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THE ACCUMULATED EARNINGS TAX: AN EMPIRICAL ANALYSIS OF THE TAX COURT'S IMPLEMENTATION OF CONGRESSIONAL INTENT

DISSERTATION

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Taxpayers have traditionally assessed personal vulnerability to particular taxes through a study of past litigated cases. One of the premises of this study was that useful information concerning the enforcement of the accumulated earnings tax could be obtained through a statistical analysis of such cases. While such a study might be of limited value to individual taxpayers, it should be useful to anyone wishing to evaluate the extent to which authoritative guidelines have been followed by the courts in imposing the tax.

The hypothesis of the study was that variables drawn from the regulations and the Internal Revenue Service Audit Guidelines are capable of discriminating taxpayers who have won litigated accumulated earnings cases from taxpayers who have lost. The regulation variables were assumed to be the best available measure of Congressional intent. Thus, a secondary hypothesis was that the regulation variables would be more powerful discriminators than the variables included only in the IRS Audit Guidelines.

The focus of this study was on post 1954 accumulated earnings cases litigated in the Tax Court. These limitations

were imposed because of the substantial changes in the accumulated earnings tax introduced in 1954 and because of a desire to insure as much internal consistency as possible within the cases. All sixty-seven 1954 Code accumulated earnings cases litigated in the Tax Court through mid-1976 were selected for analysis. Eight were excluded because they provided insufficient information. The remaining fifty-nine cases were classified into three groups: Group 1, consisting of twenty-seven cases in which the taxpayer paid no accumulated earnings tax; Group 2, twenty-six cases in which the corporation paid some tax for each litigated year; and Group 3, six cases in which the taxpayer paid some tax for at least one, but not all, litigated years.

The variables collected from the cases were based on the regulations relating to IRC Sections 531-537 and on the recently published IRS Audit Guidelines. All of the regulation variables are included in the Guidelines. Ten variables were drawn from the regulations and seven additional ones from the Guidelines.

The statistical tool used to analyze the cases was multiple linear discriminant analysis. A stepwise procedure was adopted. When discriminant analysis was performed on all cases using only the regulation variables, most of the variables discriminated as expected. However, only seventy-eight per cent of the cases were correctly classified using the classification functions derived from the regulation variables.

When discriminant analysis was performed on all cases using the combined list of regulation and IRS variables, classification results were clearly better, with ninety-five per cent of the cases correctly classified. The analyses supported the hypothesis that these variables are capable of discriminating winning taxpayers from losing taxpayers. The secondary hypothesis was not supported. The IRS variables are an expanded set including the regulation variables. One would expect the larger set to provide additional discriminatory power. It is important to note that these added variables contributed more than a marginal improvement. The four most important discriminating variables in separating winning from losing taxpayers were all drawn from the IRS variables. In addition, two of the regulation variables discriminated in a manner contrary to that intended by the regulations. If similar results are found to exist in regard to other Code sections, perhaps Congress should reconsider the process by which regulations are promulgated and the extent to which they reflect Congressional intent.

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CHAPTER I

INTRODUCTION

The history of the accumulated earnings tax can be traced back to the original legislation enacted in pursuance of the Sixteenth Amendment. The writers of the Tariff Act of 1913 realized that for some taxpayers there would be an incentive to accumulate earnings in a corporation rather than to distribute them in the form of dividends which would then be taxed as ordinary income to the shareholders. The treatment of the corporation as a separate taxable entity with tax rates which have always been lower than the highest marginal individual rates[1] provides a powerful incentive to use the corporate form of business as a shield against the graduated personal tax rates. Bittker and Eustice refer to this use of the corporation as "one of the principal landmarks of our tax landscape."[2] Although earnings retained in the corporation would not be available for the shareholder's personal use, they could be accumulated for later realization at capital gains rates through liquidation of the corporation or sale

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[1] Ray M. Sommerfeld, Hershel M. Anderson, and Horace R. Brock, An Introduction to Taxation, 1977 ed. (New York, 1976), Ch. 4, pp. 6-7.

[2] Boris I. Bittker and James S. Eustice, Federal Income Taxation of Corporations and Shareholders (Boston, 1971), Ch. 1, p. 7.

of the stock. As an alternative, the investment could be diversified through a tax-free reorganization. Until the passage of the 1976 Tax Reform Act, stock could be passed on to heirs at a "stepped up" basis with no capital gain tax on appreciation. Thus there have been many tax related motives for accumulating earnings in a corporation.

The accumulated earnings tax is one of the methods Congress has used to prevent accumulation of earnings in a corporation for tax avoidance purposes. The Tariff Act of 1913 provided that each shareholder's ratable share of the corporate income (whether distributed or not) was to be taxed to him or her if the corporation was "formed or fraudulently availed of" for the purpose of escaping the tax by allowing accumulation of earnings and profits. In 1920 Congress shifted the burden of the tax from the individual shareholder to the corporation in the form of a penalty tax on excess accumulations. Over the years the tax proved to be difficult to administer because of the problem of proving the "forbidden purpose." In 1938 Congress sought to correct this problem with a statutory shift of burden of proof to the taxpayer-corporation.

Few further changes were made in the tax until the 1954 revisions of the Internal Revenue Code. At that time a number of criticisms of the tax emerged. In particular, charges were made that the tax was prejudicial to small business,[3] that fear

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[3] Senate Report 1622, 83d Congress, 2d Session (Washington, 1954), p. 68.

of the tax frequently forced businesses to distribute needed funds,[4] and that the tax reinforced the pressure on owners of small businesses to sell out to larger publicly held corporations.[5] Apparently in response to these criticisms, Congress introduced a number of changes intended to limit the scope and impact of the accumulated earnings tax. There have been no substantial changes in the tax since 1954. In its present form, the tax is imposed on the corporation's "accumulated taxable income" at the rate of 27½ per cent of the first $100,000 and 38½ per cent of the accumulated taxable income in excess of $100,000. Code Section 535 defines accumulated taxable income as the corporation's taxable income (with certain adjustments intended to more accurately reflect the corporation's dividend-paying capacity) minus the sum of the dividends-paid deduction of Section 561 and the accumulated earnings credit of Section 535(c). The accumulated earnings credit was created by the 1954 Code "to permit small companies to accumulate a minimum amount of earnings and profits . . . free of any risk that the accumulation will be found unreasonable."[6] The credit is currently equal to the smaller of $150,000 or the reasonable needs of the business.

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[4] Ibid.

[5] John K. Butters, John Lintner, and William L. Cary, Effects of Taxation: Corporate Mergers (Boston, 1951).

[6] Bittker and Eustice, Federal Income Taxation of Corporations, Ch. 8, pp. 32-33.

The Impact of the Tax

It is often difficult to evaluate the impact of any one aspect of the Internal Revenue Code, partly because of the lack of published data. Such evaluation might be desirable for several reasons. For example, the individual taxpayer might wish to assess vulnerability to a tax such as the accumulated earnings tax. At the policy level, Congress might wish to study the enforcement of a tax provision in order to determine if the tax is being applied in accordance with Congressional intent. Other interested parties might wish to make a study of the enforcement of a particular tax because of a desire to influence Congress to change the law.

One traditional method used by individual taxpayers (or their representatives) to evaluate the impact of a tax provision is to study precedents established in past litigated cases. Such analysis seeks to find trends as well as individual differences or similarities which may support the taxpayer's position. At the policy level, Congress often holds hearings at which testimony, much of it self-serving, is heard. Congress also commissions studies of various aspects of the tax law. Such a study of the accumulated earnings tax was made in 1952 prior to the 1954 revisions of the Internal Revenue Code.[7]

One of the premises of the present study was that information which would be valuable at a policy level could be

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[7] James K. Hall, The Taxation of Corporate Surplus Accumulations, Joint Economic Committee, Joint Committee Print (Washington, 1952).

obtained through a statistical analysis of litigated cases.[8] Such a study would focus on measuring enforcement of Congressional intent rather than on individual fact situations. With this goal in mind, an empirical analysis of post 1954 accumulated earnings cases litigated in the Tax Court was planned. Variables believed to reflect Congressional intent were drawn from the regulations. An additional list of variables with possible discriminating power was drawn from the Internal Revenue Service Audit Guidelines. These Guidelines include all of the regulation variables plus some additional ones.

Statement of the Hypothesis

The hypothesis of this study was that the variables drawn from the regulations and the Internal Revenue Service Guidelines are capable of discriminating taxpayers who have won litigated accumulated earnings cases from taxpayers who have lost. The regulation variables were assumed to be the best available measure of Congressional intent. Thus, a secondary hypothesis was that the regulation variables would be more powerful discriminators than the variables included only in the Internal Revenue Audit Guidelines.

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[8]A recent report of the General Accounting Office indicates that the Internal Revenue Service uses discriminant analysis to select returns which have good "audit potential." See John R. Linden, "The GAO 'Audits' the IRS," _The Journal of Accountancy_, CXLIII (March, 1977), 32-37.

Limitations of the Study

This study addressed the issue of whether or not decisions in litigated cases reflected Congressional intent. It did not directly measure the extent to which the Internal Revenue Service has selected cases for audit or has made assessments in a manner consistent with Congressional intent. This would not be possible with data currently available. The outcome of the analysis provided some insight into this question in that the cases were selected from a subset of audited returns, and the IRS Audit Guideline variables were included in the analysis.

For reasons explained in Chapter II, a decision was made to limit this study to Tax Court cases tried under the 1954 Code. Accumulated earnings cases can also be tried in the district courts or in the Court of Claims. Thus conclusions based on the analysis performed do not necessarily apply to accumulated earnings decisions in these courts. In addition, the study included only cases which were tried in court. There are many opportunities prior to a court appearance for the parties to compromise. Thus, bias may have been introduced by limiting the study to cases tried in court (the only available published data). For example, taxpayers with weaker cases may be more likely to compromise rather than proceed into court. On the other hand, such taxpayers may feel that they will have a more sympathetic hearing from a judge than from IRS representatives. Given the lack of available data,

one can only speculate as to the possible bias introduced by limiting the study to cases tried in court.

It is also possible that the Tax Court has based its decisions on variables not contained in either the regulations or the IRS Audit Guidelines. One such variable is the judge, whose prejudices and experiences must surely influence the outcome of a case. Additionally, the study was based on the printed opinions of Tax Court judges. These opinions are, in effect, justifications for the decisions of the court and may, perhaps inadvertently, select from available material those factors which support the decision. Another factor which cannot be measured from reading the opinion is the skill and expertise of the attorneys involved in representing the positions of the government and the taxpayer-corporation. The judge's opinion is based to some extent on the briefs prepared by these attorneys.

These, and probably many other factors, were not taken into account in this study. An effort was made to cope with the problem of selective exclusion of data. In coding the cases a variable was generally not assumed to be present or absent unless it was explicitly noted in the opinion. A variable which indicated the number of missing data points for each case was included in the analysis to help determine if omissions of data followed some nonrandom pattern.

If empirical studies such as this one should prove to be valuable in analyzing the enforcement of various Code

sections, there are methods to strengthen their validity. For example, Tax Court records are available for public inspection and copying. While analysis of the complete record of a trial would be far more time consuming and expensive than analysis of printed opinions, such analysis might yield additional or more accurate information. Exploratory studies such as this one should provide some measure of the potential value of more exhaustive studies.

Preview of the Chapters

Chapter II will provide background for the study, including a legislative history of the tax, a discussion of measures of Congressional intent, and a discussion of litigated cases as the focus of the study. The chapter will conclude with a brief review of expert analyses of these cases.

Chapter III will discuss the methodology employed in the study. It will include an explanation of how the cases included in the analysis were selected, how the variables selected for analysis were measured, and the statistical procedures used in analyzing the data.

The goals of Chapter IV will be two-fold. The first part of the chapter will present a judgment-free analysis of the data. This analysis will include tests of the underlying assumptions of the statistical methodology employed as well as the actual results. These empirical findings will be discussed and interpreted in the second part of the chapter.

The final chapter will summarize the findings of previous chapters and discuss some of the implications of these findings. It will conclude with recommendations for future research.

CHAPTER II

BACKGROUND FOR THE STUDY

The first goal of this chapter is to review the history of the accumulated earnings tax and to provide some insight into the legislative intent behind it. Measures of this intent are found in Congressional reports and hearings as well as in the regulations. The role of the Internal Revenue Audit Guidelines as they relate to Congressional intent will also be examined. The second goal is to explain the reasons for the focus of this study on litigated cases tried in the Tax Court and to briefly describe Tax Court procedures. The chapter will conclude with a summary of interpretations found in recent books and articles relating to litigated accumulated earnings cases.

History of the Tax

The accumulated earnings tax was an integral part of the first income tax on persons following the adoption of the Sixteenth Amendment. In the Tariff Act of 1913 an additional tax was imposed on shareholders of corporations "formed or fraudulently availed of" for the purpose of escaping the individual income tax by allowing profits to accumulate in the corporation. In Congressional discussion of the act, arguments such as the following are found:

> Mr. Williams: It applies only to such profits and the heaping up of such surplus as shall justify the Secretary of the Treasury in concluding that it it done for the purpose of evading the tax. Its main purpose is to prevent the formation of holding companies.[1]

The Revenue Act of 1916 made no important changes in the provision. In 1917, however, Congress was under pressure to provide more revenue for war financing. Section 1206(2)(b) of the Revenue Act of 1917 levied a ten per cent tax on the undistributed profits of corporations except that "which is actually invested and employed in the business or is retained for employment in the reasonable requirements of the business or is invested in obligations of the United States."[2] This provision, which was repealed in 1918, was similar to the present provision in that it was a tax on the corporation, not the individual shareholder.

The only important change in the accumulated earnings tax made by the Revenue Act of 1918 was the striking of the word "fraudulently" from the statute. One Congressman complained that "the law has been ineffectual because of difficulty in securing evidence to establish fraud."[3]

In 1921 Congress was concerned that the Supreme Court decision in _Eisner v. Macomber_ cast doubt on the constitutionality

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[1] _Congressional Record_, L, 63d Congress, 1st Session (September 6, 1913), 4380.

[2] _U. S. Statutes at Large_, XL, 334 (1917).

[3] _Congressional Record_, LVII, 65th Congress, 3d Session (December 10, 1918), 253.

of the existing statute.[4] The revised Section 220 of the Revenue Act of 1921 stated

> That if any corporation, however created or organized, is formed or availed of for the purpose of preventing the imposition of the surtax upon its stockholders or members through the medium of permitting its gains and profits to accumulate instead of being taxed or distributed, there shall be levied, collected, and paid for each taxable year upon the net income of such corporation, a tax equal to 25 per centum of the amount thereof, which shall be in addition to the tax imposed by section 230 of this title. . . . The fact that any corporation is a mere holding compnay, or that its gains and profits are permitted to accumulate beyond the reasonable needs of the business, shall be prima facie evidence of a purpose to escape the surtax . . .[5]

Thus the tax had been shifted from the individual shareholder to the corporation.

The Revenue Act of 1924 increased the rate of the tax from 25 per cent to 50 per cent "in order to place a more effective check upon this method of evasion of surtaxes."[6] In the Revenue Act of 1926, the individual stockholder was given the option of reporting and paying personal tax on his proportional share of the undistributed corporate earnings. There were no substantive changes in the Revenue Act of 1928, but the section was renumbered Section 104. In Congressional discussion, one Congressman charged that "the only difficulty

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[4] House Report 350, 67th Congress, 1st Session (Washington, 1921), pp. 12-13.

[5] U. S. Statutes at Large, XLII, 247-248 (1923).

[6] Senate Report 398, 68th Congress, 1st Session (Washington, 1924), p. 398.

with section 104 is that it has been on the books but has not been administered."[7]

Several changes were introduced in the Revenue Act of 1934. The tax became a graduated tax with rates of 25 per cent on the first $100,000 of net income and 35 per cent of net income over $100,000. Personal holding companies were excluded from the section "to provide for a tax which will be automatically levied upon the holding company without any necessity for proving a purpose of avoiding such taxes."[8] Finally, the section was renumbered Section 102.

In 1936 the Ways and Means Committee in its report stated:

> Your committee recognizes the fact that the greatest defect in our present system of taxation lies in the fact that surtaxes on individuals are avoided by impounding income in corporate surpluses.[9]

This awareness of the ineffectiveness of Section 102 "was highly influential in the enactment of the undistributed profits tax of 1936 as an alternative."[10] Section 102 was retained as a supplemental measure with corporations subject to the undistributed profits tax also subject to Section 102

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[7]Congressional Record, LXXV, 72d Congress, 1st Session (March 18, 1932), 6486.

[8]House Report 704, 73d Congress, 2d Session (Washington, 1934), p. 12.

[9]House Report 2475, 74th Congress, 2d Session (Washington, 1936), p. 3.

[10]Hall, The Taxation of Corporate Surplus Accumulations, p. 210.

tax at reduced rates. The undistributed profits tax was repealed in 1938.

In 1938 a major change was made in the accumulated earnings tax. In its recommendations, the Ways and Means Committee stated,

> The provision of section 102 of the Revenue Act of 1936 and corresponding provisions of prior revenue acts have been very troublesome to enforce. The barrier to effective enforcement has been found to lie chiefly in the difficulty of proving the intent to avoid surtaxes.
>
> . . . .
>
> It is the view of the subcommittee that there are other corporations which are used in a similar manner [to personal holding companies] to avoid the imposition of individual surtaxes. It is believed that operating companies with closely held stock ownership and net income of substantial size which retain a considerable portion of their incomes are commonly used to avoid individual surtaxes. The control of corporate policy by a few individuals which exists in such cases makes it easy for corporate income to be accumulated rather than distributed.[11]

The Ways and Means Committee proposed a new twenty per cent surtax on closely held corporations which did not come under the personal holding company provisions.[12] The House failed, however, to approve the measure. Instead, the solution adopted was proposed by the Senate Finance Committee.

> Your committee is dealing with the problem where it should be dealt with--namely in section 102, relating to corporations improperly accumulating surplus.

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[11]Committee on Ways and Means, _Hearings Before the Committee on Ways and Means on Revenue Revision 1938_, 75th Congress, 3d Session (Washington, 1938), pp. 28-30.

[12]_House Report 1860_, 75th Congress, 3d Session (Washington, 1938), p. 5.

> The proposal is to strengthen this section by requiring the taxpayer by a clear preponderance of the evidence to prove the absence of any purpose to avoid surtaxes upon shareholders after it has been determined that the earnings and profits have been unreasonably accumulated. This will clearly shift the burden of proof to the taxpayer in such cases.[13]

Other changes in 1938 eliminated the lower rate of tax on corporations subject to the undistributed profits tax and the provision permitting exemption from the tax if stockholders included in their gross income their pro rata share of the corporate earnings.

No important changes were made in the Revenue Acts of 1939 and 1940. The Revenue Act of 1941 increased the rate to 27½ per cent of the first $100,000 of net income and 38½ per cent of income over $100,000. In the Revenue Act of 1942, "Section 102" corporations were denied the advantage of the capital loss carryover. There were no substantive changes in the Revenue Act of 1945.

Hall has noted that during World War II, uncertainty, apart from tax avoidance considerations, "strongly influenced corporations to retain rather than to distribute current earnings."[14] It was also generally believed that the Treasury relaxed enforcement of the tax during the war.

> . . . it has generally been said that Section 102 was less vigorously enforced during the war years.

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[13] Senate Report 1567, 75th Congress, 3d Session (Washington, 1938), p. 5.

[14] Hall, The Taxation of Corporate Surplus Accumulations, p. 9.

> Probably any relaxation in administration was attributable to the high excess profits tax rate and, perhaps in greater measure, to the uncertainties which justified maintenance of large contingency reserves for the postwar transition.[15]

After the war many corporations were in highly liquid positions, and a return to closer examination of surplus accumulations was expected.[16]

In 1947 a Special Tax Study Committee was appointed by the Ways and Means Committee to assist in a general revision of the Code. The committee was critical of Section 102, stating that "so long as the general threat of section 102 hangs over directors' heads, they are likely to seek to avoid trouble by distributing more than they honestly believe to be desirable."[17] Apparently in response to this criticism,[18] the Ways and Means Committee proposed an amendment to Section 102 providing for a mechanism by which the taxpayer could shift the burden of proof to the government. The proposal failed, however, and no substantial changes were made in Section 102

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[15] William L. Cary, "Accumulations Beyond the Reasonable Needs of the Business: The Dilemma of Section 102(c)," _Harvard Law Review_, LX (1947), 1287.

[16] Hall, _The Taxation of Corporate Surplus Accumulations_, pp. 10-11.

[17] Special Tax Study Committee to the Committee on Ways and Means, _Hearings Before the Committee on Ways and Means, Revenue Revisions 1947-48_, 80th Congress, 1st Session (Washington, 1948), p. 3625.

[18] _House Report 2087_, 80th Congress, 2d Session (Washington, 1947), pp. 8-9.

in 1947. In the Revenue Act of 1951, net long term capital gains were excluded from the base of the tax.

It was not until 1954 that Congress responded to the criticisms of the accumulated earnings tax. The report of the Committee on Ways and Means states,

> Your committee has received numerous complaints that the provision is prejudicial to small business, that it has been applied in an arbitrary manner in many cases, and that it is a constant threat to expanding business enterprise. Fear of the penalty tax is said to result frequently in distribution of funds needed by the corporation for expansion and other valid purposes.[19]

The Ways and Means Committee proposed five changes in the tax. First, a mechanism was provided to enable the taxpayer to shift the burden of proof to the government. Second, the definition of "reasonable needs" was expanded to include "reasonably anticipated needs." The report states, "It is contemplated that this amendment will cover the case where the taxpayer has specific and definite plans for acquisition of buildings and equipment for use in the business."[20] Third, a $30,000 "accumulated earnings credit" was proposed. The committee noted that while the two previous changes should be beneficial to small corporations, "it also appears desirable to provide a minimum amount that will not be subject to the accumulated earnings tax."[21] Fourth, a statutory exemption

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[19] House Report 1337, 83d Congress, 2d Session (Washington, 1954), p. 52.

[20] Ibid., p. 53.

[21] Ibid., p. 54.

was proposed for "any corporation which has more than 1500 shareholders and no more than ten percent of the stock of which is held by any individual (including the members of his family)."[22] Finally, the bill provided that corporations be given credit for dividends paid shortly after the close of the fiscal year.

The Senate Finance Committee approved these changes with two exceptions. The amount of the accumulated earnings credit was increased to $60,000,[23] and the proposed statutory exemption for publicly held corporations was eliminated on the grounds that the ten per cent requirement was too strict and "the fact that this tax is not now in practice applied to publicly held corporations."[24] These changes were accepted, and the provision was renumbered Sections 531-537.

Since 1954, no substantive changes have been made in the accumulated earnings tax. The accumulated earnings credit has been increased twice, first to $100,000 in 1958 and then to $150,000 in 1975. In 1962, provisions were inserted concerning the effect of divested stock on the accumulated taxable income of a corporate distributee. In 1969, a provision was inserted for denial of the accumulated earnings credit when multiple corporations were formed to avoid the tax (Section 1551).

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[22] Ibid.

[23] Senate Report 1622, p. 72.

[24] Ibid., p. 69.

Measures of Congressional Intent

Several possible measures of Congressional intent are available. Aside from the Code itself, the regulations provide the most authoritative source. Hearings and reports on revenue bills can also provide insight into what Congress intended when it drafted a particular provision of the Code. IRS Audit Guidelines do not carry the authoritative weight of the regulations, but they may, in effect, be "unofficial regulations."

Evidence from Congressional Hearings and Reports

Congressional hearings and reports on revenue bills prior to the Revenue Act of 1954 yield few clues as to how Congress intended that the accumulated earnings tax be enforced. There are many complaints about the statute's fairness and the difficulty of applying it, but no specific guidelines. Prior to the 1938 revisions, the Ways and Means Committee stated that "a workable evidentiary test of unreasonable accumulation has not yet been found."[25]

In 1947, a Special Tax Study Committee appointed by Ways and Means criticized the accumulated earnings tax and outlined some reasons for accumulation which it believed were reasonable.

> Many situations arise, especially in the case of smaller enterprises, which require the retention of earnings for perfectly legitimate corporate purposes.

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[25]Committee on Ways and Means, _Hearings Before the Committee on Ways and Means on Revenue Revision 1938_, p. 28.

> Plant expansion and improvement, the development of additional products, and provision for the retirement of outstanding debt are obvious cases for which directors will wish to provide. The financing of inventory and of accounts receivable, the development costs of new products, and the maintenance of needed reserves for various purposes are other common needs.[26]

Complaints again surfaced prior to the 1954 revisions. Hall, in a study of the accumulated earnings tax prepared for the Joint Economic Committee, noted,

> The section has been charged with forcing excessive dividend distributions, the acceleration of corporate real investment, excessive inventory accumulation, limiting the self-financing growth of corporations, inducing corporate mergers and industrial concentration, causing preference for debt rather than equity financing, bringing about disincorporation, curtailment of business operations, and the like.[27]

The report of the Ways and Means Committee on the proposed 1954 revisions of the Code noted,

> One of the principal reasons for confusion as to application of the section 102 tax has been the lack of adequate standards as to what constitutes the reasonable needs of the business. Some of the standards informally employed in the past, such as the distribution of 70 percent of earnings, have been erroneous or irrelevant. More often, in the absence of adequate guidance, revenue agents in examining cases have applied their individual concepts as to business needs.[28]

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[26]Special Tax Study Committee to the Committee on Ways and Means, _Hearings Before the Committee on Ways and Means_, p. 3625.

[27]Hall, _The Taxation of Corporate Surplus Accumulations_, p. 187.

[28]_House Report 1337_, pp. 52-53.

In regard to subsequent events as evidence of plans, the report stated that such events should not be used to show that retention was unreasonable but could be considered to determine if the taxpayer "has actually consummated the plans for which the earnings were accumulated."[29]

The committee was also concerned with the use of corporate funds to acquire other corporations.

> Another subject of controversy in the administration of section 102 has been the use of retained earnings for the purpose of acquiring another business enterprise. Under existing interpretations, retained earnings may be invested in a business enterprise operated directly by the taxpayer, but doubt exists as to the operation of such a business through a subsidiary corporation controlled by the taxpayer. Your committee is of the opinion that where the taxpayer has 80 percent or more of the voting stock of another corporation, the taxpayer should be viewed as though it engaged directly in the business of such other corporation. If the taxpayer's ownership of stock is less than 80 percent in such other corporation, a factual determination should be made as to whether funds so invested are employed in a business operated by the taxpayer.[30]

Except for these guidelines, the committee appeared to be calling on the Treasury Department to provide "adequate standards as to what constitutes the reasonable needs of the business." However, the new Code Sections 531-537 did not include specific authority for the Treasury Department to promulgate regulations.

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[29] _Ibid._, p. 53.

[30] _Ibid._

Evidence from Regulations

Section 7805 of the Internal Revenue Code authorizes the Treasury Department to "prescribe all needful rules and regulations as may be necessary by reason of any alteration of law in relation to internal revenue." Regulations fall into two broad categories: (1) "legislative" regulations promulgated under specific authority in certain Code sections and (2) "interpretive" regulations representing the Treasury Department's interpretation of the Code. The regulations relating to the accumulated earnings tax fall into this second category.

While the courts have indicated that greater weight will be given to legislative regulations, any regulations clearly consistent with the statute "for all practical purposes have the same force as the Congressional law itself."[31] This is particularly true when the regulations have long been in effect without substantial change.[32] Another reason for the weight given to all regulations is the process by which they are promulgated.[33] Proposed regulations are drafted within the Internal Revenue Service and reviewed by the Legal Advisory Staff of the Office of the Secretary of the Treasury. They are then published in the Federal Register as a "Notice of

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[31] Harry Graham Balter, "Relief from Abuse of Administrative Discretion," Marquette Law Review, XLVI (Summer, 1962), 187.

[32] Ibid., footnote 34.

[33] Described in greater detail in Mertens, Law of Federal Income Taxation, Regulations, 1954-1960, pp. v-xi.

Proposed Rulemaking." Following publication, a thirty day period is allowed for written comment from the public (including members of Congress). If comments are received, public hearings are arranged so that these comments can be discussed orally with officials familiar with the proposed regulations. If any changes are made which make the regulations less favorable to the taxpayers, the tentative regulations are withdrawn and a new notice is published. Only after this process is completed is a Treasury Decision published. This process, in combination with the close relationship between the staff of the Joint Committee and the Treasury Department,[34] lends support to the idea that the regulations are the best available measure of Congressional intent in regard to the accumulated earnings tax.

In the case of Sections 531-537, most of the related regulations were approved in 1959. In response to the Congressional complaint as to lack of adequate standards, some specific guidelines are included in these regulations. For example, the following are listed as evidence of purpose to avoid the tax:

> (i) Dealings between the corporation and its shareholders, such as withdrawals by the shareholders as personal loans or the expenditure of funds by the corporation for the personal benefit of shareholders.
> (ii) The investment by the corporation of undistributed earnings in assets having no reasonable connection with the business of the corporation . . . , and

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[34] Sommerfeld, Anderson, and Brock, An Introduction to Taxation, Ch. 28, pp. 3-4.

(iii) The extent to which the corporation has distributed its earnings and profits.[35]

The regulations also list specific grounds for accumulation of earnings and profits. These are

(1) To provide for bona fide expansion of business or replacement of plant;
(2) To acquire a business enterprise through purchasing stock or assets;
(3) To provide for the retirement of bona fide indebtedness created in connection with the trade or business, such as the establishment of a sinking fund for the purpose of retiring bonds issued by the corporation in accordance with contract obligations incurred on issue;
(4) To provide necessary working capital for the business, such as, for the procurement of inventories; or
(5) To provide for investments or loans to suppliers or customers if necessary in order to maintain the business of the corporation.[36]

"Unreasonable" bases for accumulation of earnings and profits listed in the regulations are

(1) Loans to shareholders, or the expenditure of funds of the corporation for the personal benefit of the shareholders;
(2) Loans having no reasonable relation to the conduct of the business made to relatives or friends of shareholders, or to other persons;
(3) Loans to another corporation, the business of which is not that of the taxpayer corporation, if the capital stock of such other corporation is owned, directly or indirectly, by the shareholder or shareholders of the taxpayer corporation and such shareholders are in control of both corporations;
(4) Investment in properties or securities which are unrelated to the activities of the business of the taxpayer corporation; or
(5) Retention of earnings and profits to protect against unrealistic hazards.[37]

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[35] Regs. §1.533-1(a)(2). [36] Regs. §1.537-2(b).

[37] Regs. §1.537-2(c).

The Role of Internal Revenue Guidelines

Internal Revenue Audit Guidelines (contained in the Internal Revenue Manual) do not carry the authoritative weight of the the law nor are they approved in the same manner as are regulations. In fact, until the passage of the Freedom of Information Act in 1967,[38] they were not published at all. Following the passage of the act, various portions of the Internal Revenue Manual were published "voluntarily or pursuant to court order in various legal actions."[39] In Long,[40] the court held that the taxpayer in question could compel production of the Manual under the Freedom of Information Act. One author noted that as a result of Long, "the IRS Manual has now been generally made available to the public."[41] It was not until 1975, however, that the Internal Revenue Service completed the release of all sections of the Tax Audit Guidelines.[42]

Because these Guidelines are used by agents in "determining the possible applicability of the accumulated earnings tax,"[43]

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[38] U. S. Statutes at Large, LXXXI, 54-56 (1967).

[39] Long v. U. S. (D.C., Washington, 1972), 30 AFTR2d 72-5423, 349 F.Supp. 871.

[40] Ibid.

[41] Herbert L. Zuckerman, "How Far Can Tax Men Go in Obtaining IRS Materials Under the FIA?" The Journal of Taxation, XXXIX (October, 1973), 196.

[42] "Effective Tax Procedure," The Journal of Taxation, XLII (April, 1975), 224.

[43] Internal Revenue Manual, 4(12) 10-10.

they may include factors not in the regulations but considered by the courts in distinguishing taxpayers subject to the tax from those not subject to the tax. In effect, they may become "unofficial" regulations unless specifically refuted by the courts or by Congress.

The Internal Revenue Manual lists a number of "Favorable and Unfavorable Factors in Asserting the Tax on Accumulated Earnings." The following are listed as favorable (to the government).

1. The business needs for the accumulation are vague and indefinite.
2. The need for working capital can be met from current operations.
3. Investments of a passive nature which are in nonliquid form.
4. Diversification into an unrelated business is only contemplated.
5. Stock of the corporation is closely held.
6. Stock redemptions.
7. Loans to shareholders or other businesses of the shareholders.
8. The dividend history of the corporation is unfavorable such as:
   (a) No cash dividend.
   (b) Cash dividends related to shareholders tax status.
   (c) Declaration of stock dividends.
9. Inability to pay dividends.
   (a) Restriction on dividend payments.
   (b) Lack of liquid funds.
10. Investments in subsidiaries that are not controlled.
11. The corporation has no outstanding debt obligations or the debts were incurred for nonbusiness reasons.
12. The shareholders are in a high tax bracket.
13. High current asset-current liability ratio.
14. High current asset-working capital ratio.
15. The corporation is aware of the accumulated earnings tax and made a conscious attempt to avoid its application.[44]

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[44]Ibid., Exhibit 700-5.

Unfavorable factors listed in the Manual are as follows.

1. The corporation has a history of paying good dividends.
2. The payment of a substantial salary to the principal stockholder who is an employee of the corporation.
3. The stock of the corporation is publicly held as opposed to being owned by a small group.
4. The existence of business indebtedness.
5. The need for the corporation to diversify as a result of:
   (a) One customer business.
   (b) Business obsolence factor high.
6. Documentation of the needs of the business.
   (a) In the corporate minutes.
   (b) Performing actual work in fulfilling the needs.
7. Low current asset-current liability ratio.
8. Low current asset-current working capital ratio.
9. The need for expansion of plant and equipment.
10. There is an actual entry into an unrelated business.[45]

Focus of the Study

The focus of this study was on cases litigated in the Tax Court. The following sections will explain the reasons for this choice and briefly describe Tax Court procedures.

Litigated Cases

There is no published information concerning the number of accumulated earnings assessments made by the Internal Revenue Service or how these assessments are ultimately resolved. Litigated cases are published, however, and they contain a great deal of data for analysis. Because of the substantial changes made in the accumulated earnings tax in 1954, the focus of this study was post 1954 litigated cases.

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[45] *Ibid.*

In litigated income, estate, and gift tax cases, taxpayers have a choice of three trial forums (Tax Court, district court, Court of Claims).[46] If a taxpayer cannot, or does not wish to pay the amount in controversy before trial, then the case must be tried in Tax Court. If the taxpayer pays the proposed deficiency, then claim for refund may be filed with either the district court or the Court of Claims. Trial by jury is not available in either the Tax Court or the Court of Claims. Appeal from the Tax Court is to the Circuit Court of Appeals in which the taxpayer resided when the original petition was filed. District court appeal is likewise to the Circuit Court of Appeals. However, for the taxpayer who first goes to the Court of Claims, the only appeal is to the Supreme Court. The majority of accumulated earnings cases are tried in either the Tax Court or the district courts.[47]

For several reasons, a decision was made to limit this study to Tax Court cases. First, the problem of differing precedents in the various district courts is to some extent avoided.[48] Second, jury trial cases often do not provide

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[46]John J. Sexton and James P. Parker, "Tax Litigation Reform," The Tax Advisor, VII (November, 1976), 672.

[47]Of 310 accumulated earnings cases listed in Prentice-Hall, Federal Taxes, III, 1977, ¶21,334, only five were tried in the Court of Claims.

[48]In 1970 the Tax Court agreed to follow decisions of the appellate circuit to which appeal would lie. Marvin J. Garbis and Allen L. Schwait, Tax Court Practice (Boston, 1974), Ch. 1, p. 15.

sufficient data for analysis. Third, there is some evidence of a lack of consistency between the Tax Court and district courts with respect to accumulated earnings cases. Weithorn and Noall note that "an evaluation of the cases previously decided by those courts [district courts and Court of Claims] seems to indicate that a holding in favor of the taxpayer is not unlikely under circumstances which would probably result in the imposition of the tax by the Tax Court."[49] Finally, judges of the Tax Court hear only tax cases and are therefore "well versed in the complexities of the Internal Revenue Code."[50] Thus, because of this expertise, Tax Court cases involving a particular issue may be more internally consistent than cases tried in other forums.

Tax Court Procedure

The Tax Court consists of sixteen judges who are appointed by the President to fifteen year terms. One of the judges is designated Chief Judge. The primary reason for creating the court was to allow a taxpayer to litigate disputed tax liabilities without the necessity of prior payment.[51]

The Tax Court functions much like a federal district court in a non-jury trial. It is a court of record with its own

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[49]Stanley S. Weithorn and Roger Noall, The Accumulated Earnings Tax (New York, 1968), pp. 198-199.

[50]Garbis and Schwait, Tax Court Practice, Ch. 1, p. 4.

[51]House Report 179, 68th Congress, 1st Session (Washington, 1924), pp. 7-8.

dockets and files which are open to public inspection.[52] Trials are held in about sixty cities chosen with population and tax incidence in mind,[53] but records are kept at the Court's principal office in Washington, D. C.

The judge who hears a case writes an opinion which is sent to the Chief Judge for review. The Chief Judge has thirty days in which to decide whether the opinion will stand as written or be referred to the entire court for consideration.[54] The Chief Judge also decides whether an opinion will be in published or memorandum form.[55] Published opinions, sometimes called "regular" opinions, are printed in the bound volumes of the Tax Court Reports and are valuable as precedents in the decision of subsequent cases with similar legal issues.[56] Memorandum opinions deal with "fact" cases or cases involving well established legal issues and are published by specialized tax services.

In a typical accumulated earnings case, the taxpayer has received a notice of deficiency for two or three taxable years. The Court may decide that the taxpayer is subject to the accumulated earnings tax for none of the years involved, for

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[52] Tax Court Rule 12.

[53] Loyal E. Keir and Douglas W. Argue, Tax Court Practice, 5th ed. (Philadelphia, 1976), p. 7.

[54] IRC §7460(b).

[55] Keir and Argue, Tax Court Practice, p. 100.

[56] Ibid.

all of the years involved, or for some of the years involved. Of accumulated earnings cases decided in the Tax Court under the 1954 Code, about forty-five per cent fall into the first category, forty-five per cent into the second, and ten per cent into the third. Under the 1939 Code, a decision against the taxpayer automatically caused the entire accumulation to be subject to the tax. With the creation of the accumulated earnings credit, "the courts may be more inclinded to hold for the Commissioner as to a portion of the accumulation."[57] Thus, the third group may become a more important one. Of course, many cases in the second category involve similar compromise.

Under Tax Court Rule 155, "where the Court has filed its opinion determining the issues in a case, it may withhold entry of its decision for the purpose of permitting the parties to submit computations . . ."[58] If they disagree, the parties may file their separate computations, after which they are afforded an opportunity to argue before the Court, which will "determine the correct deficiency, liability or overpayment and enter its decision accordingly."[59] The Internal Revenue Code[60] makes it clear that the Court's decision, as distinguished from its opinion, is the final determination of the amount of deficiency or overpayment. In cases in which determination of the decision is delayed, the printed opinion will note that

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[57]Weithorn and Noall, The Accumulated Earnings Tax, p. 116.

[58]Tax Court Rule 155(a). [59]Tax Court Rule 155(b).

[60]IRC §7459.

the "Decision will be entered under Rule 155." Thus, where the taxpayer is subject to the tax, the amount of the tax owed cannot always be determined from reading the opinion.

Interpretations of Litigated Cases in the Literature

Since the revisions of the accumulated earnings tax in 1954, a number of experts have tried to assess the impact of these changes on the taxpayer. This section is not intended to be a complete literature search but rather to summarize these interpretations found in recent books and major tax journals.

One of the most confusing aspects of the revisions has been the provision of Section 534 to allow a shift of burden of proof to the government. Ziegler notes that this provision "has proved to be a weak means of giving additional status to management's judgment of the corporation's business needs."[61] This has been true for several reasons. In many cases, the government challenged the taxpayer's "534 statement." However, the taxpayer did not know the result of the challenge until the judge's decision was rendered and therefore had to proceed into the trial as if the burden of proof had not been shifted.[62] In other cases, the Tax Court refused to render "technical"

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[61] Stephen S. Ziegler, "The 'New' Accumulated Earnings Tax: A Survey of Recent Developments," Tax Law Review, XXII (1966), 82.

[62] Ibid.

decisions on the burden of proof or was inconsistent as to the degree of detail required.[63] Under new Tax Court rules adopted January 1, 1974, this situation has changed. Rule 143(e) provides that the court will ordinarily rule prior to trial on a timely filed motion as to whether the 534 statement is sufficient to shift the burden of proof to the government. The rule does not specify how long before trial the Court will rule, but at least the taxpayer will know at some point prior to trial if the 534 statement was successful. Of course, it is too early to assess the impact of this strengthening of Section 534.

Much of the emphasis in the literature is on actions which signal excess accumulations. Some are regarded as clear signals; some are not. For example, the ownership of marketable securities was once regarded as affirmative evidence of the avoidance purpose.[64] Ziegler notes, however, that "recent Tax Court cases . . . have tended to reject any taint to holding marketable securities."[65] Instead, he sees a trend "toward focusing on the need for non-operating liquid assets such as cash and marketable securities."[66] On the other hand, several other authors caution against such investments.

> Minority investments in the stock or securiites of unrelated enterprises, or in assets having no connection with the taxpayer's business, pose much the same problem as loans to stockholders,

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[63] Ibid., pp. 82-83.

[64] Ibid., p. 90.

[65] Ibid.

[66] Ibid., p. 87.

> since the existence of these unrelated investments again suggests that assets are available which could easily be used to pay dividends.[67]

Ness and Vogel more specifically warn against "long term passive investments."[68]

Unrelated loans provide another negative signal, and they receive heavy emphasis in the regulations.[69] Kirby refers to the items listed in Regs. §1.537-2 as "events which will 'red flag' the issue for the examining agent."[70] Faber believes that loans to shareholders are a "principal corporate action" which has resulted in the imposition or attempted imposition of the accumulated earnings tax.[71] Peterson and Beatty suggest that preventive action should include elimination of shareholder loans.

> In most cases, the first order of business should be the elimination of corporate loans made to, or for the benefit of, the shareholder. While there are instances where corporations have prevailed in Section 531 litigation despite the existence of loans to major stockholders, there is

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[67] C. Rudolph Peterson and George W. Beatty, "Preventive Action to Avoid 531 Penalty: Recognition of Problem, Possible Remedies," The Journal of Taxation, XX (March, 1964), 134.

[68] Theodore Ness and Eugene L. Vogel, Tax Planning for Closely Held Corporations (New York, 1972), p. 39.

[69] Regs. §1.537-2(c).

[70] Vance N. Kirby, "Operating as a Closely Held Corporation: Tax Problem Areas and Some Planning Ideas," Taxation for Accountants, V (August, 1970), 218.

[71] Peter L. Faber, "Practitioner's Guide to Defending a 531 Case: Theory and Practice," The Journal of Taxation, XXVII (November, 1967), 276.

> probably no other single factor which is as damaging to the corporation's case as the presence of such loans.[72]

Nelson notes that while one factor rarely determines the outcome of a case, "extended loans to shareholders seem to result in an unusually high taxpayer mortality."[73] Finally, Weithorn and Noall suggest that such loans may also raise the issue of "disguised dividends" for the individual shareholders.[74]

The regulations specifically approve of the use of funds for two types of stock redemptions--"Section 303 redemptions" to redeem stock included in the gross estate of a shareholder who has died, but not in excess of the amount necessary to effect a distribution to which Section 303 applies,[75] and redemptions of "excess business holdings" by private foundations under the terms of Section 4943(c)(4).[76] The IRS Audit Guidelines mention stock redemptions as a factor favorable to the government. Faber suggests that redemptions may be a damaging factor in an accumulated earnings case,[77] but Ziegler notes that the courts may be taking a more liberal attitude where sound business purpose is demonstrated.[78]

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[72] Peterson and Beatty, "Preventive Action," p. 134.

[73] David H. Nelson, "How to Present the 531 Case to the IRS: Developing Evidence to Convince the Agent," The Journal of Taxation, XX (March, 1964), 136.

[74] Weithorn and Noall, The Accumulated Earnings Tax, p. 191.

[75] Regs. §1.537-1(c). [76] Regs. §1.537-1(d).

[77] Faber, "Practitioner's Guide," p. 276.

[78] Ziegler, "The 'New' Accumulated Earnings Tax," pp. 110-115.

The use of accumulated funds for diversification also presents a somewhat confusing picture. Weston attributes part of the problem to the nature of closely held corporations.

> Officers of closely held corporations are usually the major shareholders, and the corporate form itself is frequently a mere technicality. For instance, a business operated for many years as a proprietorship is often managed in exactly the same manner after incorporation. As a result, there is frequently a failure by the corporate officers to distinguish between the business of the corporation and the business of the shareholders, and, in addition, between legitimate corporate diversifying activities and those investment activities which are appropriate only for individuals.[79]

The regulations list acquisition of a business enterprise through purchasing stock or assets as a reasonable ground for accumulation.[80] They also list investment in properties or securities which are unrelated to the activities of the business of the taxpayer as evidence of unreasonable accumulation.[81] The business of the corporation is later defined to include the business of another corporation when the first corporation owns at least eighty per cent of the voting stock of the second corporation.[82] When less than eighty per cent of the voting stock is owned, "the determination of whether the funds are employed in a business operated by the taxpayer will depend upon the particular circumstances of the case."[83] Peterson

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[79] James C. Weston, "The Accumulated Earnings Tax and the Problem of Diversification," Michigan Law Review, LXIV (April, 1966), 1137.

[80] Regs. §1.537-2(b).

[81] Regs. §1.537-2(c).

[82] Regs. §1.537-3.

[83] *Ibid.*

and Beatty suggest that to be safe, "acquisitions of the stock of other companies should be limited to cases where the taxpayer will have clearcut working control of the acquired company."[84]

While both the regulations and IRS Audit Guidelines mention the taxpayer's dividend payment history as a factor in accumulated earnings cases, no clear guidelines are presented. Ziegler notes that after 1960, the Internal Revenue Service "expanded its challenges under section 531 beyond the obvious cases in which relatively stagnant corporations had paid no dividends."[85] Even substantial payments may not be an adequate defense.[86] However, "in close cases . . . a history of regular dividend payments may well be the decisive factor."[87]

One of the major changes in 1954 in the accumulated earnings tax was the broadening of "reasonable needs" to include "reasonably anticipated needs." Thus, plans to expand or replace assets became a legitimate reason for accumulation. The experts are almost unanimous in their emphasis on the importance of documentation. Schweitzer notes that "the lesson to be learned from these cases is that proper documentation

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[84]Peterson and Beatty, "Preventive Action," p. 135.

[85]Ziegler, "The 'New' Accumulated Earnings Tax," p. 117.

[86]Ibid.

[87]Peterson and Beatty, "Preventive Action," p. 136.

is a necessity in proving expansion plans and reasonable business needs."[88] Monyek states that "for many years, taxpayers and their advisors have believed that documentation of plans was an important key to proving . . . that the plans did in fact exist, and were responsible for the dividends being kept at a modest level."[89] Altman suggests that "contemporaneous documentation . . . is definitely persuasive to Revenue Agents, other IRS officers, and to the courts themselves, and may make the difference between winning or losing the case."[90] On the other hand, Weithorn and Noall note that several Tax Court decisions beginning in 1965 "recognize that closely held corporations generally plan and act in an informal manner, and therefore the absence of written plans or minutes regarding future expenditure does not necessarily indicate that the expenditures were not anticipated."[91]

The regulations specifically mention debt retirement as a reasonable business need.[92] One author has criticized this fact, noting that the use of debt is effective in escaping the

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[88]Donald L. Schweitzer, "Rebutting the Accumulated Earnings Tax Requires Financial Data and Documented Plans," Taxation for Accountants, XV (December, 1975), 327.

[89]Robert H. Monyek, "The Growing Problem of Accumulated Earnings: Section 531 Today," Taxes, XLIV (December, 1969), 772.

[90]David Altman, "Recent Litigation Shows 531 Cases Can be Won Despite Growing Pressure by the IRS," The Journal of Taxation, XX (March, 1964), 133.

[91]Weithorn and Noall, The Accumulated Earnings Tax, p. 111.

[92]Regs. §1.537-2(b).

tax even where the debt was incurred in a transaction motivated by a desire to escape the dilemma of the penalty tax. "The use of debt itself does not seem susceptible of control; the distinction between debt incurred for business and debt incurred solely for tax planning is not one that can in practice be drawn."[93] On the other hand, Linch observes that failure to use debt is not necessarily damaging. "It has been held in several cases that companies are not required to make the maximum use, or even any use of borrowing in order to meet the business needs before accumulating their own earnings for such use."[94]

Another ground for accumulation, provision of working capital needs, has also received a great deal of attention. In particular, there is great interest in the various methods used by the courts to calculate the operating cycle.[95] Relatively little has been written about some of the other factors mentioned in the regulations and the IRS Audit Guidelines such as various liquidity measures, protection against hazards, and the payment of salary to stockholders.

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[93]Hugh Calkins, "Corporate Distribtuions and Adjustments and the Hard Road to a Broader Tax Base," Tax Revision Compendium (Washington, 1959), p. 1639.

[94]Luther W. Linch, "Defending Against the Accumulated Earnings Tax," The Tax Advisor, VI (September, 1975), 524.

[95]See, for example, Joseph A. Tretheway, "Effective Use of Statistical Analysis to Fend Off 531 Attack," The Journal of Taxation, XXX (February, 1969), 80-86.

Summary

The history of the accumulated earnings tax can be traced back to the original income tax law passed in pursuance of the Sixteenth Amendment. Until 1938, the statute was steadily strengthened, reflecting Congressional concern that taxpayers were using corporations to shield themselves from the personal income tax. Following World War II, taxpayer fear of renewed enforcement of the statute probably brought about many of the criticisms of the tax. Congress responded in 1954 with major revisions, all in the taxpayer's favor.

In addition to the Code itself, evidence of Congressional intent is found in hearings and reports on revenue bills as well as in the regulations. The hearings and reports prior to 1954 are silent as to authoritative guidelines. The House and Senate reports on the 1954 revisions provide some guidelines but appear to call on the Treasury Department for "adequate standards." The regulations related to Sections 531-537 are "interpretive" regulations rather than "legislative" (specifically authorized in the Code). Where interpretive regulations are clearly consistent with the statutes, they carry the same force as the law itself. A number of specific guidelines are found in the regulations related to the accumulated earnings tax. In regard to the accumulated earnings tax, these regulations were assumed for purposes of this study to be the best available measure of Congressional intent.

A third source of standards is found in the IRS Audit Guidelines. These Guidelines were first published in their entirety in 1975. They are followed by Internal Revenue agents in determining the applicability of the accumulated earnings tax and may, in effect, serve as "unofficial" regulations.

The focus of this study was on post 1954 cases litigated in the Tax Court. The Tax Court was chosen to avoid the problems presented by differing precedents (as in the district courts), cases tried by jury, and lack of consistency between the Tax Court and the district courts. In addition, Tax Court cases may be more internally consistent than district court cases because of the expertise of the judges.

Recent books and articles reveal that tax experts are almost unanimous in their agreement as to the importance of documentation of plans and avoidance of unrelated loans. There is far less agreement as to the importance of unrelated investments, stock redemptions, diversification, dividend history, debt retirement, and other factors found in the regulations and IRS Audit Guidelines. Several factors, such as liquidity measures and payments of salary to stockholders, are almost ignored by the experts. The traditional methods of analyzing litigated cases have yielded relatively few clear-cut guidelines.

CHAPTER III

METHODOLOGY

The purpose of this study was to determine what guidelines the Tax Court has followed in deciding the outcome of accumulated earnings cases. It was hypothesized that the variables drawn from the regulations and IRS Audit Guidelines are capable of discriminating taxpayers who have won litigated accumulated earnings cases from taxpayers who have lost these cases. Under the assumption that the regulation variables are the best available measure of Congressional intent, a secondary hypothesis was that the regulation variables would be more powerful discriminators than the variables included only in the IRS Audit Guidelines. The goals of this chapter are to explain (1) how the cases included in the analysis were selected and collected, (2) how the variables selected for analysis were measured, and (3) the procedure for analyzing the data.

Procedures for Collecting Data

When observations occur over a period of time, there is always a possibility that the variables are serially correlated. This possibility seems quite real in a legal system based to a large extent on precedent. In order to minimize this effect, the cases analyzed were selected from a period

of time in which there were no substantive changes in the law. Tax Court cases most likely to be precedent setting (regular decisions) reveal no fundamental changes in the Court's attitude. Instead, decisions during this period "have clarified the circumstances in which the tax will be imposed and have related the tax to basic accounting concepts and business realities."[1] Limiting the analysis to cases litigated in the Tax Court also avoided the problems of differing precedents (as in the various district courts), cases tried by jury, and lack of consistency with other jurisdictions. It is interesting to note that the taxpayer's chances of winning in a litigated case appear to have remained relatively stable. A 1952 study of all accumulated earnings cases through 1950 indicates that taxpayers won roughly fifty per cent of the 101 cases litigated between 1913 and 1950.[2] This is about the same proportion of litigated cases won by post 1954 Code taxpayers in the Tax Court.

All sixty-seven accumulated earnings cases tried in the Tax Court under the 1954 Code through mid-1976 were selected for analysis. These cases are listed in Table I. Of these sixty-seven cases, eight were not included in the analysis. Three cases (Alex Brown, Dahlem, and Rhombar) are concerned primarily with the issue of whether or not the corporation

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[1] Ziegler, "The 'New' Accumulated Earnings Tax," p. 78.

[2] Hall, The Taxation of Corporate Surplus Accumulations, p. 155.

TABLE I

CASES INCLUDED IN STUDY

Year	Name	Court
1969	Alabama Coca-Cola Bottling Company	Tax (Memo)
1963	Alma Piston Company	Tax (Memo)
1965	Apollo Industries, Inc.	Tax
1973	Atlantic Commerce & Shipping Co., Inc.	Tax (Memo)
1974	Atlantic Properties, Inc.	Tax
1966	Bardahl International Corporation	Tax (Memo)
1965	Bardahl Manufacturing Corporation	Tax (Memo)
1965	Ted Bates & Company, Inc.	Tax (Memo)
1971	Bohac Agency, Inc.	Tax (Memo)
1965	Bremerton Sun Publishing Company	Tax
1973	Alex Brown, Inc.	Tax
1975	Cadillac Textiles, Inc.	Tax (Memo)
1965	Carolina Rubber Hose Co.	Tax (Memo)
1965	Chatham Corp.	Tax
1973	The Cheyenne Newspapers, Inc.	Tax (Memo)
1968	Adolph Coors Co.	Tax (Memo)
1970	Dahlem Foundation, Inc.	Tax
1973	Delaware Trucking Co., Inc.	Tax (Memo)
1972	Dielectric Materials Company	Tax
1963	Electric Regulator Corporation	Tax
1974	Empire Steel Castings, Inc.	Tax (Memo)
1968	Faber Cement Block Co., Inc.	Tax

TABLE I--Continued

Year	Name	Court
1970	Farmers and Merchants Investment Co.	Tax (Memo)
1969	Federal Ornamental Iron and Bronze Co.	Tax (Memo)
1965	Freedom Newspapers, Inc.	Tax (Memo)
1972	Golconda Mining Corporation	Tax
1973	GPD, Inc.	Tax
1974	Hamabe Realty Corporation	Tax (Memo)
1972	Herzog Miniature Lamp Works, Inc.	Tax (Memo)
1967	House Beautiful Homes, Inc.	Tax (Memo)
1969	Kingsbury Investments, Inc.	Tax (Memo)
1964	The Kirlin Corp.	Tax (Memo)
1969	Lake Textile Co., Inc.	Tax (Memo)
1963	LaSalle Trucking Company	Tax (Memo)
1969	Magic Mart, Inc.	Tax
1962	McMinn's Industries, Inc.	Tax (Memo)
1975	W. L. Mead, Inc.	Tax (Memo)
1964	Mead's Bakery, Inc.	Tax (Memo)
1972	Mimmac Corporation	Tax (Memo)
1970	The Montgomery Co.	Tax
1975	Motor Fuel Carriers, Inc.	Tax (Memo)
1962	Nemours Corporation	Tax
1967	Nodell Motors, Inc.	Tax (Memo)
1975	North Valley Metabolic Laboratories	Tax (Memo)
1969	Novelart Manufacturing Co.	Tax

TABLE I--Continued

Year	Name	Court
1965	Oman Construction Company	Tax (Memo)
1965	Otmar Real Estate Corporation	Tax (Memo)
1965	Perfection Foods, Inc.	Tax (Memo)
1962	James M. Pierce Corp.	Tax
1973	Powder Mill Realty Trust	Tax (Memo)
1974	Ready Paving and Construction Co.	Tax
1966	Rhombar Co.	Tax
1964	Riss & Co., et al.	Tax (Memo)
1967	Road Materials, Inc.	Tax (Memo)
1974	Roth Properties Company	Tax (Memo)
1964	Sandy Estate Company	Tax
1965	John P. Scripps Newspapers	Tax
1965	Sears Oil Co.	Tax (Memo)
1965	Shaw-Walker Co.	Tax (Memo)
1973	Standard Corrugated Case Corp.	Tax (Memo)
1973	Starks Building Co.	Tax (Memo)
1974	31 West 53rd Street Corp.	Tax (Memo)
1965	Turner Enterprises, Inc.	Tax (Memo)
1976	Vulcan Steam Forging Company	Tax (Memo)
1965	Vuono-Lione, Inc.	Tax (Memo)
1972	Walton Mill, Inc.	Tax (Memo)
1962	Youngs Rubber Corporation	Tax (Memo)

is a "mere holding company" and thus provide insufficient information for analysis. One case, Lake Textile, is concerned only with the issue of multiple corporations formed to avoid the tax. Another case, Chatham, is concerned only with the issue of burden of proof. Therefore, five of the eight excluded cases deal with narrow issues and are not directly concerned with the applicability of the accumulated earnings tax. Two cases, Apollo and Shaw-Walker, were appealed and apparently settled out of court. While these two cases provide ample data, the final outcome is unknown. The eighth case, Golconda, was appealed and dismissed on the grounds that the tax was not intended by Congress to be applied to a publicly held corporation.

Not all of the fifty-nine cases analyzed contained data for all variables. Where data were missing, the group mean of values which were present was "plugged" for missing values. This technique has been suggested by Cohen[3] and tested by Jackson.[4] Table II summarizes the number of missing data points by group. For purposes of this study, the groups were defined as follows: Group 1, cases in which the taxpayer paid no accumulated earning tax; Group 2, cases in which the taxpayer paid some tax for each litigated year; and Group 3,

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[3]Jacob Cohen and Patricia Cohen, Applied Multivariate Regression/Correlation Analyses for the Behavioral Sciences (Hillsdale, N. J., 1975), p. 286.

[4]Esther C. Jackson, "Missing Values in Linear Multiple Discriminant Analysis," Biometrics, XXIV (1968), 835-844.

TABLE II

SUMMARY OF MISSING DATA

Group	Number of Missing Data Points							
	0	1	2	3	4	5	6	Total
1	15	7	3	0	2	0	0	27
2	18	6	1	0	0	0	1	26
3	3	2	0	0	0	1	0	6
Total	36	15	4	0	2	1	1	59

cases in which the taxpayer paid some tax for at least one, but not all, litigated years. Cases which were appealed were classified according to the final decision.

Measurement

The variables collected from the cases were based on the regulations and Internal Revenue Audit Guidelines discussed in Chapter II. Those based on the regulations[5] were:

1. Plans to expand or replace assets
2. Plans to diversify through purchase of stock or assets
3. The current ratio
4. Documented contingencies
5. Related investments
6. Loans to related businesses
7. Unrelated investments
8. Loans to unrelated businesses

[5] Regs. §1.533-1(a)(2), §1.537-2(b), and §1.537-2(c).

9. Loans to stockholders

10. Loans to friends, relatives, or other unrelated corporations controlled by the same shareholders

11. Any history of dividends

12. Average dividend payout for five years prior to litigated years

13. Average dividend payout for litigated years

14. Presence of long term debt on the balance sheet.

Most of these variables were drawn directly from the regulations. However, two of the factors listed in the regulations would be difficult to collect from the cases. In each case, substitutions were made. In the first instance, measurement of "necessary working capital"[6] for each taxpayer corporation would be almost impossible. In some cases, the litigants attempt to do so, but a variety of methods are used. In other cases, no attempt is made to calculate working capital needs. As a surrogate measure of working capital needs, the average current ratio for litigated years was calculated. In the second instance, "retention of earnings to protect against unrealistic hazards"[7] is also difficult to assess. Instead, the presence of documented contingencies as a taxpayer defense was collected from the cases.

Based on the guidelines included in the regulations, it can be hypothesized that a "typical" corporation which loses an accumulated earnings cases could be characterized as having

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[6]Regs. §1.537-2(b)(4). [7]Regs. §1.537-2(c)(5).

loans to stockholders and to unrelated businesses, investment in unrelated businesses, high liquidity, and low dividend payout. On the other hand, a corporation which successfully defends against an assessment could be characterized as having high dividend payout, a need to expand or replace assets, a need to acquire other businesses, long term debt, low liquidity, business related loans and investments, and no unrelated loans or unrelated investments.

All of the regulation variables are duplicated in some way in the lists from the Internal Revenue Audit Guidelines. Of the added factors, some are not potentially useful in differentiating among cases. For example, the guidelines list public ownership of stock as a factor unfavorable to the government. Only one corporation included in the list of cases is publicly owned, and it was not included in the analysis. The guidelines also list shareholders in high tax brackets as a factor favorable to the government. All of the corporations have at least some shareholders in high enough tax brackets to benefit from retaining earnings in the corporation. In fact, the Manual states, "It would be a waste of examination time to try and develop an accumulated earnings tax case if the controlling stockholders did not benefit from the accumulation of surplus."[8] Another favorable factor listed in the Manual is inability to pay dividends because of restrictions. None of the corporations included in the analysis claim this

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[8] Internal Revenue Manual, 4(12) 10-10.

as a defense. Several other factors on the lists ("vague and indefinite" business needs and diversification which is "only contemplated") require subjective judgment and were therefore not included. Finally, one addition was made to the list of Audit Guideline variables. In regard to need to expand, the Manual states, "a history of expansion may infer the existence of a continuous plan which will justify an accumulation."[9]

The net result was that the Internal Revenue Audit Guidelines provided seven new variables which are not in the regulations and which do have potential for discriminating winning cases from losing cases. These are:

1. History of expansion
2. Documentation of plans
3. Subsequent fulfillment of plans
4. Actual diversification
5. Redemption of stock
6. Short term investments
7. Payment of salary to stockholders

This list combined with the regulation variables yields a more complete profile of typical corporations involved in accumulated earnings cases. A corporation which loses such a case could be hypothesized as having loans to shareholders and unrelated businesses, investment in unrelated businesses, high liquidity, low dividend payout, stock redemptions, short term investments, and no history of expansion, documentation

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[9]*Ibid.*

of plans, fulfillment of plans, or salary payment to stockholders. On the other hand, a corporation which successfully defends itself against an accumulated earnings assessment could be characterized as having high dividend payout, a need to expand or replace assets, a need to acquire other businesses, long term debt, low liquidity, business related loans and investments, a history of expansion, documentation of plans, subsequent fulfillment of plans, actual diversification, payment of salary to stockholders, and no unrelated loans, unrelated investments, or short term investments.

Because of the relatively small number of cases, an effort was made to reduce the number of variables. Correlation coefficients were calculated using a computer program in the _Statistical Package for the Social Sciences_.[10] Highly correlated variables were then examined to see if some could be eliminated. "Plans to diversify" and "actual diversification" had a correlation coefficient of .7172, significant at the .001 level. Because "actual diversification" was easier to ascertain from the cases, it was kept in the analysis and "plans to diversify" removed. "Average dividend payout for five years prior to litigated years" and "average dividend payout for litigated years" had a correlation coefficient of .6668 significant at the .001 level. Fourteen cases were missing data on past dividend history while only three cases

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[10]Norman H. Nie and others, _Statistical Package for the Social Sciences_, 2nd ed. (New York, 1975), pp. 276-298.

were missing data for the litigated years. Therefore, only the average dividend for litigated years was retained in the analysis. These were the only highly correlated variables in the analysis. In a further effort to reduce the number of variables, a new composite variable called "unrelated loans" replaced "loans to unrelated businesses," "loans to stockholders," and "loans to friends, relatives, or other unrelated corporations owned by the same shareholders." Finally, a new variable, "tendency to having missing data," was added. This addition has been suggested when there are many variables with nonrandomly missing data.[11]

The changes above resulted in a final list of eighteen variables. Of these, only two ("current ratio" and "average dividend payout for litigated years") are continuous. All others are discrete. The value of the variable "tendency to have missing data" indicates the number of variables on which data are missing for each case. The range of values is from 0 to 6. All other discrete variables are dichotomous. In these cases, the presence of the attribute measured results in the assignment of a value of 1, the absence the assignment of a value of 0. A description of the eighteen variables follows. The parenthetical abbreviations will be used in subsequent analyses.

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[11]Cohen, Multivariate Regression/Correlation Analyses, p. 286.

1. History of expansion (HISTORY)--present if the balance sheets or other data presented in the case indicate a general pattern of growth in sales and/or assets.

2. Plans to expand or replace assets (PLANS)--present if plans to expand or replace assets, no matter how vague or indefinite, are presented by the taxpayer corporation as a reason for accumulation.

3. Documentation of plans (DOCUMENTATION)--present if minutes, blueprints, written estimates, etc. are provided as evidence of plans.

4. Subsequent fulfillment of plans (SUBSEQUENT)--present if the plans to expand or replace assets have actually been carried out (in whole or in part) prior to the Tax Court appearance.

5. Actual diversification (DIVERSIFICATION)--present if the company has actually entered into a new line of business.

6. Redemption of stock (REDEMPTION)--present if the company has redeemed stock of any shareholder during the litigated years.

7. Current ratio (CURRENT RATIO)--calculated to one decimal place accuracy as an average ratio for the litigated years.

8. Short term investments (SHORT TERM INVESTMENTS)--present if any marketable securities are listed on the balance sheet.

9. Documented contingencies (CONTINGENCIES)--present if evidence of contingencies is presented in the case. Some examples are retirement plans for employees, lawsuits, and floods (where flood damage has occurred before).

10. Investment in related businesses (RELATED INVESTMENTS)--present if stock is owned in a company which is related either as a supplier or customer.

11. Loans to related businesses (RELATED LOANS)--present if there are loans to suppliers or customers during the litigated years.

12. Investment in unrelated businesses (UNRELATED INVESTMENTS)--present if stock is owned in an unrelated business. Marketable stocks are not included in this category. In general, unrelated investments are controlled subsidiaries.

13. Payment of salary to stockholders (SALARY)--present if any stockholder has received salary. No effort was made to determine if salary was "substantial." A code of 0 was assigned only when lack of salary payment was explicit.

14. Unrelated loans (UNRELATED LOANS)--present if loans have been made to unrelated businesses or to shareholders or to friends and relatives of shareholders. Loans to corporations controlled by the same shareholders were considered unrelated loans unless the corporations were customers or suppliers of the taxpayer corporation.

15. Any history of dividends (DIVIDEND HISTORY)--present if the corporation has ever paid dividends. A code of 0 was

assigned only when the absence of a dividend history is explicitly noted in the case.

16. Average dividend (PAYOUT)--calculated as a percentage of after-tax income during the litigated years. Where after-tax income is not included in the case, earnings were adjusted to reflect tax rates of twenty-two per cent on the first $25,000 of net income and forty-eight per cent on net income over $25,000.

17. Long term debt (DEBT)--present if the corporation has any outstanding long term debt during the litigated years.

18. Missing data (MISSING DATA)--a measure of tendency to have missing data. The value assigned indicates the number of variables on which data are missing.

Of these eighteen variables, ten were drawn from the regulations and are assumed to reflect the intent of Congress. These are variables 2, 7, 9, 10, 11, 12, 14, 15, 16, and 17. Variables 1, 3, 4, 5, 6, 8, and 13 are additional variables drawn from the Internal Revenue Audit Guidelines.

Procedure for Analyzing Data

The cases analyzed can be divided into three groups: (1) those in which the taxpayer was assessed no accumulated earnings tax for any of the litigated years (Group 1), (2) those in which the taxpayer was assessed some tax for each of the litigated years (Group 2), and (3) those in which the taxpayer was assessed some tax for some but not all of the

litigated years (Group 3). There are twenty-seven cases in Group 1, twenty-six in Group 2, and six in Group 3.

The statistical tool used to analyze these cases is multiple discriminant analysis, the purpose of which is to "seek linear combinations of a set of variables that best differentiate among several groups."[12] To insure a linear transformation, the populations should satisfy two conditions: (1) the discriminating variables should have a multivariate normal distribution, and (2) they should have equal variance-covariance (dispersion) matrices within each group. The technique is regarded as robust, and these assumptions need not be strongly adhered to.[13]

In the present case, the normality assumption is violated by the introduction of discrete variables. However, several studies have shown that linear discriminant analysis performs well under this circumstance.[14] In regard to the second assumption, if the dispersion of one group is larger than that of another, the group with larger dispersion will tend to have more cases classified in it given equal prior probabilities

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[12] Maurice M. Tatsouka, _Multivariate Analysis: Techniques for Educational and Psychological Research_ (New York, 1971), p. 5.

[13] Nie and others, _Statistical Package for the Social Sciences_, p. 435.

[14] See E. S. Gilbert, "On Discrimination Using Qualitative Variables," _Journal of the American Statistical Association_, LXIII (December, 1968), 1399-1412 and W. J. Krzanowski, "Discrimination Using Both Binary and Continuous Variables," _Journal of the American Statistical Association_, LXX (December, 1975), 782-790.

of membership.[15] Kendall and Stuart[16] suggest a test criterion for the null hypothesis H_o of the equality of g group dispersion matrices. This test was applied to the groups in this study using a computer program included in the Statistical Analysis System.[17] It should provide some measure of how different the population dispersion matrices are. So long as they are not drastically different, classification results based on an assumption of equality of dispersion matrices should be valid.[18]

As implied above, discriminant analysis can be used to predict group membership. The primary focus of this research, however, was on an analysis of the cases tried by the Tax Court under the 1954 Code. The goal was to determine which variables discriminated taxpayers who won (Group 1) from taxpayers who lost (Group 2) and then to make some judgment as to whether or not these results are consistent with Congressional intent. Because there are only six split decision cases (Group 3), there will, of course, be some question as to how valid are any generalizations concerning this group.

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[15] William W. Cooley and Paul R. Lohnes, Multivariate Data Analysis (New York, 1971), p. 267.

[16] Maurice G. Kendall and Alan Stuart, The Advanced Theory of Statistics, III (London, 1968), 266 and 282.

[17] Anthony J. Barr and others, A User's Guide to SAS (Raleigh, N. C., 1976), pp. 98-101.

[18] E. S. Gilbert, "The Effects of Unequal Variance-Covariance Matrices on Fisher's Linear Discriminant Function," Biometrics XXV (1969), 505-516.

The maximum number of discriminant functions that can be obtained is the smaller of the two numbers K-1 and p, where K is the number of groups, and p is the number of variables.[19] These functions are of the form

$$D_i = d_{i1}z_1 + d_{i2}z_2 + . . . + d_{ip}z_p$$

where D_i is the score of discriminant function i, the d's are weighted coefficients, and the z's are the standardized values of the p discriminating variables used in the analysis.[20] Analysis of these standardized discriminant function coefficients, which are similar to beta weights in multiple regression, should reveal which variables are making the greatest contribution to the discriminant function(s).

In the second phase of the analysis, classification functions are derived from the pooled-within groups covariance matrices and the centroids for the discriminating variables. The equation for one group would appear in the form

$$C_i = c_{i1}v_1 + c_{i2}v_2 + . . . + c_{ip}v_p + c_{i0}$$

where C_i is the classification score for group i, the c_{ij}'s are classification coefficients with c_{i0} being the constant, and v's are raw scores for the discriminating variables.[21]

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[19]Tatsouka, Multivariate Analysis, p. 233.

[20]Nie and others, Statistical Package for the Social Sciences, p. 435.

[21]Ibid., p. 445.

There is a separate equation for each group, and a case is assigned to the group with the highest score. Given the underlying assumption of a multivariate normal distribution, these scores can be converted into probabilities of group membership. Where groups are of quite different size, it is possible to adjust these probabilities by incorporating prior knowledge of group size.

These classification functions are useful in several ways. First, they provide a basis for evaluating how well the variables selected actually discriminate among the groups. Because there is an upward bias in classifying the same cases as those used in determining the discriminant functions, some authors[22] have suggested splitting the sample into two parts with one part used to establish the discriminant procedure and one part used to test the procedure. However, where the number of observations is limited, as it was in this study, "this approach is not recommended since then, inefficient estimators of the parameters would result at the expense of obtaining a good power testing procedure."[23] Here, the percentage of correctly classified cases should provide some measure of the effectiveness of the discriminant functions.

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[22]See Ronald E. Frank, William F. Massy, and Donald G. Morrison, "Bias in Multiple Discriminant Analysis," _Journal of Marketing Research_, II (August, 1965), 250-258 and S. James Press, _Applied Multivariate Analysis_ (New York, 1972), pp. 382-383.

[23]Press, _Applied Multivariate Analysis_, pp. 382-383.

It may also prove useful to determine if more classification errors occur in one group than another.

A second use for the classification functions is that they provide a basis for comparing groups. If, for example, it is learned from the discriminant functions that dividend history is an important discriminating variable, it is then possible to compare classification functions to determine how the groups analyzed differ in this characteristic. In this way, a "profile" of a taxpayer who wins a litigated accumulated earnings case can be compared with a profile of a taxpayer who loses. Additionally, these profiles can be compared with those drawn from the regulations and the IRS Audit Guidelines.

In this study the stepwise discriminant analysis employed in the _Statistical Package for the Social Sciences_[24] was used. This procedure sequentially selects from the original collection of variables those which contain most of the classificatory information. The selection criterion adopted was the overall multivariate F ratio for the test of differences among the group centroids. Because stepwise procedures exploit chance,[25] they should not be used to "fish" from a large list of variables not based on any _a priori_ model. Here, there was a

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[24]Nie and others, _Statistical Package for the Social Sciences_.

[25]Lalitha P. Sanathanan, "Discriminant Analysis," _Introductory Multivariate Analysis_, edited by Daniel J. Amick and Herbert J. Walberg (Berkely, California, 1975), p. 245.

logical basis for selection of the variables; the stepwise procedure was employed to achieve parsimony in the number of variables with a small loss in classificatory information.

Two levels of discriminant analysis were performed on the data. The first level included only those variables assumed to reflect the intent of Congress--those drawn from the regulations. The second level added the variables drawn from the Internal Revenue Audit Guidelines. The results of these analyses will be presented in Chapter IV.

Summary

Post 1954 Code accumulated earnings cases litigated in the Tax Court were selected as the basis for the study. Eight of the sixty-seven cases were excluded because they provided insufficient information. The remaining fifty-nine cases were classified into three groups. Group 1 consisted of cases in which the corporation paid no accumulated earnings tax; Group 2, cases in which the corporation paid some tax for each litigated year; and Group 3, cases in which the corporation paid some tax for at least one, but not all, litigated years.

The variables collected from the cases were based on the regulations and IRS Audit Guidelines. All of the regulation variables are included in the Guidelines. Because of the relatively small number of cases, highly correlated variables were examined to determine if some could be eliminated.

Variables offering little potential for discrimination were also eliminated from the analysis. These changes resulted in a final list of eighteen variables, seven of which are found in the IRS Audit Guidelines and not included in the regulations.

The statistical tool selected to analyze the cases was multiple linear discriminant analysis. While the data violate some of the underlying assumptions of linear discriminant analysis, it is regarded as a robust technique. A stepwise procedure from the *Statistical Package for the Social Sciences* was employed to achieve parsimony in the number of variables with small loss in classificatory information. The goals of the analyses were first to determine if the variables are capable of discriminating winning taxpayers from losing taxpayers and second to determine if the regulation variables are more powerful discriminators than the IRS variables.

CHAPTER IV

ANALYSIS AND INTERPRETATION OF THE DATA

The goal of the data analysis was to determine which of the variables drawn from the regulations and IRS Audit Guidelines differentiated taxpayers who won accumulated earnings cases from those who lost. Stepwise discriminant analysis was first performed on all cases using only the regulation variables and then on the same cases using the IRS variables, which include the regulation variables. In the discriminant analysis the cases were classified as winners (Group 1), losers (Group 2), or split decision cases (Group 3). The results of these analyses will be presented and interpreted in this chapter.

Empirical Findings

Test of Underlying Assumption

One of the underlying assumptions of discriminant analysis is that the dispersion matrices of the groups are equal. While equality would probably never occur in practice, it is possible to test the extent to which the data contradict the assumption of equality. Such a test is suggested by Kendall and Stuart.[1] The test statistic is distributed as approximately chi-square under the null hypothesis of equality of covariance matrices.

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[1]Kendall and Stuart, *The Advanced Theory of Statistics*, III, 266 and 382.

The computation of the statistic is available in the discriminant analysis portion of the Statistical Analysis System.[2] The output from the program (presented in Appendix B) includes the chi-square value, the degrees of freedom, and the probability of obtaining such data when the underlying covariance matrices are equal. The results of these tests are summarized in Table III. They show a clear lack of evidence of inequality. Therefore, the discriminant analysis was performed under the assumption of equality; i.e., a pooled covariance matrix was used in the calculation of the discriminant functions.

TABLE III

TEST OF HOMOGENEITY OF COVARIANCE MATRICES FOR THREE GROUPS INCLUDED IN ANALYSES

Variables	Chi-square Value	Degrees of Freedom	Probability
Regulations	104.55420765	132	.9626
IRS Audit Guidelines	58.76435914	342	1.0000

The Data Used in the Analysis

Discriminant analysis seeks to find the linear combinations of the variables that will maximize the differences between the group means relative to the within-group differences. The means, which form the basis of the analysis, are presented in Table IV. The data from which they were calculated are found in Appendix A.

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[2]Barr and others, A User's Guide to SAS, pp. 98-101.

TABLE IV

VARIABLE MEANS BY GROUP

Variable	Group 1	Group 2	Group 3	Total
History	0.8519	0.5385	0.5000	0.6780
Plans	0.8889	0.6538	0.8333	0.7797
Documentation	0.5556	0.0769	0.8333	0.3729
Subsequent	0.8148	0.1923	0.3333	0.4915
Diversification	0.1481	0.0385	0.0000	0.0847
Redemption	0.1481	0.1923	0.3333	0.1864
Current ratio*	5.3360	11.9400	3.7167	8.0815
Short term investments	0.8000	0.7200	0.8000	0.7647
Contingencies	0.2963	0.0385	0.6667	0.2203
Related investments	0.4615	0.2800	0.4000	0.3753
Related loans	0.3191	0.1600	0.4000	0.2572
Unrelated investments	0.1538	0.2800	0.6000	0.2548
Salary	1.0000	0.5727	1.0000	0.8117
Unrelated loans	0.4444	0.2308	1.0000	0.4068
Dividend history	0.7200	0.4800	0.6667	0.6088
Payout*	0.1400	0.0616	0.1133	0.1027
Debt	0.6553	0.1154	0.2500	0.3761
Missing data	0.7778	0.5000	1.0000	0.6780

*Continuous variables.

Analysis Based on Regulation Variables

Table V presents the standardized discriminant function coefficients obtained when stepwise discriminant analysis was performed on all cases using only the regulation variables.

TABLE V

STANDARDIZED DISCRIMINANT FUNCTION COEFFICIENTS USING REGULATION VARIABLES

Variable	Function 1	Function 2
Current ratio	-0.35967	0.13228
Contingencies	0.47243	-0.31732
Unrelated investments	-0.10328	-0.32238
Unrelated loans	0.37496	-0.67071
Dividend history	0.19972	0.26848
Debt	0.41901	0.81496
Relative percentage	55.53%	44.47%
Wilks' Lambda	.3427	.6129
Chi-square	57.295	26.187
Degrees of freedom	12	5
Significance	.0000	.0000

Five variables were excluded from the analysis by the stepwise procedure. These were plans, related investments, related loans, payout, and the missing data variable. These variables did not make a sufficient contribution to be retained in the analysis.

Those variables whose coefficients had the largest absolute size made the greatest contribution to the discriminant

functions. Thus, contingencies, debt, unrelated loans, and the current ratio made the greatest contribution to Function 1, while debt, unrelated loans, unrelated investments, and contingencies made the greatest contribution to Function 2.

Table VI presents classification function coefficients for the three groups. Comparison of the relative weights of the coefficients across groups yields a "profile" for each group of taxpayers. A combination of these results with those

TABLE VI

CLASSIFICATION FUNCTION COEFFICIENTS
USING REGULATION VARIABLES

Variable	Group 1	Group 2	Group 3
Current ratio	0.00622	0.05405	-0.04492
Contingencies	1.27412	-0.41694	4.56775
Unrelated investments	0.16002	1.38470	2.49213
Unrelated loans	0.44146	0.10701	5.45135
Dividend history	3.36609	1.95358	1.79847
Debt	4.31833	0.84218	-0.73437
Constant	-2.94238	-1.03830	-5.42012

of Table V reveals how the more important variables differentiate among groups. For example, the variable contingencies was important in both discriminant functions. A Group 1 taxpayer was more likely than a Group 2 taxpayer to have documented contingencies, and a Group 3 taxpayer was far more likely than

either Group 1 or Group 2 to have this factor present. The presence of long term debt was also important in both discriminant functions. Group 1 taxpayers were most likely to have long term debt, Group 3 taxpayers least likely. Unrelated loans was the third variable which was important in both discriminant functions. Group 3 taxpayers were most likely to have made such loans, and Group 1 taxpayers were more likely than Group 2 taxpayers to have made them. The current ratio was an important variable in discriminant Function 1. A taxpayer with a high current ratio was least likely to be in Group 3, most likely to be in Group 2. Group 3 taxpayers were most likely to have unrelated investments, Group 1 taxpayers least likely. To summarize, a taxpayer who won an accumulated earnings case (Group 1), compared to one who lost (Group 2), was more likely to have a low current ratio, to have documented contingencies, to have paid some dividends during its history, to have used long term debt, and to have made unrelated loans. On the other hand, Group 1 taxpayers were less likely to have made unrelated investments.

Under the assumptions of a multivariate normal distribution and equal dispersion matrices, a probability of group membership can be assigned to each case. The cases can then be classified into the group with the highest probability. The results of this classification are presented in Table VII. Misclassifications of Group 3 cases were expected; these cases represent compromises between the government and the taxpayer.

TABLE VII

CLASSIFICATION RESULTS USING REGULATION VARIABLES

Actual Group	Number of Cases	Predicted Group Membership		
		Group 1	Group 2	Group 3
1	27	20 74.1%	6 22.2%	1 3.7%
2	26	4 15.4%	22 84.6%	0 0.0%
3	6	1 16.7%	1 16.7%	4 66.7%

Percent of cases correctly classified: 77.97%

While 84.6 per cent of Group 2 cases were correctly classified, only 74.1 per cent of Group 1 cases were classified correctly. Figure 1 provides further evidence of the overlap among the groups. This graph is a plot of the cases using the two discriminant function scores for each case. The asterisks represent the mean discriminant scores for each group. The regulation variables clearly performed better than chance, but they did not provide sufficient information to correctly classify all the cases.

Analysis Based on IRS Variables

The second phase of the data analysis was to perform discriminant analysis on the same cases using the Internal Revenue Audit Guideline variables. These variables include the regulation variables and seven additional ones. Table VIII presents the standardized discriminant functions obtained when

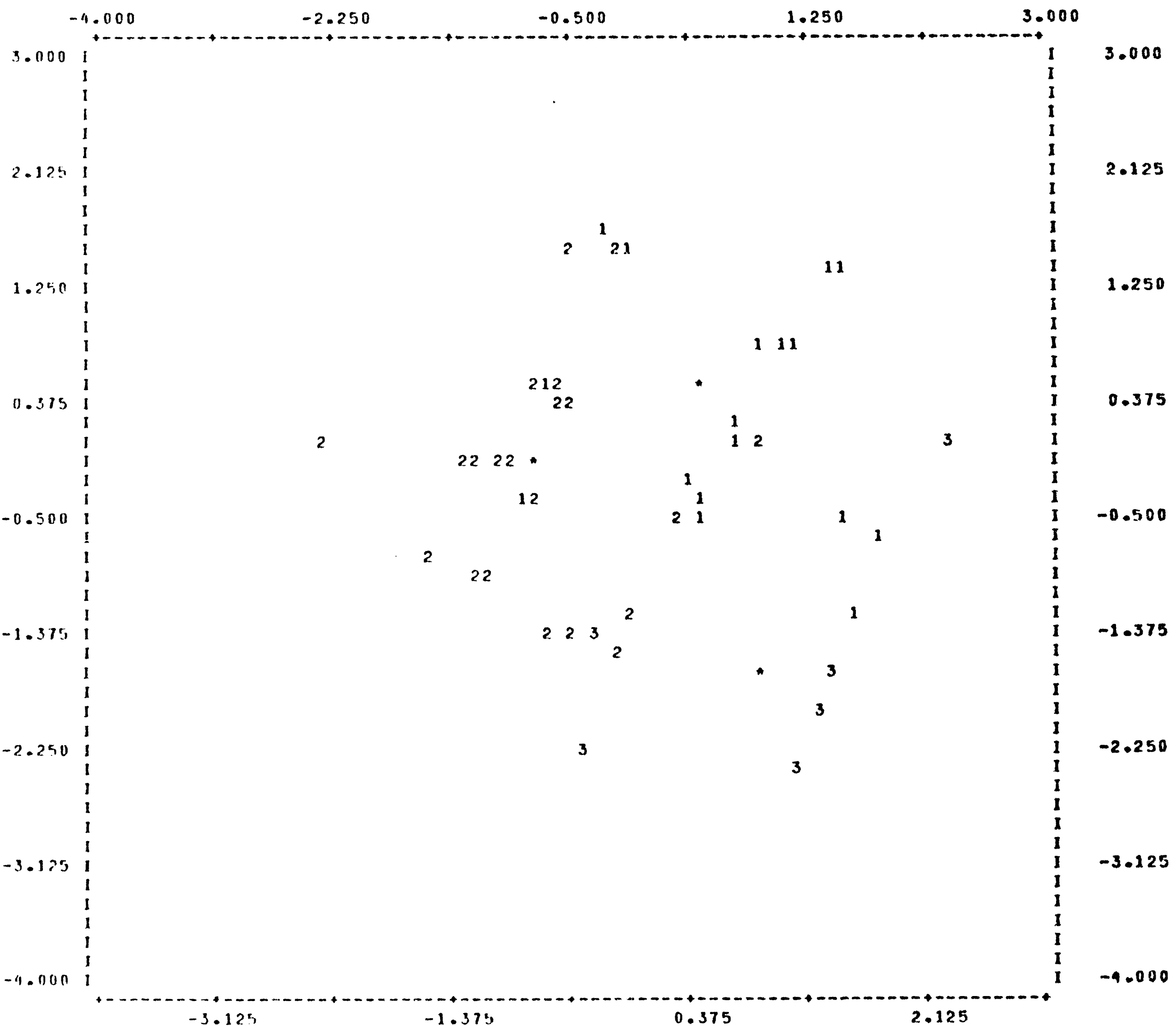

Fig. 1--Plot of discriminant score 1 (horizontal) vs. discriminant score 2 (vertical) based on regulation variables.

TABLE VIII

STANDARDIZED DISCRIMINANT FUNCTION COEFFICIENTS USING IRS AUDIT GUIDELINE VARIABLES

Variable	Function 1	Function 2
History	-0.29637	-0.13172
Plans	0.18391	0.08263
Documentation	-0.43962	0.35967
Subsequent	-0.01051	-0.39037
Diversification	0.28201	-0.12498
Current ratio	0.15287	-0.21217
Short term investments	-0.17305	0.15733
Contingencies	-0.17137	0.39902
Unrelated investments	0.15203	0.23170
Salary	-0.37314	-0.16192
Unrelated loans	-0.17303	0.53228
Debt	-0.26680	-0.43587
Relative percentage	76.80%	23.20%
Wilks' Lambda	.1444	.5445
Chi-square	97.718	30.701
Degrees of freedom	24	11
Significance	.0000	.0010

stepwise discriminant analysis was performed using these variables.

Variables making the greatest contribution to Function 1 were documentation, salary, history, diversification, and debt. Except for debt, all of these were new variables from the IRS

Audit Guidelines. The variables making the greatest contribution to discriminant Function 2 were unrelated loans, debt, contingencies, and subsequent fulfillment of plans. Only the last of these was added by the IRS Audit Guidelines. Variables excluded by the stepwise procedure were dividend history, payout, related investments, related loans, stock redemption, and the missing data variable.

Table IX presents classification function coefficients for the three groups. Again, a profile of each group can be drawn by comparing the relative weights of these coefficients across groups. Documentation was the most important variable in discriminant Function 1. The classification functions reveal that Group 1 and Group 3 taxpayers were far more likely to have documentary evidence of plans than Group 2 taxpayers. This is an interesting contrast to the variable "plans." Group 2 taxpayers were more likely than either Group 1 or Group 3 taxpayers to present plans to expand or replace as a defense. Salary was the second most important variable in discriminant Function 1. Group 1 and Group 3 taxpayers were more likely than Group 2 taxpayers to have paid salary to at least one of their shareholders. Group 1 and Group 3 taxpayers were also more likely to have a history of expansion than Group 2 taxpayers. Diversification into a new line of business follows a similar pattern. The use of long term debt was important to both discriminant functions. While taxpayers in Group 2 and Group 3 were roughly equally likely to have

TABLE IX

CLASSIFICATION FUNCTION COEFFICIENTS USING IRS AUDIT GUIDELINE VARIABLES

Variable	Group 1	Group 2	Group 3
History	9.68096	5.53334	8.24491
Plans	- 1.10902	1.79389	- 0.09553
Documentation	7.63622	2.42594	10.25544
Subsequent	- 3.80373	-4.43503	- 6.99539
Diversification	11.59100	4.97032	9.30358
Current ratio	- 0.03663	0.02508	- 0.09646
Short term investments	8.18478	5.79228	9.55634
Contingencies	2.61199	0.64201	6.34796
Unrelated investments	- 2.13717	0.45238	0.24947
Salary	15.28403	8.34979	12.92597
Unrelated loans	1.64175	0.13207	5.89790
Debt	6.21731	2.10831	2.21513
Constant	-18.50316	-6.67696	-20.65154

used long term debt, taxpayers in Group 1 were more likely than either of the other two groups to have relied on debt. Unrelated loans made the greatest contribution to discriminant Function 2. The same pattern emerges here as in the regulation variable analysis. Group 3 taxpayers were more likely than either Group 1 or Group 2 taxpayers to have made unrelated loans, but Group 1 taxpayers were also more likely than Group 2

taxpayers to have done so. The presence of documented contingencies was most likely for Group 3, least likely for Group 2. Subsequent fulfillment of plans appears to be least likely for Group 3 and most likely for Group 1. The remaining two variables included in the stepwise analysis are the current ratio and short term investments. A high current ratio was most likely to classify a taxpayer into Group 2. However, Group 1 and Group 3 taxpayers were more likely to have short term investments than those in Group 2.

To summarize, a winning taxpayer (Group 1) as compared with a losing taxpayer (Group 2) was more likely to have a history of expansion, documentation of plans, subsequent fulfillment of plans, diversification into a new business, a low current ratio, short term investments, documented contingencies, payment of salary to stockholders, unrelated loans, and long term debt. On the other hand, a winning taxpayer was less likely to have used plans to expand or replace assets as a defense and to have made unrelated investments.

Classification based on the IRS variables produced better results than was the case with the regulation variables. These results are presented in Table X. Figure 2 provides additional evidence of the separation of the groups achieved by adding the IRS variables to the discriminant analysis. A comparison of Tables V and VIII reveals that the IRS variables which contributed most to this improved ability to classify the cases were documentation, salary, history of expansion, and diversification.

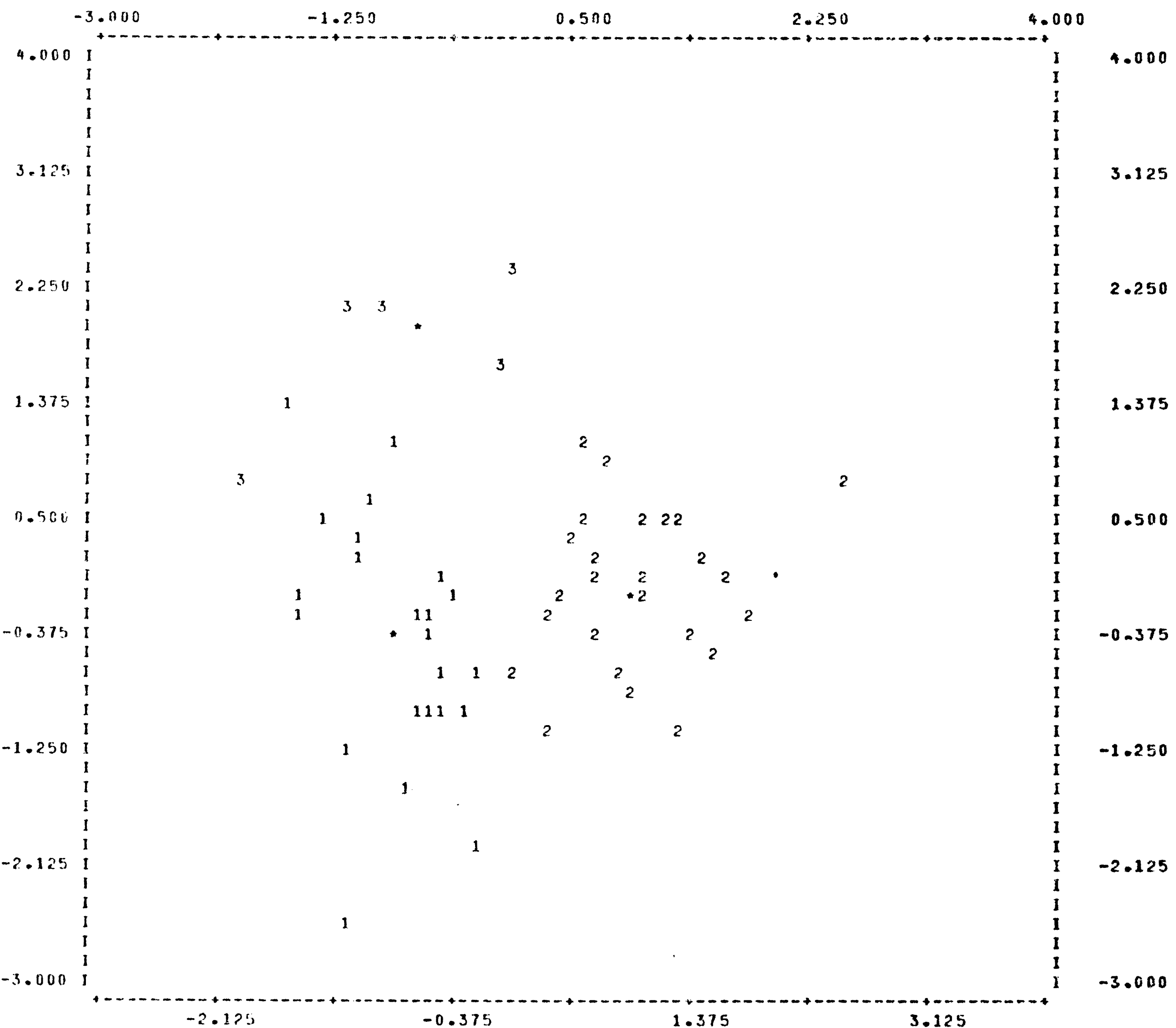

Fig. 2--Plot of discriminant score 1 (horizontal) vs. discriminant score 2 (vertical) based on IRS Audit Guidelines.

TABLE X

CLASSIFICATION RESULTS USING
IRS AUDIT GUIDELINE VARIABLES

Actual Group	Number of Cases	Predicted Group Membership		
		Group 1	Group 2	Group 3
1	27	26 96.3%	0 0.0%	1 3.7%
2	26	1 3.8%	25 96.2%	0 0.0%
3	6	1 16.7%	0 0.0%	5 83.3%

Percent of cases correctly classified: 94.92%

An interesting insight into the nature of the discriminant functions can be obtained by classifying the cases based only on discriminant Function 1 (Table VIII). The results, shown in Table XI, reveal that Function 1 separates Group 1 from

TABLE XI

CLASSIFICATION RESULTS BASED ON DISCRIMINANT FUNCTION 1
USING IRS AUDIT GUIDELINE VARIABLES

Actual Group	Number of Cases	Predicted Group Membership		
		Group 1	Group 2	Group 3
1	27	27 100.0%	0 0.0%	0 0.0%
2	26	1 3.8%	25 96.2%	0 0.0%
3	6	6 100.0%	0 0.0%	0 0.0%

Group 2 quite well, but it does not distinguish Group 3 from Group 1. Thus, one might conclude that split decision cases are closer to being winners than losers. Discriminant Function 2 apparently serves to distinguish Group 1 taxpayers from Group 3 taxpayers.

Interpretation of the Empirical Findings

Classification Results

A comparison of the classification results using regulation variables alone with classification results using the IRS Audit Guideline variables indicates that the IRS variables performed better. In the first instance roughly seventy-eight per cent of the cases were correctly classified; in the second about ninety-five per cent were correctly classified. Thus, it appears that the Tax Court may have relied on some guidelines which have considerably less authoritative weight than those found in the regulations. In addition, the four variables making the greatest contribution to discriminant Function 1 (Table VIII) are all variables drawn from the IRS Audit Guidelines.

Comparison of Classification Functions With Hypothesized Results

The major emphasis here is on the two major categories of taxpayers, Groups 1 and 2. Group 3 contained only six cases. It is therefore probably not valid to make generalizations

concerning this group. Perhaps the most interesting observation that can be made about these six cases is that they appear to be much more like Group 1 than Group 2 cases (see Table XI). This is true even though Group 1 cases were those in which the taxpayer paid no accumulated earnings tax at all. Many of the Group 2 cases, like the Group 3 cases, involved some compromise. The only difference is that Group 2 taxpayers paid some tax for every year involved; Group 3 taxpayers did not.

The two major factors that separate Group 3 cases from Group 1 cases (see discriminant Function 2, Table VIII) are unrelated loans and the use of debt. Group 3 taxpayers were far more likely to have made unrelated loans and less likely to have relied on debt. Both of these are characteristics which would be expected to hurt a taxpayer's chance of winning an accumulated earnings case.

In Chapter III, profiles of corporations winning and losing accumulated earnings cases were drawn from the regulations and IRS Audit Guidelines. A corporation losing such a case (Group 2) was hypothesized as having unrelated loans, unrelated investments, high liquidity, low dividend payout, stock redemptions, short term investments, and no history of expansion, documentation of plans, fulfillment of plans, or payment of salary to stockholders. A corporation winning such a case (Group 1) was hypothesized as having high dividend payout, long term debt, low liquidity, business related loans and

investments, a history of expansion, documentation of plans, subsequent fulfillment of plans, actual diversification, payment of salary to stockholders, and no unrelated loans, unrelated investments, or short term investments.

Classification results based on discriminant Function 1 using all variables (Table XI) showed that Function 1 effectively separated Group 1 from Group 2 with only one misclassified case. Therefore, the variables retained by the stepwise procedure and included in discriminant Function 1 (Table VIII) should reveal to what extent the cases actually had the hypothesized characteristics. These variables, from most to least important, are listed in Table XII along with the source of the variable (regulations or IRS Audit Guidelines) and the associated classification function coefficients for Group 1 and Group 2 taxpayers. These coefficients reveal that, as hypothesized, Group 1 taxpayers were more likely to have documentary evidence of plans, payment of salary to stockholders, a history of expansion, diversification into a new line of business, long term debt, documented contingencies, a low current ratio, and subsequent fulfillment of plans. Also as hypothesized, they were less likely than Group 2 taxpayers to have made unrelated investments.

Several surprising results emerged from the discriminant analysis. First, of the six variables excluded by the stepwise procedure because they did not significantly contribute to discrimination among the groups, four were variables included in

TABLE XII

SUMMARY OF CLASSIFICATION RESULTS FOR GROUPS 1 AND 2 USING ALL VARIABLES

Variables Listed in Order of Discriminant Function Weight*	Source	Classification Function Coefficients	
		Group 1	Group 2
Documentation	IRS	7.63622	2.42594
Salary	IRS	15.28403	8.34979
History	IRS	9.68096	5.53334
Diversification	IRS	11.59100	4.97032
Debt	Reg.	6.21731	2.10831
Plans	Reg.	-1.10902	1.79389
Short term investments	Reg.	8.18478	5.79228
Unrelated loans	IRS	1.64175	0.13207
Contingencies	Reg.	2.61199	0.64201
Current ratio	Reg.	-0.03663	0.02508
Unrelated investments	Reg.	-2.13717	0.45238
Subsequent	IRS	-3.80373	-4.43503
Variables Not in Analysis			
Related loans	Reg.	....	....
Redemptions	IRS	....	....
Payout	Reg.	....	....
Related investments	Reg.	....	....
Dividend history	Reg.	....	....
Missing data	....	....	....

*The variables are listed in order of decreasing absolute value of discriminant function weights as presented in Table VIII.

the regulations. Neither of the two variables related to dividends was retained in the analysis. The variable means (Table IV) indicate that the average payout was about fourteen per cent for winning taxpayers and six per cent for losing taxpayers. The dividend history variable reveals that while seventy-two per cent of winning taxpayers had paid some dividends during their history, only forty-eight per cent of losing taxpayers had done so. In spite of these differences, they were not great enough to significantly contribute to the discriminant function. The other two excluded regulation variables were related investments and related loans. Both of these are listed in the regulations as grounds for accumulation. The fifth excluded variable, redemption of stock, was drawn from the IRS Audit Guidelines. The sixth was the missing data variable.

Perhaps even less expected than the exclusion of these variables was the fact that several variables, while included in the analysis, did not discriminate in the expected manner. For example, Group 2 taxpayers were more likely to have presented plans to expand or replace assets as a defense than were Group 1 taxpayers. It appears that documentation of plans or subsequent fulfillment of plans is generally necessary for this to be a successful defense. Also contrary to the hypothesized results was the fact that Group 1 taxpayers were more likely than Group 2 taxpayers to have short term investments among their assets even though the Internal Revenue

Manual lists such investments as a factor favorable to the government. Finally, the role of unrelated loans was also contrary to the hypothesized results. This factor receives heavy emphasis in the regulations. Three of the five "unreasonable" bases for accumulation listed in the regulations are various types of unrelated loans. However, forty-five per cent of winning taxpayers had made such loans while only twenty-three per cent of losing taxpayers had made them. Thus, this variable did discriminate winning taxpayers from losing taxpayers but not in the hypothesized manner.

These results strengthen the impression that the regulation variables have not carried the expected authoritative weight. Of the ten regulation variables, four (related investments, related loans, dividend history, and payout) did not make a sufficient contribution to be retained in the analysis. Of the remaining six regulation variables, two (plans and unrelated loans) behaved in a manner contrary to that hypothesized. The current ratio, documented contingencies, unrelated investments, and debt are the only regulation variables which contributed to the analysis and performed as hypothesized. Of these four, only debt was among the five most important variables in discriminant Function 1 based on all variables (Table XII). The inevitable conclusion is that the Tax Court has not relied strongly on the regulations in deciding accumulated earnings cases since 1954.

The variables making the greatest contribution to discriminating between winning and losing taxpayers were (in order of weight) documentation of plans, salary, history of expansion, diversification, and debt. In each case, these variables performed as hypothesized. Apparently a combination of a history of expansion and documented plans to continue doing so would contribute to a convincing defense. While the average dividend payout for all corporations involved in this study was relatively low, the presence of salary payments to major stockholders may help to mitigate an image of a corporation hoarding its earnings to protect them from the personal income tax to which they are subject when distributed. The use of debt may indicate to a judge that the assets accumulated in the corporation are needed by it and should not be distributed in the form of dividends. Finally, the courts have recognized diversification into new lines of business as a legitimate use of funds. The dividing line between diversification and unrelated investment is not always clear, but it generally focuses on the degree of control exercised by the acquiring corporation.

Comparison of Classification Functions With Expert Interpretation

Chapter II included a brief summary of expert opinion as to the importance of various guideline variables. In some cases, the experts correctly interpreted trends in decisions related to the accumulated earnings tax. For example, most of

them agreed on the importance of documentation as persuasive evidence of plans. While the courts have recognized in some cases that closely held businesses plan and act informally, this study seems to confirm the importance of written evidence of plans. Both diversification and use of debt were important in discriminating winners from losers. These results are consistent with the experts, who generally regarded diversification as an acceptable use of funds (where there is working control of the acquired company) and the use of debt as a viable means of escaping the tax.

The experts presented a somewhat confusing picture of the importance of stock redemptions and dividends. Both of these variables were excluded from the analysis because of failure to contribute significantly to the discrimination. The experts were also mixed in their attitude toward marketable securities. While some warned against such investments, Ziegler noted that recent Tax Court cases "have tended to reject any taint to holding marketable securities."[3] The results of this study support Ziegler's observation.

Probably the greatest degree of agreement among the experts was in regard to unrelated loans. They suggested that such loans could result in unusually high taxpayer mortality as well as raise the issue of disguised dividends. While this study provides no evidence on the issue of disguised dividends, it does partially refute claims of taxpayer mortality associated

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[3] Ziegler, "The 'New' Accumulated Earnings Tax," p. 82.

with unrelated loans. It should be noted, however, that over forty per cent of all taxpayers in the study had made such loans. Thus, the presence of unrelated loans may "flag" a return for audit on the accumulated earnings issue. Once a return has been selected for audit and brought to litigation, the presence of this variable does not contribute toward classifying a taxpayer as a loser. On the contrary, it actually contributes toward classifying a taxpayer as a winner.

The experts were virtually silent in regard to two of the important variables, history of expansion and salary. This is not surprising in the case of history of expansion. Most of the articles in tax journals are focused on the importance of planning to prevent an accumulated earnings assessment. Expansion is a desirable goal of most corporations, but it is not one that seems susceptible to planning (manipulation) in the same way as are such variables as debt, dividend payment, investment strategy, etc. For the same reason, it is surprising that so little has been said about salary payment. Of course, tax experts recognize the potential of salary payment for tax planning. This potential exists both because salaries are subject to the maximum tax on earned income for the recipient and also because, if reasonable, they are deductible as a corporate expense. However, the potential of salary payments as a factor in avoiding the accumulated earnings tax has apparently not been recognized.

Summary

The empirical findings show that it is possible to discriminate winning cases from losing cases based on the variables collected. Further, the results show that the IRS Audit Guideline variables do a better job of discriminating than do the regulation variables.

When the hypothesized taxpayer profiles were compared with the actual profiles revealed by the discriminant analysis, not all of the variables behaved as expected. The effects of a history of expansion, documentation of plans, subsequent fulfillment of plans, diversification, the current ratio, documented contingencies, payment of salary to stockholders, and long term debt all conformed to the hypothesized profiles. However, plans, short term investments, and unrelated loans all discriminated in a manner opposite to that expected.

Perhaps even more important was the relative strength of the regulation variables compared to that of the IRS variables not included in the regulations. Of the five most important discriminating variables, only one is found in the regulations. Four of the regulation variables did not make a sufficient contribution to be retained in the analysis, and two discriminated in a manner contrary to expectations. Two other regulation variables were retained in the analysis and discriminated as expected. It appears that the regulations related to the accumulated earnings tax carry considerably less authoritative weight than was expected.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

In Chapter I, two hypotheses were stated. The major hypothesis of the study was that the variables drawn from the regulations and the Internal Revenue Service Audit Guidelines are capable of discriminating taxpayers who have won accumulated earnings cases from taxpayers who have lost these cases. Under the assumption that the regulations are the best available measure of Congressional intent, a secondary hypothesis was that the regulation variables would be more powerful discriminators than the variables included only in the IRS Audit Guidelines.

The analyses in Chapter IV supported the major hypothesis. When discriminant analysis was performed on all cases using the IRS Audit Guideline variables, approximately ninety-five per cent of the cases were correctly classified. However, three of the variables discriminated in a manner contrary to that which would be expected from reading the regulations and IRS Audit Guidelines. The analyses did not support the secondary hypothesis. Of the five most important discriminating variables, only one was drawn from the regulations. Thus, the added variables drawn from the IRS Audit Guidelines appear to be more powerful discriminators than the variables found in the regulations.

Summary

The problem of accumulation of earnings in corporations for tax avoidance purposes is one that has been recognized by Congress since the passage of the first income tax law following the adoption of the Sixteenth Amendment. The treatment of the corporation as a separate taxable entity with lower rates than the highest marginal individual rates has proved a powerful incentive for taxpayers to use the corporation as a shield against the higher graduated personal rates. The accumulated earnings tax is the principal weapon Congress has used to prevent such accumulation.

One of the premises of this study was that useful information concerning the impact of this penalty tax could be obtained through a statistical analysis of past litigated cases. Such a study could be useful to Congress and other interested parties in evaluating the extent to which authoritative guidelines have been followed in imposing the tax.

In Chapter II, the legislative history of the accumulated earnings tax was traced back to the Tariff Act of 1913. Over the years Congress made a series of changes designed to strengthen the act, culminating in a shift of burden of proof to the taxpayer in the Revenue Act of 1938. Enforcement of the tax was rather lax during World War II, and taxpayers naturally feared a renewed enforcement following the war. Perhaps because of this fear, many criticisms of the tax surfaced in the early 1950's. Congress responded in 1954 with

major revisions in the accumulated earnings tax, all in the taxpayer's favor.

Congressional hearings and reports on revenue bills provide relatively little concrete evidence as to how Congress intended that the tax be enforced. There are, however, authoritative guidelines in the regulations relating to Sections 531-537. These were assumed to be the best available measure of Congressional intent. Further guidelines, though far less authoritative, are found in the Internal Revenue Audit Guidelines, first published in their entirety in 1975.

Post 1954 accumulated earnings cases litigated in the Tax Court were selected as the focus of the study. The primary reasons for this focus were to avoid problems presented by differing precedents (as in the district courts) and to insure as much internal consistency in the cases as possible. Chapter II concluded with a summary of expert interpretation of these cases found in recent books and articles in major tax journals.

The methodology employed in this study was explained in Chapter III. The first goal of the chapter was to explain how the cases included in the study were selected. The second goal was to explain how the variables included in the analysis were selected from the regulations and the IRS Audit Guidelines and how they were measured. Finally, the procedure for analyzing the data was discussed. The statistical methodology selected was discriminant analysis, which seeks to find linear

combinations of the variables that will best differentiate among the groups. While the data involved in this study violate some of the underlying assumptions of linear discriminant analysis, the technique is regarded as robust. A stepwise procedure was selected in order to achieve parsimony in the number of variables employed with only a small loss in classificatory information.

The analysis and interpretation of the data were presented in Chapter IV. The empirical findings included standardized discriminant function coefficients, classification function coefficients, and classification results for two levels of analysis. The first level included only the regulation variables; the second level included the IRS Audit Guidelines, which encompass the regulation variables. Interpretation of the empirical findings compared these results with the taxpayer "profiles" hypothesized in Chapter III and with the expert interpretations discussed in Chapter II. While most of the variables discriminated as expected, three did not. The regulation variables clearly did not discriminate as well as the added variables found in the IRS Audit Guidelines.

Conclusions

Intuitively, one would expect that the best defense against an accumulated earnings assessment would be a healthy, growing company which has financed its growth from internally generated sources. As the IRS Manual states, "A history of expansion may infer the existence of a continuous plan which

will justify an accumulation."[1] The following quotation from one of the cases included in this study seems to describe a company with such a "continuous plan."

> Petitioner's rapid and well managed growth in a highly competitive industry hardly presents the picture of a tax-saving device. Its earnings have not been allowed to lie fallow; rather they have been plowed back into the corporation in the form of new plant and other income producing assets.
>
> The Tax Court points to the fact that since 1948 petitioner had realized a substantial profit in each year yet had declared no taxable dividend. But had its earnings been paid to stockholders, how could petitioner have grown in size from a company with an original investment of $2,180 to a company conducting a substantial operation with over a million dollars of assets?[2]

Not only does this case confirm the importance of the variable "history of expansion," but it may also indicate why "dividend history" and "dividend payout" failed to discriminate winning taxpayers from losing taxpayers. Low payout probably signals possible tax avoidance purpose to the Internal Revenue Service and may cause a taxpayer to be selected for audit. More important in deciding the outcome of a case, however, is what the company has done with the accumulated funds not paid out in the form of dividends.

It is unlikely that many of the cases tried in court show a clear-cut basis for accumulation. It is therefore to be expected that the courts have placed a high value on documentary

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[1] _Internal Revenue Manual_, 4(12) 10-10.

[2] _Electric Regulator Corporation_ (2 Cir., 1964), 14 AFTR2d 5447, 336 F2d 339, reversing 40 TC 757.

evidence of plans. The use of debt and payment of salary to stockholders, both important discriminators, have apparently provided the Tax Court with evidence that the corporation has not been used for tax avoidance purposes. The Tax Court has also found that diversification into a new line of business is a legitimate use of "excess" funds. The five most important variables in discriminating winning taxpayers from losing taxpayers (documentation of plans, payment of salary to shareholders, history of expansion, diversification, and use of long term debt) all discriminated in the manner one would expect from reading the regulations and IRS Audit Guidelines.

Several results of the analysis were not as expected. For example, the fact that the presence of unrelated loans contributed to the classification of a case as a winner was unexpected. If indeed the courts have recognized that closely held businesses plan and act in an informal manner,[3] then one would expect the variable "unrelated loans" to be "neutralized" to the extent that it would be dropped from the analysis by the stepwise procedure. Apparently, the Tax Court has come to regard these loans as part of the corporation's working capital, in no way damaging to the taxpayer's case.[4] Interestingly, unrelated investments did tend to hurt a taxpayer's case even though unrelated loans did not. Both of these factors are

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[3]Bremerton Sun Publishing Co., 44 TC 566 (1965).

[4]See Alabama Coca-Cola Bottling Company, ¶69,123 P-H Memo TC, in which loans of almost $600,000 had been made to a major stockholder.

often regarded as negative signals, indicative of excess accumulation of funds. Apparently, investments in unrelated businesses were regarded by the Tax Court as less liquid and therefore unavailable for legitimate business needs such as future expansion of plant. Plans to expand or replace assets also discriminated in a manner contrary to that expected. The presence of such plans actually helped to classify a taxpayer as a loser. A possible explanation is that winning taxpayers had more substantial bases for accumulation; they did not need to "invent" reasons, whereas losing taxpayers may have claimed plans that did not in fact exist. If the plans did exist, these taxpayers were unable to make a convincing case, perhaps because of lack of documentation or subsequent fulfillment of the plans. Finally, the Tax Court clearly did not penalize a corporation for holding short term investments. The presence of a high current ratio did, however, tend to classify a taxpayer as a loser. Thus, taxpayers with high liquidity were penalized, but holding marketable securities among current assets were regarded as legitimate.

Perhaps the most important result of this study was the clear dominance of variables which appear only in the IRS Audit Guidelines over variables which appear in the regulations. Of the five most important discriminating variables, only use of long term debt was drawn from the regulations. In spite of the heavy emphasis of the regulations on unrelated loans, this variable discriminated in a manner opposite to that

intended by the regulations. Several other regulation variables (dividend history, dividend payout, related investments, and related loans) did not make a significant contribution to the discriminant functions and were therefore dropped from the analysis. Three regulation variables (debt, contingencies, and the current ratio) were retained in the analysis and discriminated as expected.

A taxpayer should expect to find authoritative guidelines in the regulations. Tax experts who have analyzed accumulated earnings cases appear to regard the regulations as authoritative and advise taxpayers accordingly. Now that the Internal Revenue Manual has been published, the taxpayer has been provided with additional guidelines which may be useful in assessing vulnerability to the tax. It is unlikely, however, that these guidelines would be regarded by taxpayers as more important than the regulations.

The results of this study do not necessarily imply that the Tax Court has made decisions in accumulated earnings cases in a manner inconsistent with Congressional intent. These decisions are, however, inconsistent with the regulations in some respects. The regulations have been assumed for this study to be the best measure of Congressional intent available to taxpayers. Where inconsistency exists between the regulations and enforcement, the proper action would appear to be for Congress to actively consider whether or not the regulations as written reflect what was intended. If Congress regards

unrelated loans, for example, as clear evidence of tax avoidance purpose, perhaps it should call for legislative rather than interpretive regulations or even include such wording in the Code.[5]

The analyses also revealed that the IRS Audit Guideline variables were more powerful discriminators than the regulation variables. If the Tax Court reliance on these variables seems reasonable to Congress, then perhaps they should be incorporated into the regulations. The standards by which Congress expects a Code section to be enforced should not be mysterious to taxpayers. In particular, they should not be misleading.

Recommendations for Further Research

This study was limited in a number of ways described in Chapter I. One avenue for further research would be to eliminate some of those limitations. For example, more reliable information could possibly be obtained by analyzing Tax Court records directly rather than gathering information from printed opinions. This would help to eliminate any bias introduced by the judge into the opinion. The study could also be extended to encompass district court cases. Weithorn and Noall have stated that in accumulated earnings cases, "a holding in favor of the taxpayer [in the district courts] is not unlikely under circumstances which would probably result in the imposition of

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[5] See Section 385 for an example of specific authority to the Secretary of the Treasury to prescribe regulations.

the tax in the Tax Court."[6] One test of this hypothesis would be to perform an analysis of district court cases over the same period similar to that performed in the present study. Comparison of the resulting discriminant and classification function coefficients might yield information as to how different or similar are the bases for deciding accumulated earnings cases within these two jurisdictions.

Similar studies of other Code sections could help to reveal patterns not previously perceived. For example, the regulations relating to other Code sections may also be lacking in authoritative weight. If this situation exists for many Code sections, Congress might wish to reconsider the role of the regulations and the process by which they are promulgated.

This study does not address the question of which variables discriminated taxpayers who received assessments over the period since 1954 from those who did not. It may be that the regulation variables would have been effective in separating these two groups. If one assumes that future assessments will be consistent with past actions, it is understandable that the IRS does not wish to make available the data which would form the basis of such an analysis. Thus, this potentially interesting research may not be possible.

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[6]Weithorn and Noall, The Accumulated Earnings Tax, pp. 198-199.

The tool used here (discriminant analysis) is one that should have application in other types of cases to answer a variety of policy questions. For example, the same technique could be used to compare court decisions before and after some change in the law in order to determine if the desired effect has been achieved. Or a comparison of decisions in different courts may reveal inequities not perceived by the courts themselves. In the short run, a study such as this may provide taxpayers with useful information for making decisions. Ultimately, a more important effect of such studies may be to provide policy makers with information that will aid them in writing laws more likely to be implemented according to their intent.

APPENDIX A

TABLE XIII

DATA EMPLOYED IN THE DISCRIMINANT ANALYSES

Case	History	Plans	Documentation	Subsequent	Diversification	Redemption	Current ratio	Short term Investments	Contingencies	Related Investments	Related loans	Unrelated Investments	Salary	Unrelated Loans	Dividend History	Payout	Debt	Missing data
Group 1																		
Alabama Coca-Cola Bottling Company	1	1	1	0	0	0	2.1	0	0	0	0	0	*	1	1	.43	1	1
Alma Piston Company	0	0	0	0	1	0	3.4	1	0	0	0	0	1	0	1	.19	0	0
Bremerton Sun Publishing Company	1	1	0	1	0	0	3.8	1	1	1	1	0	1	0	1	.28	1	0
Carolina Rubber Hose Co.	1	1	1	1	0	0	6.7	1	1	1	0	0	1	0	1	.29	0	0
Adolph Coors Co.	1	1	1	1	0	0	3.1	1	0	0	0	0	1	0	1	.02	0	0
Delaware Trucking Co.	1	1	1	1	0	0	3.1	1	0	*	*	*	*	0	1	.01	0	3

TABLE XIII--Continued

Case	History	Plans	Documentation	Subsequent	Diversification	Redemption	Current ratio	Short term Investments	Contingencies	Related Investments	Related loans	Unrelated Investments	Salary	Unrelated Loans	Dividend History	Payout	Debt	Missing data
Dielectric Materials Company	1	1	1	1	0	0	3.3	1	0	0	0	0	1	0	0	.00	1	0
Electric Regulator Corporation	1	1	1	1	0	0	2.7	0	0	0	0	0	1	0	0	.00	1	0
Empire Steel Castings, Inc.	1	1	1	1	0	0	3.1	0	0	1	0	0	*	0	1	*	1	2
Faber Cement Block Co., Inc.	1	1	1	1	0	0	4.6	1	0	0	1	0	*	1	1	.06	1	1
Farmers and Merchants Investment Co.	0	0	0	0	0	1	.7	*	0	1	1	0	1	1	0	.00	1	1
Freedom Newspapers, Inc.	1	1	1	1	0	1	5.0	1	1	1	*	0	1	0	*	.00	0	2
House Beautiful Homes, Inc.	1	1	0	1	0	0	*	*	0	1	1	0	1	1	1	.00	1	2
Kingsbury Investments, Inc.	1	1	0	1	1	0	4.9	1	0	1	0	1	*	0	1	.43	0	1

TABLE XIII--Continued

Case	History	Plans	Documentation	Subsequent	Diversification	Redemption	Current ratio	Short term Investments	Contingencies	Related Investments	Related loans	Unrelated Investments	Salary	Unrelated Loans	Dividend History	Payout	Debt	Missing data
Magic Mart, Inc.	1	1	1	1	0	0	12.3	0	1	0	1	0	*	0	1	.00	0	1
Mead's Bakery, Inc.	1	1	1	1	0	0	2.3	1	1	0	0	1	*	1	0	.00	1	1
The Montgomery Co.	0	1	1	1	1	0	19.5	0	1	1	1	1	1	1	1	.23	1	0
North Valley Metabolic Laboratories	1	1	1	1	0	0	3.1	1	0	0	0	0	1	1	0	.00	1	0
Oman Construction Company	1	1	0	1	0	1	4.3	1	0	1	0	0	1	1	1	.02	1	0
James M. Pierce Corp.	0	0	0	0	0	1	2.9	1	0	1	0	0	1	1	1	.43	1	0
Road Materials, Inc.	1	1	0	0	0	0	*	1	1	0	0	0	1	1	*	*	*	4
Sandy Estate Company	1	1	0	1	1	0	9.2	1	0	0	0	0	1	0	0	.00	1	0
John P. Scripps Newspapers	1	1	0	1	0	0	2.6	1	1	1	1	0	1	0	1	.30	1	0
Sears Oil Co.	1	1	0	1	0	0	4.6	1	0	0	0	0	1	0	0	.00	1	0

TABLE XIII---Continued

Case	History	Plans	Documentation	Subsequent	Diversification	Redemption	Current ratio	Short term Investments	Contingencies	Related Investments	Related loans	Unrelated Investments	Salary	Unrelated Loans	Dividend History	Payout	Debt	Missing data
Starks Building Co.	1	1	1	1	0	0	6.7	1	0	0	0	1	1	1	1	.44	1	0
Vuono-Lione, Inc.	1	1	0	1	0	0	9.6	1	0	0	0	0	1	1	1	.18	1	0
Walton Mill, Inc.	1	1	1	1	0	0	9.8	1	0	1	1	0	*	0	1	.19	0	1
Group 2																		
Atlantic Commerce & Shipping Co., Inc.	1	1	0	0	0	0	4.0	1	0	1	1	1	*	0	0	.00	0	1
Atlantic Properties, Inc.	0	0	0	0	0	0	12.2	1	0	0	0	0	0	0	1	.00	0	0
Bohac Agency, Inc.	0	0	0	0	0	0	15.9	1	0	0	0	0	0	0	0	.00	0	0
Cadillac Textiles, Inc.	0	1	0	1	0	1	6.9	1	0	0	0	0	1	0	1	.20	0	0
The Cheyenne Newspapers, Inc.	1	1	0	0	0	0	4.3	1	0	1	0	1	1	0	1	.49	0	0
Federal Ornamental Iron and Bronze Co.	0	1	0	0	0	0	16.8	1	0	1	0	1	0	0	0	.00	0	0

TABLE XIII--Continued

Case	History	Plans	Documentation	Subsequent	Diversification	Redemption	Current ratio	Short term Investments	Contingencies	Related Investments	Related loans	Unrelated Investments	Salary	Unrelated Loans	Dividend History	Payout	Debt	Missing data
GPD, Inc.	1	1	0	0	0	1	3.9	0	0	0	0	0	0	0	1	.19	0	0
Hamabe Realty Corporation	1	0	0	0	0	0	12.1	1	0	0	0	0	0	0	0	.00	0	0
Herzog Miniature Lamp Works, Inc.	1	1	0	0	0	0	28.4	0	0	0	0	1	1	1	1	.12	0	0
The Kirlin Corp.	1	1	0	0	0	1	3.6	1	0	0	0	0	1	0	0	.00	0	0
W. L. Mead, Inc.	1	1	0	1	0	0	*	*	1	*	*	*	*	0	1	.00	0	6
Mimmac Corporation	0	1	0	0	0	0	5.2	1	0	0	0	0	*	0	0	.00	0	1
Motor Fuel Carriers, Inc.	1	1	0	1	0	0	3.7	1	0	0	0	0	1	0	0	.00	0	0
Nemours Corporation	0	1	0	1	1	0	1.1	1	0	0	0	1	0	1	1	.07	1	0
Nodell Motors, Inc.	0	1	0	0	0	0	15.0	1	0	0	0	0	1	1	0	.00	0	0
Novelart Manufacturing Co.	0	1	1	1	0	0	24.1	1	0	1	1	1	1	0	1	.18	1	0

TABLE XIII--Continued

Case	History	Plans	Documentation	Subsequent	Diversification	Redemption	Current ratio	Short term Investments	Contingencies	Related Investments	Related loans	Unrelated Investments	Salary	Unrelated Loans	Dividend History	Payout	Debt	Missing data
Otmar Real Estate Corporation**	1	1	0	0	0	0	99.9	1	0	0	0	0	*	1	1	.05	0	1
Perfection Foods, Inc.	1	0	0	0	0	0	6.8	0	0	0	0	0	0	0	0	.00	0	0
Powder Mill Realty Trust	1	1	0	0	0	0	5.5	0	0	0	1	0	0	0	0	.00	1	0
Ready Paving and Construction Co.	1	0	0	0	0	0	2.2	1	0	1	0	0	*	0	0	.00	0	1
Riss & Co., Inc., et al.	0	0	0	0	0	0	5.7	0	0	0	0	0	1	1	*	*	0	2
Roth Properties Company	0	1	1	0	0	0	6.6	0	0	0	0	0	1	0	1	.01	0	0
Standard Corrugated Case Corp.	1	0	0	0	0	0	6.9	0	0	0	0	0	*	0	1	.23	0	1
31 West 53rd Street Corp.	0	0	0	0	0	0	3.2	1	0	0	0	0	*	0	1	.00	0	1
Turner Enterprises, Inc.	1	0	0	0	0	1	1.5	1	0	1	0	1	0	0	0	.00	0	0
Youngs Rubber Corporation	0	1	0	0	0	1	3.0	1	0	1	1	0	1	1	0	.00	0	0

TABLE XIII--Continued

Case	History	Plans	Documentation	Subsequent	Diversification	Redemption	Current ratio	Short term Investments	Contingencies	Related Investments	Related loans	Unrelated Investments	Salary	Unrelated Loans	Dividend History	Payout	Debt	Missing data
Group 3																		
Bardahl International Corporation	1	0	0	0	0	0	1.8	1	1	0	0	1	1	1	1	.24	0	0
Bardahl Manufacturing Corporation	1	1	1	1	0	0	2.8	1	1	1	1	1	1	1	1	.16	*	1
Ted Bates & Company, Inc.	1	1	1	1	0	1	1.4	1	1	1	1	0	1	1	1	.17	1	0
LaSalle Trucking Company	1	1	1	0	0	0	2.0	0	1	0	0	0	*	1	1	.11	0	1
McMinn's Industries, Inc.	0	1	1	0	0	0	2.2	1	0	0	0	1	1	1	0	.00	0	0
Vulcan Steam Forging Company	0	1	1	0	0	1	12.1	*	0	*	*	*	1	1	0	.00	*	5

*Missing data.
**This company had no liabilities.

APPENDIX B

Figures 3 and 4 are copies of the computer output from the *Statistical Analysis System* showing the results of the tests of homogeniety of the covariance matrices for the three groups included in the study.

```
DISCRIMINANT ANALYSIS     TEST OF HOMOGENEITY OF WITHIN COVARIANCE MATRICES

     NOTATION:   K     =    NUMBER OF GROUPS

                 P     =    NUMBER OF VARIABLES

                 N     =    TOTAL NUMBER OF OBSERVATIONS

                 N(I)  =    NUMBER OF OBSERVATIONS IN THE I'TH GROUP

                                                     N(I)/2
                              __  |WITHIN SS MATRIX(I)|
                 V     =    -----------------------------------
                                                  N/2
                                  |POOLED SS MATRIX|

                                                              2
                                 _             1   _|  2P  + 3P - 1
                 RHO   =    1.0 - | SUM ------ - --- | -------------
                                  |_    N(I)-1   N-K _|  6(P+1)(K-1)

                 DF    =    .5(K-1)P(P+1)

                                 _                 _
                                |  PN/2             |
                                |  N        V       |
UNDER NULL HYPOTHESIS:  -2 RHO LN | ------------------ |  IS DISTRIBUTED APPROXIMATELY AS CHI-SQUARE(DF)
                                |  __     PN(I)/2   |
                                |_ TT  N(I)        _|


TEST CHI-SQUARE VALUE =          104.55420765    WITH      132 DF     PROB > CHI-SQ = 0.9626

SINCE THE CHI-SQUARE VALUE IS NOT SIGNIFICANT AT 0.1000 LEVEL, A POOLED COVARIANCE MATRIX WILL BE USED IN
THE DISCRIMINANT FUNCTION.

REFERENCE: KENDALL,M.G. AND A.STUART  THE ADVANCED THEORY OF STATISTICS VOL.3 P266 & 282.
```

Fig. 3--Computer output for test of homogeniety of the covariance matrices for Groups 1, 2, and 3 using regulation variables.

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DISCRIMINANT ANALYSIS     TEST OF HOMOGENIETY OF WITHIN COVARIANCE MATRICES

       NOTATION:   K     =     NUMBER OF GROUPS

                   P     =     NUMBER OF VARIABLES

                   N     =     TOTAL NUMBER OF OBSERVATIONS

                   N(I)  =     NUMBER OF OBSERVATIONS IN THE I'TH GROUP

                                                           N(I)/2
                                   __
                                   ||  |WITHIN SS MATRIX(I)|
                   V     =     ----------------------------------
                                                        N/2
                                       |POOLED SS MATRIX|

                                                                   2
                                    _                  _
                                   |          1        1   |  2P + 3P - 1
                   RHO   =     1.0 - | SUM ------  -  ---  |  -------------
                                   |_       N(I)-1    N-K _|  6(P+1)(K-1)

                   DF    =     .5(K-1)P(P+1)

                                      _                     _
                                     |   PN/2                |
                                     |  N          V         |
UNDER NULL HYPOTHESIS:   -2 RHO LN   | ------------------    |  IS DISTRIBUTED APPROXIMATELY AS CHI-SQUARE(DF)
                                     |  __        PN(I)/2    |
                                     |_ ||  N(I)            _|

TEST CHI-SQUARE VALUE =              58.76435914    WITH       342 DF     PROB > CHI-SQ = 1.0000

SINCE THE CHI-SQUARE VALUE IS NOT SIGNIFICANT AT 0.1000 LEVEL, A POOLED COVARIANCE MATRIX WILL BE USED IN
THE DISCRIMINANT FUNCTION.

REFERENCE: KENDALL,M.G. AND A.STUART  THE ADVANCED THEORY OF STATISTICS VOL.3 P266 & 282.
```

Fig. 4--Computer output for test of homogeniety of the covariance matrices for Groups 1, 2, and 3 using IRS variables.

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