on National Debt and Taxation (London: H. M. Stationery Office, 1927); C. Ward Macy, "The Corporation Net Income Tax and the Cost-Price Structure," *Bulletin of the National Tax Association*, XXX (May, 1944), 231-35; H. M. Groves, *Financing Government* (New York: Henry Holt and Company, 1945), pp. 141-42.

This is the dominant view among economists. For example, Professor Ford, at the 1947 National Tax Conference, reiterated the traditional doctrine of the incidence of the corporate income tax: It is not a tax on costs and is not an element of cost; therefore, it is not shifted, i. e., not reflected in higher prices or lower wages, but is a burden on the corporate shareholder.³ He comments, "In general, the view held by economists is that an imposition of this character does not constitute a cost of production."⁴

Some writers, however, have taken the view that the corporate income tax

³ Robert S. Ford, "Some Economic Aspects of the Present Corporate Income Tax," *Proceedings of the National Tax Association* (1947), pp. 55-56.

⁴ *Ibid.*, p. 56.

is a tax on costs and is therefore shifted.⁵ As early as 1927, Robertson voiced some misgivings about the Seligman formulation. He said:

It makes surely all the difference in the world whether we are or are not to reckon among the costs of the marginal producer, which *ex hypothesi* determine price, all such profits as may properly be regarded as wages of management or remuneration for risks; yet Professor Seligman leaves us uncertain.⁶

However, this suggestion to make closer inquiry into the economic nature of corporate "profits" was not carried out until much later. Goode suggested that the corporate net income tax is levied upon three elements of economic cost, namely, imputed interest on equity capital, imputed rent on owned scarce factors, and a reward for bearing of uninsurable risks.⁷ The brevity of his statement of this position, the doubt cast on it by other statements in his article,⁸ and the much greater emphasis Goode places on the role of aggregate demand in the theory of incidence have apparently obscured the implications of his presentation of "the case for saying

that the corporate tax is a tax not only on pure profits or surplus, but also on elements of necessary cost."⁹

Various intermediate positions are held. An eclectic approach is that it is uncertain whether the tax is on costs or "surplus" (i. e., profits) but that the tax has undesirable effects either on investors in the form of lower returns, on workers in the form of lower wages, or on consumers in the form of higher prices.¹⁰ Still another view is that the tax is on costs, but whether it is shifted or not depends upon additional factors.¹¹

The conclusions have been made more uncertain by the introduction of new aspects into the analysis. Some have suggested the need for consideration of the influences created by the expenditure of funds raised by the corporate income tax.¹² A shift from the analysis of the impact and incidence of the tax in terms of value (price) and distribution theory to the aggregates of employment and output (income) theory has been held to make the conclusions

⁹ *Ibid.*

¹⁰ See H. M. Groves, *Postwar Taxation and Economic Progress* (New York: McGraw-Hill Book Co., Inc., 1946), pp. 27-30; B. Ruml, "Fiscal Policy and Taxation," *Proceedings of the National Tax Association* (1944), p. 169; O. Litterer, "Corporate Income Tax and Production," *Bulletin of the National Tax Association*, XXXII (April, 1946), 199-205.

¹¹ Goode, *op. cit.*, pp. 40-58; C. Shoup, "Incidence of the Corporate Income Tax: Capital Structure and Turnover Rates," *National Tax Journal*, I (March, 1948), 12-17.

¹² See M. S. Kendrick, "Public Expenditure: A Neglected Consideration in Tax Incidence Theory," *American Economic Review*, XX (June, 1930), 226-30; A. de Viti de Marco, *First Principles of Public Finance* (translated by E. Marget; New York: Harcourt, Brace and Co., n.d.); Black, *op. cit.*

⁵ See D. H. Robertson, *op. cit.*, pp. 566-81; D. Black, *The Incidence of Income Taxes* (London: Macmillan and Co., Ltd., 1939); H. R. Bowen, "Taxation of Net Income from Business," *Bulletin of the National Tax Association*, XXXI (December, 1945), 72-80; H. M. Groves, "Revision of the Corporation Income Tax," *Proceedings of the National Tax Association* (1947), p. 99.

⁶ Robertson, *op. cit.*, p. 567.

⁷ R. Goode, "The Corporate Income Tax and the Price Level," *American Economic Review*, XXXV (March, 1945), 49.

⁸ Viz: "Moreover, if the tax on net profits is a cost it is indeed a strange kind of cost. It is a 'cost' which rises with success but automatically disappears when operations are unsuccessful" (*ibid.*, p. 45).

on a new set of relationships.¹³

The opinions of businessmen on the incidence of the corporate income tax are also divided. The Colwyn Committee found that British businessmen considered that the British income tax was shifted.¹⁴ In response to a survey made in the United States by the National Industrial Conference Board in the late 1920's, 128 firms said that the tax was shifted, while 449 firms said that it was not shifted.¹⁵ In a more recent survey by the Board, business executives were asked whether the corporate income tax had a "conscious influence" on their price policies. Fifty-eight answered "yes," 162 answered "no."¹⁶ Apparently in the United States the majority business opinion is that the tax is not shifted. There is no unanimity in this view however. The opposite opinion has been expressed with definiteness and conviction.¹⁷

It is the purpose of this paper to reduce the uncertainty about the nature and effects of the corporate income tax. Primarily, it seeks to identify the economic nature of the elements upon which the corporate tax is levied. This

¹³ See Goode, *op. cit.*; O. von Mering, *The Shifting and Incidence of Taxation* (Philadelphia: Blakiston Co., 1942), pp. 196-200.

¹⁴ *Report of the Committee on National Debt and Taxation* (London: H. M. Stationery Office, 1927).

¹⁵ *The Shifting and Effects of the Federal Corporation Income Tax*, Vol. I (New York: National Industrial Conference Board, Inc., 1928), pp. 153-57.

¹⁶ *Effects of Taxes upon Corporate Policy* (New York: National Industrial Conference Board, Inc., 1943), pp. 57-62, 98-100.

¹⁷ The complaint that corporate income is subject to double taxation rests upon the implicit assumption that the tax is on "income" and not shifted.

provides a basis for the analysis of the incidence and effects of the tax within the framework of partial equilibrium analysis. The implications of newer aspects of incidence theory are briefly indicated.

ECONOMIC ANALYSIS OF CORPORATE ACCOUNTING NET INCOME

Statutory corporate net income is based on accounting net income. The presentation of accounting net income involves difficult conceptual problems which have not been satisfactorily solved. Identification of the accounting frame of reference and associated problems related to the treatment of non-contractual expenses involve complex issues. In addition, a host of valuation problems must be dealt with.

The balance in the income statement upon which the definition of statutory corporate net income is based is "income available to preferred and common stockholders." This balance may be referred to conveniently as accounting "net income" although this does not reflect unanimity in usage among accountants.

Imputed Costs

Accounting "net income" is a conglomerate of economic factor returns. This should not be surprising, since any type of income return is likely to represent a combination of types of economic distributive shares. Corporate "net income" is almost certain to represent a mixture of economic elements because of the accounting convention of non-imputation of costs whose amounts are not determined by contract with an outside party. The nature of these costs is illustrated by Table 1. The

TABLE 1*

NET INCOME BEFORE AND AFTER DEDUCTION OF IMPUTED EXPENSES

Item	Case I: Corporation owns plant; short-term and long- term borrowing	Case II: Corporation owns plant; no borrow- ings	Case III: Corporation rents plant; no borrow- ings	Case IV: Corporation owns plant; borrowings; owner-managers do not receive full economic value of their services
A. Plant (and equipment), net ...	\$100,000	\$100,000	.....	\$100,000
Other assets	200,000	200,000	\$200,000	200,000
Total assets	<u>\$300,000</u>	<u>\$300,000</u>	<u>\$200,000</u>	<u>\$300,000</u>
Notes payable at 2%	\$ 20,000	.....	.....	\$ 20,000
Misc. liabilities	30,000	\$ 30,000	\$ 30,000	30,000
Funded debt at 4%	50,000	.....	.....	50,000
Common stock	200,000	270,000	170,000	200,000
Total claims on assets	<u>\$300,000</u>	<u>\$300,000</u>	<u>\$200,000</u>	<u>\$300,000</u>
B. Net sales plus other income ...	\$201,000	\$201,000	\$200,500	\$201,200
C. Total expenses except items de- tailed below	\$154,600	\$154,600	\$154,600	\$154,600
Plant "rental" .....	.....	.....	25,000	.....
Depreciation on plant	5,000	5,000	.....	5,000
Real estate and property taxes	2,000	2,000	.....	2,000
Maintenance of building ^a ...	10,000	10,000	.....	10,000
Interest ^b	2,400	.....	.....	2,400
Exec. salaries	10,000	10,000	10,000	7,000
Total	<u>\$ 29,400</u>	<u>\$ 27,000</u>	<u>\$ 35,000</u>	<u>\$ 26,400</u>
Total expenses	\$184,000	\$181,600	\$189,600	\$181,000
D. Apparent net income before in- come taxes ^c	\$ 17,000	\$ 19,400	\$ 10,900	\$ 20,200
E. Imputed expenses:				
1. "Rent" less expenses of plant ownership ^d	2,950	2,500	.....	2,900
2. Interest on net amount in- vested in plant ^e	3,050	5,500	.....	3,100
3. Interest on common stock— partial imputation at 2.5% ^f	3,750	4,250	4,250	3,750
4. Interest on common stock— risk differential ^g	5,400	5,440	5,100	5,550
5. Executive salaries ^h .....	.....	.....	.....	3,000
Total imputed expenses	<u>\$ 15,150</u>	<u>\$ 17,690</u>	<u>\$ 9,350</u>	<u>\$ 18,300</u>
F. Net income before income taxes after deduction of imputed expenses	\$ 1,850	\$ 1,710	\$ 1,550	\$ 1,900

*The form of this table is adapted from M. E. Peloubet, "Are Profits Necessary?" *Accounting Review*, XXII (April, 1947), 141-46.

^a"Maintenance of building" includes all expenses of *owning* the building other than depreciation, taxes, and interest.

^b"Interest" includes interest on \$20,000 of notes payable at 2 per cent and \$50,000 of funded debt at 4 per cent in cases I and IV.

^cThis item is frequently, but erroneously, called the "profit" of the corporation.

[Footnotes continued on p. 304]

magnitudes in the table are segregated data from corporation income after the proportions derived from aggregate data from corporation income tax returns with balance sheets in

^d Commercial "rent" less all expenses of plant ownership equals economic rent. Expenses of plant ownership are as follows:

	<i>Case I</i>	<i>Case II</i>	<i>Case IV</i>
Depreciation	\$ 5,000	\$ 5,000	\$ 5,000
Taxes	2,000	2,000	2,000
Maintenance	10,000	10,000	10,000
Interest on funded debt ...	2,000	.....	2,000
Imputed interest on portion of common stock	3,050	5,500	3,100
Total	<u>\$22,050</u>	<u>\$22,500</u>	<u>\$22,100</u>

Interest on funded debt:

Cases I, IV—4% of \$50,000 equals \$2,000
Case II—no funded debt

Imputed interest on portion of common stock:

Case I—2.5% of \$50,000 equals	\$1,250	Case IV—2.5% of \$50,000 equals	\$1,250
3.6% of \$50,000 equals	1,800	3.7% of \$50,000 equals	1,850
	<u>\$3,050</u>		<u>\$3,100</u>
Case II—2.5% of \$100,000 equals	\$2,500		
3.0% of \$100,000 equals	3,000		
	<u>\$5,500</u>		

Summary calculation of economic rent:

	<i>Case I</i>	<i>Case II</i>	<i>Case IV</i>
Estimated commercial rent	\$25,000	\$25,000	\$25,000
Less: Total expenses of plant ownership	22,050	22,500	22,100
Economic rent	<u>\$ 2,950</u>	<u>\$ 2,500</u>	<u>\$ 2,900</u>

^e "Interest on plant" is computed on the equity capital invested in net plant on the assumption that the sources of the \$100,000 invested in net plant are funded debt of \$50,000 and common stock of \$50,000. (The remaining debt and equity are assumed to be working capital.) This item equals the amount of imputed interest on common stock used in the calculation of economic rent in footnote d.

^f This imputation is at the approximate yield on long-term Government bonds, 2.5 per cent. The rate is applied to the amount of common stock under part A of the table, less the amount considered in making the separate deduction explained under item 2 of part E of the table.

Cases I, IV—2.5% of \$150,000 equals	\$3,750
Case II —2.5% of \$170,000 equals	\$4,250
Case III —2.5% of \$170,000 equals	\$4,250

^g This imputation represents the application of the "appropriate" risk differential to the amounts used in footnotes e and f. If the riskiness of each situation is measured by the relative flexibility of the resulting financial structure, the cases may be ranked in ascending order of riskiness as follows: case III, case II, case I, case IV. The assumed risk differentials for each case are chosen with the same rank with arbitrarily chosen intervals. One could select the risk differentials to achieve a "net income after deduction of imputed expenses" that was equal in each case. However, this is an unrealistic procedure. The riskier financial structure will result in net incomes larger than the less risky structures if results of operations on the average are as favorable as anticipated (and conversely). The examples here constructed are realistic in that the plausible situations are reflected.

Case III—3.0% of \$170,000 equals	\$5,100
Case II—3.2% of \$170,000 equals	\$5,440
Case I—3.6% of \$150,000 equals	\$5,400
Case IV—3.7% of \$150,000 equals	\$5,550

^h This amount is arbitrarily assumed, but reference to actual cases will demonstrate that it is realistic.

1942.¹⁸ By applying appropriate multipliers, the data in the table can be transformed into amounts which would be representative for the aggregate of corporations or for a particular corporation.

The "apparent net income before income taxes," the item upon which statutory corporate net income is based, is shown under four sets of assumptions. Apparent net income varies considerably under different assumptions of the contractual bases under which factors of production are hired. Net income under assumption IV is almost double that under assumption III. However, the net incomes after appropriate imputations are more nearly equal.

In case I, the corporation owns its plant and uses both short-term and long-term borrowings. Apparent net income before taxes is \$17,000. However, this balance is before deduction of some implicit costs. Table footnote d illustrates the basis for the computation of economic rent of \$2,950. Under the assumptions described by table footnote e an interest cost of \$3,050 arising out of ownership of plant, in addition to the amounts explicitly deducted as an expense in part B of the table and in the calculation of economic rent, should be deducted from apparent net income. The next two items of imputed expenses are imputed interest on common stock to the extent of \$150,000, \$50,000 having already been used in E,2. First, partial imputation at a rate of interest approximating the average rate over a long period of years on long-term, taxable Government bonds is performed. Second, a component represented by an "appropriate" risk dif-

ferential is levied. In the example this differential is arbitrarily chosen since the full complex of facts of the case necessary for substantiating any specific differential is not presented. In a practical situation some guides which would enable the analyst, exercising judgment, to approximate this differential realistically would be: (1) the yield on the company's long-term borrowing from banks, (2) the yield on the company's funded debt, (3) average yield on the company's common stock over an "appropriate" period of time, (4) the yield on long-term borrowings of "similar" companies in "similar" industries. Total imputed expenses in case I are \$15,150. Apparent net income less imputed expenses is \$1,850.¹⁹

Case II differs from case I in that the corporation secures all of its funds through the sale of common stock, resorting to no borrowing. This results in a decrease in explicit expenses of \$2,400, the interest on short-term borrowings and funded debt of case I. Hence apparent net income is \$19,400, which is \$2,400 more than net income under the first assumptions. Imputed expenses are \$2,540 larger, since the equity funds used to replace the borrowing bear higher nominal rates of interest. Net income after imputations is, therefore, lower by \$140.

Case III modifies case II in that the firm rents its plant instead of owning it. This results in two major changes. First, the economic rent, which was imputed in the two previous examples, is now an

¹⁹ In a specific case this residual amount might be zero or negative. The choice of a positive amount in this example reflects the general tendency always to think of net income as positive. It is worthy of emphasis that a negative net income is consistent with positive income returns to sellers of all types of productive factors.

¹⁸ *Statistics of Income for 1942*, Part 2, pp. 200-01.

explicit cost included in commercial rent.²⁰ Second, the imputed interest on the net amount invested in plant is now included in commercial rent. Explicit expenses are therefore larger by \$8,000 than in case II, whereas implicit expenses are smaller by \$8,340. Apparent net income is therefore \$8,000 lower than in the previous case. Net income after imputations is \$160 smaller than in case II.

Case IV drops the assumptions of cases II and III, modifying case I in the respect that the owner-managers do not receive in salaries the full economic value of their services. Explicit expenses are reduced by \$3,000; apparent net income and imputed expenses are increased by the same amount. The results are identical with case I except for a slight difference in the assumed risk component of the interest rate on common stock.

This extended example demonstrates that accounting measures of net income may include considerable amounts of economic costs. Since noncontractual costs are usually economic costs, it may be presumed that accounting net income and net income as defined under the corporate income tax typically include substantial elements of economic cost.

Valuation Procedures

In addition to the nonrecognition of implicit costs, the accounting measure of net income may differ from the economic measure as a consequence of the valuation procedures used in account-

²⁰ Economic rent could exist under a long-term rental contract where the current value of rental exceeded the contractual rental. Of course, economic rent could be negative.

ing practice. The fundamental principle of accounting procedure is valuation of the basis of historical cost.²¹ A variation of this doctrine is that accounting presents historical costs but does not provide valuations. In a discussion of this issue Littleton concludes that "value" should "be a term honored by complete omission from statements of accounting principles."²² The historical-cost doctrine is modified by the rule of conservatism which provides that when current cost is less than historical cost, recognition of cost decline shall be made.

Similarly, the general practice is not to present goodwill on the balance sheet unless it has been purchased at a cost. If it is purchased at a cost and recorded, it is "written off" as soon as earnings permit.²³ This procedure is based on the assumption that intangible values are usually unreal or evanescent. Demonstrable evidence of the validity of the assumption is lacking.

Differences Between Accounting and Economic Costs

The items specified are the major areas of divergence between accounting and

²¹ See statements of accounting principles formulated by the American Accounting Association in *Accounting Review*, June, 1936, pp. 187-91; June, 1941, pp. 133-39; October, 1948, pp. 339-44; January, 1949, pp. 44-60. Also T. H. Sanders, H. R. Hatfield, and U. Moore, *A Statement of Accounting Principles* (New York: American Institute of Accounting, 1938).

²² A. C. Littleton, "The Relation of Function to Principles," *Accounting Review*, XIII (September, 1938), 239. See also G. R. Byrne, "To What Extent Can the Practice of Accounting Be Reduced to Rules and Standards?" *Journal of Accountancy*, LXIV (November, 1937), 372.

²³ M. B. Daniels, *Financial Statements* (Chicago: American Accounting Association, 1939), p. 185.

economic principles of measuring income. Income accounting regulations which define income for tax purposes diverge from "recognized accounting principles" at many points.²⁴ Divergencies of this type, however, result in differences in detail. This paper will deal only with the broad areas of difference.

Because of differences between accounting and economic principles of measuring costs, accounting measures of net income do not provide data suitable for use when measures of economic net income are required. In periods of changing price levels or technological changes in the economic structure, the use of historical costs in measuring current net income may cause accounting "net income" to include capital gains or losses of previous periods or to contain elements representing capital depletion.

Traditional accounting classification of costs and nonimputation of most types of noncontractual costs results in accounting measures of net income which represent a conglomerate of types of economic returns. The economic content of accounting net income in a given case depends upon the pattern of ownership of the firm, the nature of compensation arrangements for major owners and executives, and the extent to which the firm owns or rents plant and equipment. In large-scale corporate enterprises with widely diffuse ownership, the major economic component of accounting net income is a noncontractual interest return on the

invested capital of preferred and common stockholders. There may also be an element of rent on owned resources.

The "reward for bearing of uninsurable risks,"²⁵ referred to by Goode, is properly included in the interest return. It is a factor cost which is usually an indistinguishable and inseparable component of wage, interest, or rent returns. It is one among the many influences on the demand for and supply of factors of production. The joint effect of all of the influences are reflected in the resulting wage, interest, or rent returns. The influence of the risk element on normal returns may be estimated conceptually by comparing returns for factors where all conditions except the risk factor are identical. This was the basis on which the "pure" interest and "risk" components were separated in Table 1. The influence of risk may result in a risk premium or risk discount, depending upon whether there is a risk aversion or risk preference.

In small concerns, with closely held ownership, executive compensation policies may vary with living-expenses needs of the major owner-managers, the capital needs of the business, and tax-minimizing objectives of owner-managers.

To summarize, accounting net income may include the following types of economic factor returns: noncontractual interest on capital, return of capital, capital gains and losses, economic rent or quasi-rent, and wage returns. In order to set out clearly the nature of the economic elements contained in accounting net income, the categories specified will now be illustrated in traditional cost and sale curves.

²⁴ C. J. Gaa, *The Federal Income Tax Concept of Corporation Income* (Urbana, Ill., 1940); Paul D. Seghers, "Tax Accounting Compared with Recognized Accounting Principles," *National Tax Journal*, I (December, 1948), 341-52.

²⁵ Goode, *op. cit.*, p. 49.

Short-Period Analysis

Quantitatively, the most important element of economic cost in accounting net income that is subject to the corporate net income tax is probably a non-contractual interest return. This paper will restrict itself to an analysis of the effects of taxing this element of cost in the corporate net income. This case provides the clearest illustration of the principle involved and enables the argument to be established on the most general terms, avoiding any narrow or special assumptions.

Fig. 1 illustrates the inclusion of non-contractual interest, in accounting net income. Noncontractual interest is as-

not make it possible to distinguish between direct expenses and indirect expenses, it is assumed for this diagram that fixed expenses, excluding noncontractual interest, are \$40,000. Total fixed expenses therefore, would be \$50,000, as indicated in Fig. 1. *SAFC* represents average fixed costs not including noncontractual interest. *SAFC'* represents average fixed costs including noncontractual interest. When these two curves are added to *SAVC'*, the average variable costs curve, the resulting curves are respectively *SAC*, which is average unit costs not including noncontractual interest, and *SAC'*, which is average unit cost including noncontractual interest. The relationships of these curves are illustrated in Fig. 1.

Fig. 1 illustrates the case where there is zero economic net receipts. The firm

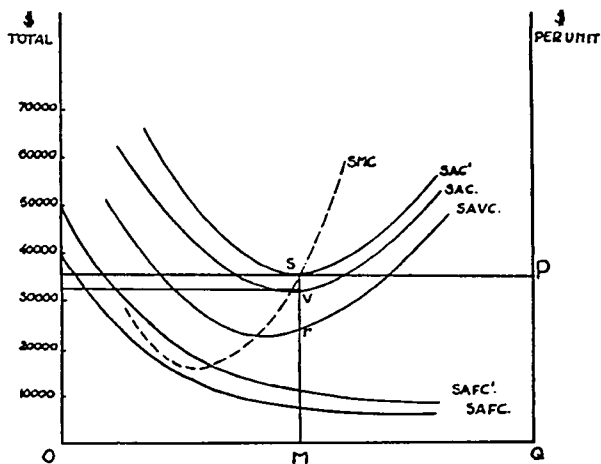


FIG. 1.
Elements of Economic Cost in Accounting
Net Income.

sumed to be the amount portrayed by case III of Table 1, approximately \$10,000. Since the data of Table 1 do

is in both short-run and long-run equilibrium according to traditional economic analysis. However, accounting

net income, the base against which the corporate income tax is levied, would indicate net receipts of vs per unit, a total of sv times OM , or \$10,000. This of course is the amount of the noncontractual interest which is an element of economic cost, but under the income tax law is not recognized as a cost.

This diagram also illustrates the meaning of the frequently used phrase, "average cost including normal profit." Correctly interpreted, it signifies that all of the elements of cost include appropriate risk differentials. For example, in the illustration portrayed by Table 1, the pure interest element in the return to common stock was approximated by the yield on long-term Government bonds and was designated for convenience as 2.5 per cent. The nominal risk differential was assumed to be between 3.0 per cent and 3.7 per cent, varying as the financial structure of the firm made appropriate a larger or smaller risk differential. Profit in the economic sense does not exist at all in the data as illustrated by Fig. 1. Profit in the economic sense would emerge if payments to factors by the firm were based on the expectation that the conditions portrayed by Fig. 1 would be stable over time, and the returns actually realized proved to be better than those indicated by the diagram. Conversely, if results were actually worse than indicated by expected conditions exhibited in Fig. 1, the noncontractual income receivers would secure negative profit or losses.

The example was chosen to illustrate that the corporate income tax would be levied even in the case where there were no economic net receipts. Total costs of the firm in an accounting sense would be vM times OM . The amount by

which total receipts exceeded this sum would be subject to the corporate income tax. In this specific case, assuming a corporate income tax of 40 per cent, the firm would have a tax of \$4,000 to pay. The tax is levied upon an element of fixed cost at a fixed percentage rate and is, therefore, an additional element of fixed costs.

The short-run average cost curve, including noncontractual interest and the corporate income tax, now lies above the average revenue curve. If all elements of cost are taken into consideration, the firm is operating at a loss. The total amount available to the common stockholders after taxes is, therefore, now \$6,000, not \$10,000. The \$10,000 figure represents the return which the common stockholders could have earned on their investment in outlets of similar degree of risk.

The above illustration demonstrates clearly that the corporate income tax is a tax on cost and is itself an element of cost. It indicates that the effect of the corporate income tax in the short period is to reduce the return on investment.

The actual amount of the tax paid is a function of the extent to which total receipts of the firm cover total expenses, including fixed expenses. There are three alternatives to consider: (1) If total receipts equal (but do not exceed) total contractual (direct and fixed) costs, accounting net income is zero and the corporate net income tax is zero. (2) If total receipts exceed total costs (contractual and imputed), economic net receipts are positive but are less than accounting net receipts by the extent of noncontractual costs. The corporate net income tax in this case is levied on the full amount of

noncontractual (economic) costs. (3) If total receipts exceed total contractual costs but are less than total costs (including imputed costs), economic net receipts are negative, but a tax is levied on the noncontractual costs which, under traditional accounting procedures, are reported as net income. In this case, the extent to which the corporate net income tax is a tax on costs is a function of the amount of reported accounting net income, up to the full amount of noncontractual costs. This is the explanation for the apparent paradox that, although the corporate net income tax may be levied on an element of fixed (economic) cost, the amount of the economic cost that is taxed may vary from zero to the full amount of noncontractual costs. It is zero when total receipts cover only contractual costs. The full amount of noncontractual costs is subject to tax when total receipts cover all costs, contractual and noncontractual.

However, there are a large number of firms reporting no net income in the accounting sense. Deficit corporations, during the 1920's, were about 40 per cent of companies reporting. During the 1930's, about two-thirds of the reporting corporations were no-net-income or deficit corporations. Even since 1943, the percentage of no-net-income and deficit corporations has represented some 25 per cent to 30 per cent of reporting corporations.²⁶ It may be argued that the competition of these corporations that pay no tax will prevent the firms that do pay a tax from shifting it.

Reference to Fig. 2 will illustrate the invalidity of this argument. The sales

²⁶ *Statistics of Income*, annual volumes.

curve or industry price facing the firm is established by the intersection of the industry supply curve and the industry demand curve. The industry supply curve is the horizontal summation of the short-run marginal cost curves of the individual firms. Hence the industry short-run supply conditions are a function of the marginal cost curves of the firms of the industry.

The industry price having been established, firms can operate to cover all average costs only if average costs are no higher at any point than SAC'. Firms reporting no net income in the accounting sense must, therefore, have had a level of costs such that the SAC curve, the curve of average costs not including average fixed costs of noncontractual interest, was as high as, or higher than, the SAC' curve, at corresponding outputs, of firms reporting some net income in an accounting sense. These firms are submarginal firms. In the long run they will withdraw from the industry; the industry supply curve will therefore be shifted to the left, resulting in a new and higher industry price.²⁷ This illustrates that even though there may be a large number of firms reporting no net income, in the accounting sense, who sell their products in competition with firms reporting income in the accounting sense, the corporate net income tax is still likely to be shifted, at least in part, in the form of higher prices under the assumptions of the specific diagrams we have used to illustrate these points.

²⁷ For the long period, the curves referred to as short-run curves must be considered long-run curves. The level of the minimum points of the long-run average cost curves, including rents, of all firms will be equal. However, the rents of the submarginal firms are negative. This accounts for their withdrawal "during the long run."

Long-Period Analysis

The preceding section has illustrated the typical case in which, in the short period, the corporate net income tax is levied on an element of fixed costs and becomes an additional component of fixed costs. The amount of the tax varies with the amount of noncontractual costs included in statutory net income. However, the amount of the tax is not a function of output, as such, so is a fixed cost in the economic sense.

Although the short-run marginal cost curves may not be affected by the corporate net income tax, the long-run marginal cost curve will be higher. The points of the long-run marginal cost curve are established by dropping a perpendicular line from each point of tangency of the short-run average cost curves and the long-run average cost curve to the associated short-run marginal cost curve.²⁸ Brief experimentation with diagrams of two envelopes of

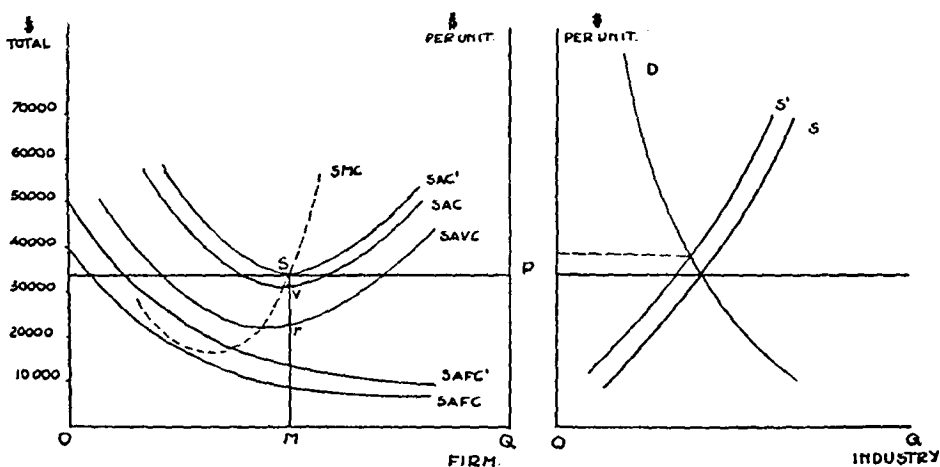


FIG. 2.

Relationship between Industry Price and the Sales Curve of the Competitive Firm.

In the long period, of course, all costs components, including those fixed for a given short period, may vary. For each level of fixed costs, i. e., for each plant of a given size, there exists a set of short-run cost curves. The long-run average cost curve is the envelope of a family of short-run average cost curves. Since the corporate net income tax, as Fig. 1 shows, raises the level of each of the short-run average cost curves, the envelope of the curves would be correspondingly raised.

average cost curves will readily indicate that the long-run marginal cost will be shifted upward under the conditions resulting when a corporate net income tax causes the family of short-run average cost curves to be raised.

²⁸ At this point, the slopes of the average and total cost curves for both the long run and short run are the same. Since the marginal curves are the slopes of the total curves, the two marginal curves would also be equal at this point. (R. F. Harrod, "Doctrines of Imperfect Competition," *Quarterly Journal of Economics*, XLVIII [May, 1934], 452-53).

The foregoing analysis demonstrates the cost character of elements of the corporate net income tax base. It clearly shows the invalidity of the traditional doctrine that the elements of cost included in the tax base do not exist for the marginal firms and that for this reason the tax cannot affect prices or wages. However, there remains for investigation the possibility that the corporate net income tax may not affect prices or wages for other reasons.

INCIDENCE AND EFFECTS OF THE CORPORATE NET INCOME TAX

General vs. Partial Tax

The corporate income tax, upon first consideration, seems to be a partial tax since it is levied only on the return from capital employed in corporate enterprise. However, there is no avenue of complete escape from tax on the return from capital. If the corporate form is abandoned, income from capital employed in a partnership or single proprietorship is taxed as personal income. Thus income from the return on capital may be taxed as corporate income or may be taxed as personal income. The varying individual circumstances of particular taxpayers may make it advantageous in some cases to utilize the corporate form of business organization, in other cases to use alternative forms. The corporate income tax, therefore, may be regarded as a general tax on the return from capital.

Since the cost element in statutory net income is entirely noncontractual costs, the tax on cost elements could be avoided by conversion of noncontractual costs into contractual costs. Undeniably, the corporate income tax en-

courages debt financing rather than equity financing, but probably is not always a dominant factor in the decision. Financial traditions of proper debt-equity ratios and management prudence would stop the conversion of noncontractual costs into contractual costs far short of complete realization.

Short-Period Analysis

If the tax affects elements of fixed cost only, under competitive conditions there will be no effects on output and price in the short period, since the marginal curves, which determine price, are not affected. However, the imposition of, or an increase in, a corporate net income tax might result in a higher industry price, under oligopolistic conditions. The firms in the industry may be unable to ascertain precisely what their net revenue and their marginal revenue and marginal cost curves are. Because of lack of knowledge of the marginal curves, the firms in the industry may be following a pricing policy based on the full-cost policy as described in the Oxford studies.²⁹ The full-cost policy is to take prime cost per unit of output as the base; a percentage addition is made to cover overhead; to this "full cost" is added some per cent for "profit." If the full-cost price policy is followed, and the corporate net income tax is regarded as a cost, as it is viewed by many businessmen, then the imposition or increase of such a tax would result in an increase of "costs" and consequently an increase in the industry price. Under these conditions,

²⁹ R. L. Hall and C. J. Hitch, "Price Theory and Business Behavior," *Oxford Economic Papers*, May, 1939, pp. 12-45. Cf. also W. Fellner, "Average-Cost Pricing and the Theory of Uncertainty," *Journal of Political Economy*, LVI (June, 1948), 249-52.

therefore, the corporate income tax would lead to an increase in industry price, even in the short period.

Furthermore, in the short period, any nontransferable factors may absorb much of the tax effect, so that there may be backward shifting.

Long-Period Analysis

In the long period, the long-run marginal cost curve is affected. Hence scale of plant, output, price, proportions of factors used, prices of factors and prices of products may change. These effects will take place under any type of market structure assumed. However, the exact degree and proportion of the effects will depend upon the nature of specific situations. Since the detailed information required for measurement of effects is never available, the relative extent to which the tax finally results in reduced returns to stockholders, higher prices, or lower wages cannot be set forth quantitatively.

Shoup has suggested that the incidence of the corporate income tax depends upon "(1) the rate of the tax, (2) the capital structure of the corporation, and (3) the nature of the industry with respect to the normal speed of turnover of assets."³⁰ Depending on these variables, the tax "will have no effect, a decided effect, or an uncertain effect"³¹ on prices. His conclusions are misleading, since he implies that the magnitudes of the variables he cites will determine whether the tax is shifted or not. However, under Shoup's assumptions that the tax is on an element of cost and that the time period is the long

period, the magnitude of the variables he analyzes provide an indication of the extent to which the tax increases costs. Accordingly, his proposition should be amended as follows: Depending on these variables, the tax will increase costs by a small amount or a large amount; its effects may be correspondingly small or large. In either case, a quantitative measure of the effects is not likely to be possible of achievement and, therefore, the relative burdens on final bearers of the tax may be uncertain.

The Corporate Net Income Tax as an Excess Profits Tax

It is of significance also to observe that in a very practical sense an ordinary corporate income tax levied at a fixed (proportional) percentage of a firm's net income is inevitably an excess profit tax. It has been shown that accounting net income under conditions where there are no economic profits represents in the main noncontractual interest income on invested capital. For two firms with the same amount of invested capital, but operating under conditions of differences in risk, the contractual interest returns in the case of a firm operating under more risky conditions will, if there is risk aversion, contain a larger element of nominal risk premium. In the example used earlier, if the risk premium had been larger, the amount of noncontractual interest might have been, e. g., \$12,000 instead of \$10,000. The corporate net income tax in the second case would, therefore, have been \$4,800 instead of \$4,000.

The firm operating under conditions of greater risk is subjected to a higher amount of tax than a firm operating under conditions of a smaller amount of

³⁰ C. Shoup, *op. cit.*, p. 12.

³¹ *Ibid.*

risk. The firm operating under conditions of greater risk is, therefore, subject to a higher effective rate of tax. A larger amount of income is taken by the proportional income tax, and the difference between the required yield to the investor and the yield actually available to the investor in the case of the greater risk firm is larger. The effect is similar to that of an excess profits tax, contrived to penalize risky endeavors.³²

SOME NEW ASPECTS OF INCIDENCE THEORY

Newer viewpoints on incidence theory have cast further doubt on traditional incidence doctrines. One reorientation of incidence theory has emphasized consideration of the effects of government expenditures of the funds raised by particular taxes. This view stresses the demand side of the effects of taxes rather than the traditional emphasis on the cost side.³³ The merit of this emphasis is that it provides a balanced perspective for some types of analysis. However, explicit consideration of the expenditure effects is unnecessary for comparing alternative types of taxes. In making a comparison of this type, the level and pattern of government expenditures may be regarded as an exogenous factor. Alternative types of taxes may then be evaluated on the basis of their incidence and effects, considered apart from the expenditures influence.

³² The proportional corporate income tax discriminates against firms operating under more risky conditions also by reducing the expected value of yields from a contemplated investment. For a clear illustration see J. K. Butters and J. Lintner, *Effect of Federal Taxes on Growing Enterprises* (Boston: Harvard University, 1945), pp. 33-35.

³³ Cf. A. de Viti de Marco, *op. cit.*, pp. 149-59; Black, *op. cit.*, chap. iv.

Another more recent emphasis is the attempt to integrate incidence theory with the theory of income and employment. The older incidence doctrines were discussed under the implicit assumptions of full employment of factors and constant aggregate demand.³⁴ Goode constructs five models to illustrate possible effects of a corporate income tax on aggregate income and demand.³⁵ In two of the models, an expansionary effect is portrayed. These cases may result in price rises if the economy had been near full employment or if important bottlenecks existed. One example illustrates a deflationary influence, which is likely to be associated with a decline in prices. In the other two examples expenditures for gross national product are assumed to be equal to incomes disposable from gross national product, *ex ante*. Each of these three alternative influences on aggregate demand is illustrated under the situation in which aggregate investment declines as a consequence of the corporate income tax. This is the result which follows from the assumptions of traditional incidence theory. However, Goode's examples demonstrate that the effect on aggregate demand may be inflationary, deflationary, or neutral, depending upon whether aggregate savings are reduced by an extent greater than, smaller than, or equal to the extent of the decrease in aggregate investment.

Goode concludes that because of the wide range of possible effects of the tax on aggregate demand, it is not possible to state with confidence that the tax will have the result predicted by traditional incidence theory, but that the

³⁴ Goode, *op. cit.*, p. 51.

³⁵ *Ibid.*, pp. 52-55.

greatest likelihood is that the corporate income tax will have a deflationary influence on prices.

While Goode's analysis reveals some important new relationships, it is complementary with traditional incidence theory rather than a negation of it. Consideration of the influence of the corporate income tax on aggregate demand may be unnecessary under the assumption that the corporate income tax replaces another tax of the same influence on aggregate consumption, investment, and saving. If this assumption is made, the influence of the tax on allocation of resources and distribution of income, the subject matter of traditional incidence theory, is isolated. On the other hand, for some policy problems, the major consideration may be the effect of alternative taxes on aggregate demand. Both types of analysis are, therefore, necessary and useful.

It should be pointed out also that if aggregate influences are taken into account, then it is not possible to generalize about the effects of any type of tax—sales taxes, payroll taxes, land taxes, etc.³⁶ Any type of tax whose magnitude and generality make it likely to have considerable influence on aggregate consumption, investment, and saving

³⁶ Further, in the long run, any tax is likely to be shifted at least in part. The individual income tax, for example, may influence choices of occupations (regular vs. irregular income, risky vs. less-risky, determination of ratio of leisure to productive effort, etc.).

may be found to have a possible net inflationary, deflationary, or neutral influence when analyzed in alternative macroeconomic models. This suggests again that a tax must be evaluated by comparison with alternative types of taxes. The comparison is necessary at two levels—the microeconomic and the macroeconomic. Both the allocative, distributive influences of the tax and the effects on aggregate demand require analysis.

CONCLUSIONS

This paper has demonstrated that accounting net income on which the corporate net income tax is levied includes elements of economic cost. The element which is of major significance, probably, is the noncontractual interest return on invested capital. 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.