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THE EFFECTS OF U.S. TAX POLICY REVISIONS ON THE PATTERNS OF PERSISTENT NEAR-ZERO TAXABLE INCOME OF FOREIGN-CONTROLLED CORPORATIONS

By

Norrisa Tworkowski

A DISSERTATION

Submitted to
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THE EFFECTS OF U.S. TAX POLICY REVISIONS ON THE PATTERNS OF PERSISTENT NEAR-ZERO TAXABLE INCOME OF FOREIGN-CONTROLLED CORPORATIONS

By
Norrisa Tworkowski

We hereby certify that this Dissertation submitted by Norrisa Tworkowski conforms to acceptable standards, and as such is fully adequate in scope and quality. It is therefore approved as the fulfillment of the Dissertation requirements for the degree of Doctor of Business Administration.

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1999

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Norrisa Tworkowski 11/30/1999

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CHAPTER I

INTRODUCTION

Overview

This study provides empirical evidence of income shifting by large, foreign-controlled domestic corporations (FCDCs) and U.S. domestic-controlled corporations (USDCs) and the impact of U.S. tax law revisions. It has been alleged that these U.S. multinational corporations (MNCs) reduce their taxes by artificially shifting income earned in the United States and other relatively high-tax countries to subsidiaries in low-tax countries.

Transfer prices are the prices related parties pay each other for tangible and intangible property, as well as for services. Theoretically, transfer prices can be manipulated to lower taxable income in a given country. For example, if a U.S. distributor pays too much for products it imports from its foreign parent, then its profitability and, correspondingly, its U.S. income tax liability will be lowered. Under IRC §482, the IRS has extremely broad authority to adjust transfer prices clearly to reflect the income of U.S. taxpayers.

The manipulation of transfer prices has long been suspected when observing patterns of persistent near-zero

taxable income. Attempts have been made to assess the extent of income shifting. Several studies provide important evidence on income shifting behavior, but most used firm-level data collected for the years 1982 to 1990, prior to the significant tax law changes that occurred during the period from 1992 to 1994.

This study investigates this later tax compliance of these MNCs, and more specifically, examines the relation between year-to-year percentage changes in the ratio of taxes to sales. It also investigates industry differences of MNCs in the two primary industrial groups: manufacturing, and wholesale trade. These groups are identified as primary industrial groups by the Internal Revenue Service (IRS), Statistics of Income division (SOI). For purposes of this study, large MNCs are defined as those with at least $250 million in assets, or with at least $50 million in receipts, or with both.

The research focuses on the effects of significant tax law changes relating to transfer-pricing issues. Internal Revenue Code (IRC), Section 482, (IRC §) is a major component of this overall tax policy. A single paragraph in length, it requires almost two hundred pages of interpretation (Borkowski, 1997).

Proposed and temporary regulations were enacted during the period from 1992 to 1994. The final regulations became effective in July 1994. A review of the literature indicated that there are no studies that address the effects of the final tax regulations on transfer pricing and income shifting. Prior research in this area, including the most recent studies, used data collected from 1982 to 1992. This is one of the first studies to focus on these issues using the most current data available.

The U.S. international tax rules are extremely complex. This study also adds to the body of knowledge in the area of international taxation. It attempts to identify changes in the patterns of FCDCs' and USDCs' U.S. and foreign tax payments as a percent of annual sales from 1992 to 1996. It further establishes if these changes were attributed to transfer-pricing strategies to shift income out of the U.S. Finally, it examines if the pattern of income shifting has changed subsequent to tax policy changes, specifically, the final transfer pricing regulations of 1994.

The challenges of transfer-pricing issues will remain for two reasons. First, the growing influence of international forces on the U.S. economy increases the potential for underpayment of U.S. taxes through transfer

pricing by multinational corporations. Second, although the new transfer-pricing regulations have many promising features, they still require taxpayers and IRS examiners to collect great amounts of information and use considerable subjective judgment to compute arm's length prices.

Despite these forces to reduce tax payments, the IRS remains extremely aggressive in challenging transfer prices between commonly owned or controlled corporations. The majority of activity involves international transactions such as between a U.S. subsidiary and its foreign parent. The transfer pricing rules are equally applicable, however, to commonly owned or controlled domestic organizations. When a foreign entity is involved, the concern of the IRS is to ensure that profits properly allocable to a U.S. business do not escape taxation.

In 1994, the IRS also issued temporary regulations relating to the imposition of penalties for substantial and gross valuation misstatements. While the Section 482 regulations focus on improving accuracy, the penalty regulations focus on increasing information and documentation requirements.

Background of the Problem

The United States taxes the worldwide income of its citizens, resident aliens and domestic corporations without regard to whether the income arose from a transaction or activity originating outside its geographic borders. Foreign corporations and nonresident alien individuals, however, are only taxed on income that is either effectively connected with a trade or business conducted within the U.S., or fixed and determinable, annual or periodic income from sources within the U.S. (See the end of this chapter for a definition of these terms.)

In 1995, the U.S. General Accounting Office (GAO) issued a report to the U.S. Congress on transfer pricing issues and on tax compliance of FCDCs and USDCs (GAO/GCD-95-101), hereinafter referred to as the GAO-95 report. The report showed that in 1991, 73% of foreign-controlled domestic corporations and 62% of U.S. domestic corporations paid no U.S. income tax. Abusive transfer pricing, that is, inflating prices of intercompany transactions to shift income outside the United States and reduce tax liability, was suspected as a possible cause of these observations, yet this was not confirmed nor denied by the General Accounting Office.

In yet another report, two professors developed an international price matrix using the U.S. Merchandise Trade Data Base and U.S. Customs Service information to determine the degree of international price discrimination. The authors discovered outrageously high import prices as well as outrageously low export prices. For example, import items such as raw cane sugar cost $1,407 per kilogram, unrecorded magnetic disks cost $698 each, and fax machines cost $25,000 each. Similarly, export prices for herringbone tires were $7.69, cooking stoves at $76.62, and safety headgear at 19 cents (Pak & Zdanowicz, 1994).

Transfer pricing affects many aspects of a multinational company's enterprise. Given the enormous increase in global commerce, and that a significant number of the transactions are between related businesses, the subject of transfer pricing has gained great importance. Increased government scrutiny on transfer pricing, along with the complexity of applying various rules, makes transfer pricing one of the most challenging areas of international taxation.

The taxing authorities have long contended that firms use transfer-prices to shift income from high- to low-tax countries thereby minimizing global tax payments. By their very nature, transfer-pricing activities are closely

guarded, making direct measurement unfeasible. Multiple facilities in multiple taxing jurisdictions can trigger transfer pricing. For example, a key element is a buyer-seller relationship between units of a single company. Even when the U.S. corporate tax rate is lower than that of another country, transfer pricing abuses can occur by shifting income through another related company that operates in a tax haven, that is, a country with low or no taxes.

Statement of the Problem

Tax noncompliance is widely seen as a serious problem for two reasons. First, it results in a significant loss of tax revenue because of understatements on personal and corporate returns of taxes owed the government, and second, because opportunities to evade taxes differ among taxpayers. Thus, tax noncompliance may impact the chances of realizing the distributional or equity goals of taxation because tax noncompliance essentially redistributes income from compliant to noncompliant taxpayers (Spicer & Lundstedt, 1976).

The GAO-95 report previously mentioned, showed that a majority of all FCDCs and USDCs paid no income tax in each year from 1987 through 1991, and the percentages of each, nearly 75% of FCDCs and about 60% of USDCs, remained largely unchanged over the five-year period.

Although taxpaying corporations were a minority of all FCDCs and USDCs, they owned the majority of corporate assets and generated most of the receipts. Furthermore, the largest of these nontaxpaying corporations, those with assets of $100 million or more, although relatively few in number, accounted for relatively large proportions of all FCDCs' and all USDCs' total assets and receipts. Although the GAO-95 report did not rule out transfer pricing abuse,

it noted that other factors, such as the different types of industries, may have accounted for some of the observed differences.

In 1998, the U.S. Treasury office stated in Notice 98-5 that it would issue rules addressing abusive transactions in which U.S. taxpayers acquire or generate tax credits to shelter low-taxed, foreign-source income from residual U.S. tax. This notice listed two classes of transactions that have the potential for abuse: (a) transactions involving transfers of tax liability through the acquisition of an asset that generates an income stream subject to foreign withholding taxes; and (b) transactions consisting of cross-border tax arbitrage transactions that permit effective duplication of tax benefits. The notice was issued as a response to the classic corporate tax shelter in which the possibility of economic profit is insubstantial in relation to the foreign tax credits generated (Sheppard & Stratton, 1998). Due to continued abuse in the area of international taxation, the IRS again announced its intentions to address many significant issues in this arena. For example, as of this writing, it plans to issue proposed rules on foreign tax credits; this is a follow-up to Notice 98-5.

The IRS estimates that taxpayer noncompliance costs the government approximately $195 billion a year. This shortfall is also known as the gross tax gap. The IRS defines the gross tax gap as the amount of tax owed but not voluntarily paid. This is comprised of: (a) the reporting gap, which is the amount of tax liability that taxpayers do not voluntarily report on their tax returns, and (b) the remittance gap, which is the amount that taxpayers report on their tax returns as due, but which is not voluntarily paid--either because they do not remit it with their returns, or because their employers fail to remit what they withhold from their wages. Neither the gross tax gap nor the remittance gap is synonymous with IRS' accounts receivable inventory, which is the amount of tax, penalties and interest that has already been assessed, but not yet collected.

Purpose of the Study

The purpose of this study was to perform a comparative investigation of foreign- and U.S.-controlled multinational corporations to determine the extent of income shifting and possible indications of transfer-pricing abuse. In 1994, major tax law changes under IRC §482 took effect mainly to curb existing income shifting and transfer-pricing abuse by multinational corporations. This study shows the effect of tax policy changes on corporate behavior, as explained by the changes in the patterns of tax payments of FCDCs and USDCs. Understanding taxpayer behavior provides the information needed to forecast how potential changes alter revenue (Feldstein, 1995). This study is an extension of previous work and not a replication.

Henry C. Simons (1950) wrote: "Simplicity in modern taxation is a problem of basic architectural design. Present legislation is insufferably complicated and nearly unintelligible. If it is not simplified, half of the population may have to become tax lawyers and tax accountants" (p.32).

Since the 1950s, American businesses have progressively expanded into foreign markets and foreign corporations have increasingly done more business in the U.S. This change in the business environment has

necessitated the expansion of the income tax laws to govern the taxation of multinational business transactions and corporations (both U.S. domestic as well as foreign) conducting business in multiple jurisdictions.

Accordingly, the provisions of the tax code governing international taxation greatly expanded beginning in the 1960s. Indeed, some of the most complicated provisions in the tax code were introduced during the 1980s in the area of international taxation. For example, foreign corporations conducting business in the U.S. must now confront extremely complicated statutes and regulations to determine their U.S. source income, their effectively connected U.S. income, and their U.S. interest deductions. They also must negotiate the branch profits tax and complicated economic analyses required with respect to intercompany transfer pricing.

Significance of the Study

During the past 15 years there has been considerable research on tax compliance, income shifting, and transfer pricing. Innovative models of tax reporting and enforcement decisions have been used to investigate a variety of policy-related issues, including the impact of enforcement rules on compliance and the effects of evasion on labor supply and capital investment.

There have also been many empirical studies of narrower subtopics such as the role of paid preparers in reporting decisions, the effects of past audits on evasion, detection of noncompliance, and the impact tax amnesties. In addition, controlled laboratory experiments have delved into other subtleties of the compliance decision.

These research areas have all focused on individual income tax compliance and have virtually neglected the area of corporate income tax compliance. More importantly, to a large extent, data from the IRS' Tax Compliance Measurement Program (TCMP) were employed. TCMP audits are thorough, line-by-line examinations of randomly selected taxpayers. In TCMP audits, noncompliance is defined as the difference between reported income and the income that the IRS examiners determine is due to be reported. The last TCMP

year was 1988 and as of this writing, the TCMP program was discontinued by orders of the U.S. Congress.

This measure of detection is simple but has a number of limitations. First, it assesses only those instances of evasion that can be detected by examiners. It was difficult for examiners to discover certain forms of unreported income, such as income from moonlighting and cash-only businesses, and there was no information on taxpayers who did not file tax returns. Second, there is no way of distinguishing between deliberate evasion and unintended errors. Most studies on income shifting and transfer pricing concluded that multinational corporations engaged in abusive transfer pricing, that is, manipulating intercompany transactions, but direct measurement could not be confirmed.

In other studies, researchers use self-reported data due to the difficulties in obtaining access to confidential tax returns. Therefore, by its nature, this data is considered suspect. The question of how to measure noncompliance is important from a different economic perspective. Webley, Robben, Elffers & Hessing (1991) discuss this perspective and state that taxpayer noncompliance is a paradigm case of the interaction of the individual and the wider economy. Cowell (1990) states that

noncompliance is an intrinsically interesting issue with profound implications for the fiscal relationship between citizen and government. Seeing the problem as purely an administrative issue fails to recognize the importance of the economic relationships of the individual person in a society.

This study is significant because it adopts the economic approach to noncompliance focusing on the corporate taxpayer instead of the individual taxpayer, and uses the most current firm-level data. Additionally, it attempts to show that an increase in tax compliance is positively related to changes in tax policy and it introduces another perspective from which to assess the extent of income shifting.

Organization of the Remaining Chapters

The ensuing chapters cover the literature review, research design, analysis, and summary. The literature review consists of three topical areas: (a) a theoretical model of noncompliance; (b) the historical perspective on transfer pricing; and, (c) the prior empirical research in the broad area of tax-motivated income shifting by multinational corporations. The research design chapter discusses the research process involving the research questions, hypotheses, data sources, and statistical methods.

Definition of Terms

Following are definitions of relevant terms with the corresponding reference to the applicable sections of the Internal Revenue Code.

Branch profits tax: Foreign corporations that operate businesses in the U.S. must pay a branch profits tax equal to 30% of the foreign corporation's dividend equivalent amount (IRC § 884[a]). The dividend equivalent amount is approximately the amount that would have been distributed as a dividend if the branch were a U.S. subsidiary.

Carryback and carryover of credit: This is where the tax paid or accrued to any foreign country (or U.S. possession) is more than the amount allowable as a credit

under the limitation, the excess may be carried back to the two preceding tax years and then forward to the five succeeding tax years (IRC §904[c]). The amount of carryback or carryover that can be utilized is limited to the amount by which the applicable limitation for the year exceeded the amount of tax paid (or accrued) to foreign countries or possessions for that year.

Effectively connected income: Two factors are considered in determining whether periodic income is effectively connected with a U.S. business. First, is whether the income is derived from assets used in, or held for use in, the conduct of a U.S. business; and second, is whether the activities of the U.S. business were a material factor in the realization of the income (IRC §864[c](2)).

Fixed or determinable periodic Income: U.S. source fixed or determinable periodic income of a nonresident alien individual or foreign corporation is taxed at a flat 30% (or lower treaty) rate if such income is not effectively connected with the conduct of a U.S. trade or business. If periodic income falls within the effectively connected rules, it is subject to U.S. tax rates. Fixed or determinable periodic income includes interest, dividends, rents, salaries, wages, premiums, annuities, and other

fixed or determinable annual or periodic gains, profits, and income (IRC §871[a] and IRC §881).

Foreign-controlled domestic corporations: Foreign-controlled domestic corporations (FCDCs) are corporations engaged in U.S. businesses of which at least 25% of the voting stock is owned directly or indirectly, by any foreign person or entity (including an individual, corporation, partnership, estate, or trust).

Foreign tax credit: To mitigate international double taxation, the U.S. employs a credit system whereby the U.S. taxes the worldwide income of domestic companies (IRC §61), but allows them to claim a credit for any foreign income taxes imposed on their foreign source income (IRC §901). A domestic corporation operating abroad through foreign subsidiaries also can claim a deemed-paid foreign tax credit for the foreign income taxes paid by its foreign subsidiaries (IRC §902). In all cases, the foreign tax credit limitation restricts the credit to the portion of the taxpayer's precredit U.S. tax attributable to foreign source income (IRC §904). Form 1116 is used to report the credit.

Net operating loss: A net operating loss (NOL) is the excess of allowable deductions over gross income, computed under the law in effect for the loss year, with the

required adjustments (IRC §172[c]). In general, for NOLs in tax years beginning before August 6, 1997, taxpayers can carry back an NOL to the three years preceding the loss year and then forward to 15 years following the loss year.

Transfer price: A transfer price is the price charged by one company for a product or service supplied to a related company, such as the price a parent corporation charges its wholly-owned subsidiary. Any company that has a related company with which it transacts business establishes transfer prices for those intercompany transactions. IRC §482 addresses transfer pricing issues.

U.S. domestic-controlled corporations: U.S. domestic-controlled corporations (USDCs) are corporations other than FCDCs that operate in the U.S. However, certain entities such as Subchapter S corporations, which are corporations that are treated for federal income tax purposes like partnerships, are not included in this category.

CHAPTER II

REVIEW OF LITERATURE

Economic Theory of Noncompliance

Most studies using the economic theory of noncompliance focused on the behavior of the individual taxpayer. This study adopts the economic approach to noncompliance focusing on the corporate taxpayer. Individual income tax compliance has been one of the most significant applications of Becker's (1968) economic approach to criminal activity and punishment.

The economic theory of noncompliance is attributable to the model of Allingham & Sandmo (1972) and Srinivasan (1973). This theoretical model is one of the earliest and best known. Based on the seminal work of Becker, it represents an extension of the economic theory of crime. Becker's economic approach discusses the nature and causes of criminal activities. Becker argues that people analyze the economic benefits and costs in deciding to engage in criminal activities. Becker calls for an extension of the economic approach to crime to other areas of noncompliance in society, including income tax evasion. Allingham & Sandmo (1972) and Srinivasan (1973) were primarily

interested in whether higher tax rates generate more compliance. Taxpayer decision-making under uncertainty is the focus of this theory. The works of Allingham & Sandmo (1972) and other studies extending it are the foundation for this research.

The economic theory of noncompliance presumes taxpayers maximize their expected utility based on the monetary benefits and costs of underreporting income to tax authorities. Benefits of noncompliance are generally based on unreported income and marginal tax rates. Costs of noncompliance are generally based on the probability of discovery and the costs of discovery. Probability of discovery is generally measured using audit rates. Costs of discovery are generally measured using monetary penalty assessments.

This theory postulates that taxpayers analyze the economic benefits and costs of noncompliance and that income levels, tax rates, audit rates, penalty rates, and risk attitudes are the primary determinants of noncompliance. Given the probability of audit and the penalties typically assessed, evasion seems to be a winning proposition for many more people than those who actually do evade (Slemrod, 1998).

In their analytical study of noncompliance, Allingham & Sandmo (1972) made 12 assumptions. Seven assumptions related to the taxpayer while five related to the tax authorities. The assumptions relating to the taxpayer were as follows: (1) All of the taxpayer's income is taxable; (2) the taxpayer's income is exogenous; (3) the taxpayer's utility depends solely on after-tax income; (4) the utility of after-tax income is everywhere positive and diminishing; (5) the taxpayer has knowledge of his or her income and the proper tax liability; (6) the taxpayer is risk averse; and (7) the taxpayer becomes less risk averse as income increases.

The five additional assumptions of the study related to the tax authority: (1) Tax is levied at a constant and positive rate; (2) the authority has no knowledge of the proper taxable income or liability; (3) the authority discovers the proper taxable income and related liability from auditing tax returns; (4) auditing is a costly process for the authority; and (5) the authority levies additional taxes and a penalty, based on the amount of unreported income, upon discovery of any unreported income. This classic model predicts, not surprisingly, that both probability of detection and the severity of penalties will

impact evasion; if detection is likely and penalties are severe, people will be more compliant.

An important follow-up analytical study was completed by Yitzhaki, 1974. His study extended the research by changing the assumption of Allingham & Sandmo (1972) regarding the penalty base from unreported income to unreported taxes (consistent with the Internal Revenue Code). The analysis produced a negative relationship between tax rates and noncompliance.

Other studies (Lee, 1995 & Yaniv, 1994) refuted Yitzhaki (1974) and found a positive relationship to exist between tax rates and noncompliance. Yaniv (1994) used two assumptions. The first assumption required the penalty to be limited to the amount of unreported income. The second assumption required constant relative risk aversion. Lee (1995) also generated a positive relationship between tax rates and noncompliance using alternate assumptions.

In their 1976 study, Spicer & Lundstedt found indications of a correlation between attitudes and behavior. They found that perceptions of inequity seemed to motivate some taxpayers to evade taxes. More specifically, tax evasion could be an attempt by some taxpayers to adjust their terms of trade with the government in response to dissatisfactions stemming from these perceived inequities.

Spicer & Lundstedt (1976) concluded that tax authorities stand most to gain in terms of increased compliance by making normative appeals to taxpayers.

Studies using direct, personal data derived from official files are rare. Clotfelter (1983) used aggregate TCMP data for tax year 1969. The IRS did not make this data, consisting of over 40,000 individual tax returns, available for research purposes until 1981. In TCMP audits, noncompliance is defined as the difference between reported income and the income that the IRS examiners determined was due. Clotfelter (1983) found that empirical relationships exist among income, the marginal tax rate, and evasion. However, the author described the model as too simple to adequately portray taxpayer behavior.

Joulfaian & Rider (1996) examined the impact of tax rates for a random sample of low-income households from the 1988 TCMP. They found that both the probability and the level of noncompliance among low-income proprietors was positively related and significantly associated with the marginal tax rate, consistent with Clotfelter (1983).

Another important econometric study of noncompliance was that of Witte & Woodbury (1985). The authors also used aggregate TCMP data for the same period. They found a significant positive relationship between the risk of audit

and their measure of the rate of voluntary compliance in each of the three of seven representative audit classes, namely (1) medium income-nonbusiness, (2) low income- and (3) high income-business. A major contribution of this study is that it was the first study to address and test the hypothesis that nonbusiness and business taxpayers have different expected benefits and costs of noncompliance.

Dubin & Wilde (1988) estimated similar models of noncompliance. Their study re-analyzed the data employed by Witte & Woodbury (1985), and found that the audit rate had a significant deterrent effect on noncompliance in only one of the seven total audit classes. However, Feinstein (1991) found that the level of income and the level of evasion were positively related. When taxpayers are risk averse, higher-income taxpayers will be more likely to evade if the degree of risk aversion falls with income.

Klepper & Nagin (1989) looked at the roles of penalties and audit probabilities and found that cheating on certain line items was more likely to be discovered. They posited a model in which the perceived likelihood that line items of a taxpayer's return would be investigated during an audit was positively related to the degree of noncompliance on the item and negatively related to the cost to the tax authority of establishing noncompliance.

Noncompliance is discouraged by a high risk of detection. It should be noted that Klepper & Nagin (1989) used data from the 1982 TCMP.

In TCMP audits, each line item is thoroughly investigated, unlike in regular audits. Another noteworthy limitation of many studies is the use of data based on 1969 tax returns. Major changes in tax policy have taken place since 1969. Some of these changes include the adoption of statistical procedures for selecting returns for audits, computerization of the information reporting and matching programs, and the shift toward less auditing and stiffer penalties. The ability of these early studies to address the noncompliance of today has accordingly been challenged.

Using 1982 and 1985 TCMP data, Long & Swingden (1990) compared misreporting rates for line items before and after the introduction of new third-party reporting requirements which reduced the opportunity for evasion. They noted significant reductions in both under- and over-reporting tax errors after the introduction of these reports. The overall consistency of these findings, despite substantial variation in the procedures used to measure opportunity, suggest the importance of the opportunity dimensions for increasing or inhibiting tax evasion behavior.

Sheffrin & Triest (1992) presented a structural econometric analysis of the influence of attitudes and beliefs on the perceived probability of detection and evasion behavior. Their analysis was based on survey data and therefore had to rely on self-reports. Thus, they had no objective measures of compliance or enforcement. Their results suggested, not surprisingly, that individuals who perceived a higher probability of detection reported significantly less evasion.

A graphical approach presented by Linster (1997) stresses that individuals feel differently about risk and some taxpayers will be more compliant than others in similar circumstances. Linster found different audit rates for different income groups when higher income groups were subjected to different audit probabilities than lower income groups.

When the tax authority cannot commit to its audit strategy, the interaction between taxpayers and the tax authority takes the form of a sequential move game. In this game theory approach, it is assumed that the taxpayers correctly forecast the probability of audit associated with each income value (Andreoni, Erard, & Feinstein, 1998). Reinganum & Wilde (1986) presented one of the earliest game-theoretic models of tax compliance. Greenberg (1984)

also presented an early model. However, Greenberg focused on an equilibrium in which the tax authority deters cheating by threatening to audit certain taxpayers even when they report honestly. This threat is not credible, and thus the equilibrium that Greenberg suggested is not subgame perfect.

Erard & Feinstein (1994) also presented a game-theoretic approach that incorporated honest taxpayers. They examined two factors, (a) taxpayer's perceptions about the fairness of the tax system, and (b) taxpayer's reactions to government activities, policies, and personnel. Their results suggest that taxpayers are more likely to report honestly, if they feel that they are being treated courteously and respectfully by the tax agency. They concluded that social, psychological, and moral forces, or the endogeneity of honesty, induce individuals to pay their taxes in full.

Historical Perspective on Transfer Pricing

Congress, perceiving a potential for abusive income shifting between related taxpayers, enacted the first predecessor to U.S. Internal Revenue Code, §482, in 1928. The 1928 Revenue Act significantly expanded the IRS' authority to prevent tax avoidance and required clear reflections of income.

Continuing this theme, the U.S. Government issued Code §482 regulations in 1935 and adopted the arm's-length standard as the fundamental principle for dealings among related taxpayers. However, in these early years, this portion of the Code was seldom used in an international context mainly because U.S. corporations had very few international transactions and few internationally-affiliated companies. Enforcement activities and related court cases involved domestic issues.

The next significant event occurred in 1968 when the present IRC §482 final regulations were issued. Following this, the United States began a campaign to encourage the rest of the world to adopt the arm's-length standard. This effort culminated in the 1979 and 1984 guidelines put forth by the Organization for Economic Cooperation and Development (OECD). Today, most of the industrialized world adheres to the arm's-length standard.

The fourth important piece of legislation was the Tax Reform Act of 1986 which added a key sentence to the existing IRC §482 relating to income from intangibles: "In the case of any transfer of intangible property, the income with respect to such transfer or license shall be commensurate with the income attributable to the intangible." Frequently referred to as the super-royalty addition to IRC §482, this change was intended to assure that the division of income between related parties reasonably reflected the economic activities and risks each undertook. One concern at that time was that U.S. multinational companies undercharged their foreign subsidiaries for intangible items such as research and development, especially in cases like blockbuster developments in the pharmaceutical and electronics industries.

On October 18, 1988, the IRS issued findings and recommendations from its study of intracompany pricing, the IRC §482 White Paper. The White Paper introduced several concepts that were designed to prevent income shifting with respect to these high value intangibles. These concepts intended to prevent abuses perceived by the IRS including, (a) failure of taxpayers to provide information for auditing transfer pricing policies, (b) failure on the part

of taxpayers to properly value intangibles transferred to offshore manufacturing affiliates, (c) failure to use proper comparables to develop transfer prices for extremely valuable tangibles, and (d) failure of taxpayers to properly develop risk analysis and to place risks in the proper legal entity. Following this, proposed regulations were issued in 1992.

On January 13, 1993, after evaluating taxpayers' comments to the White Paper and the 1992 proposed regulations, the IRS issued temporary and proposed regulations under IRC §482 to increase compliance in the transfer pricing area. On July 1, 1994, in response to the comments made by IRS personnel, taxpayers and foreign governments, the temporary and proposed regulations were amended and issued as final regulations. The regulations are divided into two sections, (a) the general principles of the regulations, including the standards of comparability, and (b) the specific methods for transfer of tangible and intangible property.

Unlike the proposed regulations issued in 1993, the temporary regulations focus on general principles applicable to all transfer-pricing methods. The most significant rules concern the choice of the best method and standards of comparability. Additional rules govern the

scope of IRS review, collateral adjustments, multiple-year data, and aggregation of transactions. A safe harbor for small taxpayers was also included but with details on its application left for later rules.

The temporary regulations included the imposition of severe penalties under IRC §6662 for substantial and gross valuation misstatements. IRC §6662 establishes the thresholds for all accuracy-related penalties. This Code section deals exclusively with the two subsections of IRC §6662 that involve transfer pricing adjustments: IRC §6663(e) penalties for substantial valuation misstatements and IRC §6662(h) penalties for gross valuation misstatements.

IRC §6662(e) provides in part that an amount equal to 20% will be added to any underpayment of tax required to be shown on a tax return in cases where there is a substantial valuation misstatement. For purposes of this Code section, there is a substantial valuation misstatement if the price for any services claimed on any such tax return is 200% or more (or 50% or less) of the amount determined under IRC §482 to be the correct amount of such price. Or, if the net IRC §482 transfer price adjustment exceeds the lesser of $5 million, or 10% of the taxpayer's gross receipts.

IRC §6662(h) provides in general, that an amount equal to 40% will be added to any underpayment of tax required to be shown on a tax return to the extent that such underpayment is attributable to one or more gross valuation misstatements. For purposes of IRC §6662(h), the term gross valuation misstatement means (a) if the price for any services claimed on any such tax return is 400% or more (or 25% or less) of the amount determined under IRC §482 to be the correct amount of such price or (b) if the net IRC §482 transfer price adjustment exceeds the lesser of $20 million, or 20% of the taxpayer's gross receipts. One significant objective of the transfer pricing penalty was to improve taxpayer compliance with the arm's length standard by encouraging taxpayers to make reasonable efforts to determine and document arm's length prices for their intercompany transactions.

The most noteworthy feature of the final regulations is the emphasis on comparable transactions. The arm's-length standard is applied in determining taxable income of a controlled taxpayer. The final regulations state that controlled taxpayers are to have the same income as would have been realized if uncontrolled taxpayers engaged in the same transactions under the same circumstances.

Prior Income Shifting and Transfer Pricing Research

Transfer pricing affects many aspects of a multinational company's business. With the enormous increase in global commerce and the significant portion of worldwide commerce occurring between related businesses, transfer pricing has increased in importance. A review of the literature found no studies that address the effects of the 1994 tax regulations on transfer pricing and income shifting. This study adds to the body of knowledge in this area.

Harris (1993) studied the response of multinational corporations to the Tax Reform Act of 1986 (TRA 86). The TRA 86 reduced the corporate rate from 46% to 34% and simultaneously decreased investment incentives. Harris hypothesized that these changes increased the incentives for multinational corporations (MNCs) to shift income into the U.S. and deductions out of the U.S. using transfer pricing and other methods. He did not find support for this hypothesis in a random sample, but the results from a sub-sample identified as more sensitive to TRA 86's changes were consistent with the hypothesis.

Harris concluded that U.S. MNCs paid more U.S. taxes and reported more U.S. income than U.S. domestics from 1987-1990 and reported less income from foreign companies

from 1987-1988. Jacob (1996) found that MNCs with more intrafirm sales paid lower global taxes in 1982-1984 and 1988-1990.

Klassen, Lang, & Wolfson (1993) investigated geographic income shifting by 191 U.S. MNCs in response to worldwide changes in tax rates in the 1984-1990 period. The results suggested that MNCs shifted income into the U.S. in 1987 but also found evidence of income shifting out of the U.S. in 1988.

Grubert, Goodspeed, & Swenson (1993) studied FCDCs for the period 1980-1987. Using U.S. tax returns filed by the U.S. subsidiaries of foreign corporations, they found that these MNCs paid significantly less tax than USDCs. The study compared large FCDCs with all USDCs and not similarly large USDCs. By adjusting for the age profiles of foreign and domestic firms and other factors that could cause legitimate differences in profitability, they were able to account for part of the differential but roughly 50% of the difference still remained unexplained. Their results imply that foreign companies attempt to reduce U.S. taxable income through income shifting.

However, in his review of the Grubert et al.(1993) study, Mackie-Mason (1993) observed that the authors used a residual method. That is, they did not provide direct

evidence that the observed differences in profitability between U.S. companies and foreign-controlled corporations were due to transfer prices. Grubert et al. (1993) attempted to eliminate alternate explanations. Mackie-Mason (1993) added that while the authors eliminated several alternate explanations, some plausible explanations still remained.

Harris, Morck, Slemrod, & Yeung (1993) investigated whether the U.S. taxes paid by U.S. based MNCs were related to the existence of subsidiaries in low- and high-tax countries. The results show a strong negative correlation between U.S. taxes and presence in low-tax jurisdictions and a strong positive correlation between U.S. taxes and presence in high-tax jurisdictions. Firms that have subsidiaries in low-tax countries pay lower U.S. taxes which is consistent with shifting income from the U.S. into low-tax countries. Conversely, firms that have subsidiaries in high-tax countries are found to pay higher U.S. taxes which is consistent with shifting income from these high tax countries to the U.S. The authors interpret these results as evidence of tax-motivated income shifting.

Using actual tax return data, Altshuler & Newlon (1993) examined the income repatriation patterns of foreign income by U.S. MNCs. Their results suggest that U.S. MNCs

are able to manipulate the flows of income from their foreign subsidiaries to reduce the global tax on their foreign source income. The MNCs are able to take advantage of deferral and the overall limitation on the foreign tax credit to avoid paying higher U.S. tax on their foreign income. Their results also suggest that incentives for tax avoidance distort the timing and the source of remittance of income from abroad.

Collins, Kemsley & Lang (1998) examined large manufacturing companies from 1984 to 1992. They described their study as the first to use market value tests to identify income shifting. Their results suggest that MNCs with average foreign tax rates in excess of the U.S. tax rate (and thus likely facing foreign tax credit limitations) have lower pretax foreign profit margins than other U.S. MNCs.

According to Hirsch (1993), it is not easy to prescribe the best transfer pricing system for a company. As with segment performance evaluation, many factors need to be considered including how actions affect overall corporate strategies.

Kapoor (1998) argues that no single transfer-pricing technique will suit every organization's needs. For most domestic transfers of products with fairly developed

intermediate markets in which buyers can seek out alternative suppliers, a modified dual transfer pricing method would enable the organization's divisions to make optimal, short-run decisions and to work toward common goals. Transfer pricing relies on strategic, operational, and financial information (Breyne, 1998) and although it has become an area of expertise of international taxation, management provides significant input in determining the appropriate transfer pricing policy.

While transfer prices are essential to the goal of profit maximization within the enterprise, difficulties arise over how to establish the correct transfer price and hence, determine directly the impact of tax avoidance. For the global enterprise, this problem is more acute because different segments of the enterprise operate under different political jurisdictions and are subject to taxation by different political entities.

Concerns have been raised by the U.S. Congress and the IRS regarding whether multinationals, especially foreign-owned multinationals, are using transfer-pricing and cost-allocation policies across international borders to avoid United States income taxes. Generally, testimonies before Congress and court case findings have suggested that multinationals do not pay their fair share.

MNCs have the potential to minimize tax paid by offshore subsidiaries by helping the subsidiaries make a loss. This can be achieved several ways including selling goods and services to the subsidiaries at inflated prices e.g., basic telephone receivers for $100 or having the subsidiary sell back goods and services to their parent at lower charges, e.g., pianos for one dollar. Over-invoicing imports boosts a firm's business expenses and lowers its tax base, while under-invoicing exports depresses income. In both cases, the company often ends up paying less to the U.S. government, even if overpricing imports results in higher levies by the U.S. Customs Service (Pak & Zdanowicz, 1994).

The transfer pricing regulations impose tough reporting requirements, complex profitability calculations, and stiff penalties for violators. Even so, the regulations represent a tradeoff between greater taxpayer flexibility and more documentation requirements. The new regulations should give multinational companies more flexibility in accounting for transactions made between units at home and abroad. These regulations which affect both domestic and foreign companies aim to clarify how to apply various methods for pricing assets that are transferred within a company. Advance pricing agreements and the best method

rule, two new features of the regulations, are more flexible than a strict hierarchy of methods under old regulations.

Conclusion

Income shifting may be inferred by comparing the shares of after-tax profits and the shares of assets held by the U.S. parents and their foreign subsidiaries. Income tax avoidance explains most of the variation among estimates for income shifted as a proportion of sales. However, other explanations for the deemed income shifting include avoidance of import tariffs, restrictions that some countries imposed on deductions for royalties paid to foreign parents, attempts to increase market share, and fluctuation of exchange rates. This study investigates the extent of income shifting and the impact of the IRC §482 transfer pricing regulations issued since 1992. It examines the relation between year-to-year changes in sales and taxes paid to determine if near-zero taxable income is linked to manipulation of transfer prices. Appendix E summarizes prior research on the theory of noncompliance and Apprendix F summarizes a comparison of prior research in the area of income shifting and transfer pricing.

CHAPTER III

METHODOLOGY

General Overview

The objective of this study is to provide evidence of changes in the pattern of U.S. and foreign tax payments as a percent of annual sales, (P_{FED}, P_{FOR}), for foreign-controlled domestic corporations (FCDC) and U.S. domestic corporations (USDC), whose reported assets and sales exceed $250 million during the period 1992-1996. The research uses 1992 through 1996 firm-level data to examine the relation between year-to-year percentage changes in taxes paid to sales, similar to the methodology used by Collins, Kemsley & Shackleford, 1997 and Collins, Kemsley & Lang, 1998. This study uses FCDC as the treatment group and USDC as the control group.

In general, foreign-controlled domestic corporations are involved in every type of industrial activity, but based on the number of returns filed with the IRS, over 80% were concentrated in four industrial groups: (a) Manufacturing; (b) Wholesale trade; (c) Finance, Insurance, and Real Estate (FIRE); and (d) Services. This study considers the first two groups, manufacturing and

wholesale. The third, or FIRE group, faces some different tax rules and generally operates in other countries through branches rather than subsidiaries. For these reasons, FIRE is omitted from the analysis. While the Services industrial group comprised a substantial number of the total returns filed by FCDCs, those companies reported small amounts of receipts and assets as compared to the other three groupings (Internal Revenue Service, 1995). For this reason, the Services industry is also eliminated from the treatment group.

This study seeks to determine whether any change in the pattern of U.S. and foreign tax payments (P_{FED}, P_{FOR}) within the treatment groups can be related to transfer price manipulation. Collins et al. (1997) did investigate the wholesale trade industry and its accounts where transfer price manipulation was suspect, and concluded that no evidence of transfer price manipulation was found. Smaller firms were used whose assets and sales exceeded $50 million. Collins et al. (1997) did not use the same companies for each year from 1981-1990 in the FCDC sample of 203 firms. For their control group, 97 companies were used from a different database. Thus, the control group was not representative of the treatment group. Also, the

Collins et al. (1997) study used data prior to the 1994 tax law changes.

Allegations about the use of transfer prices to shift income and minimize taxes have been widespread. However, the evidence in most prior studies that address this issue has been indirect (Collins et al., 1997; Grubert et al., 1993; Harris, 1993; and Klassen et al., 1993). This research improves on and extends previous studies in at least three respects. First, it uses the most recently available firm-level data for a large sample of FCDCs and USDCs. Second, in the treatment group, the same companies are used for each year in the analysis and are representative of the sample in the control group. Third, it investigates a wider spectrum of larger firms with reported assets and sales in excess of $250 million versus $50 million.

Research Design

The research design is somewhat similar to that of Collins et al. (1997). However, this cross-sectional study investigates the relation between year-to-year changes in taxes paid as a percentage of sales revenue, whereas Collins et al. (1997) investigated the relation between year-to-year changes in sales and reported gross profit (sales less cost of goods sold). This study is designed to test whether or not the patterns of tax payments have changed due to the IRS' issuance of the final regulations under Internal Revenue Code, Section 482 in 1994. The treatment group, FCDC, is compared to the control group, or USDC, also known as the between-subjects factors. An event history analysis, as suggested by Shackleford (1993), is performed employing a comparison of (P_{FED} and P_{FOR}) during the years prior and subsequent to 1994 for the total market segment reported within the manufacturing and wholesale industries, also known as the within-subjects factors. These variables are common to the literature (Altshuler & Newlon, 1993; Grubert et al., 1993; and Harris, 1993).

Two time periods are examined, the fiscal years 1992-1993, which are prior to major tax law changes, and the fiscal years 1995-1996, which represent the post-tax law periods. These periods are chosen so that the intervening

year, 1994, covers the period when the greatest change in the tax and transfer-pricing regulations occurred.

Statistical Methods

A two-group repeated measures doubly multivariate analysis of variance (MANOVA) was used. MANOVA is an extension of an analysis of variance (ANOVA), a standard method used for testing more than one group having only one dependent variable, to accommodate more than one dependent variable. It is a dependence technique that measures the differences for two or more metric dependent variables based on a set of categorical (nonmetric) variables acting as independent variables (Hair et al., 1998). The two groups refer to the groups of interest in this study, namely, FCDC and USDC. Doubly refers to the existence of two sets of dependent variables: (a) federal taxes paid (P_{FED}), and (b) foreign taxes paid (P_{FOR}) which have been adjusted by dividing the Taxes Paid (TP) by Sales (S). Thus, repeated measures MANOVA refers to the process where several readings for each dependent variable are repeated over time for the same company. The taxes reported weighted by sales that were recorded for the years 1992-1996 yielded five values, or five measures for each variable.

The MANOVA allows us to statistically test whether there is a significant difference between the groups and

the effect of the repeated measures, as in this study, the years paid. The software program used for this data analysis is the *PC SAS* version 6.12. The design layout is presented in matrix form as shown in Table 1 below:

TABLE 1 - DESIGN LAYOUT

(Entries would be the sample mean [Taxes paid/Sales] for Federal & Foreign Taxes)

	1992		1993		1994		1995		1996		
GROUP	FED TAX	FOR TAX	FED TAX	FOR TAX	FED TAX	FOR TAX	FED TAX	FOR TAX	FED TAX	FOR TAX	INDUS -TRY
USDC											Whole -sale
FCDC											Whole -sale
USDC											Manuf .
FCDC											Manuf .

Statistical Design

The statistical model used in matrix notation is:

$$Y = XB + E$$

Where:

Y = n x p matrix

X = n x k matrix

B = k x p matrix

E = n x p matrix of error.

n = number of observations.

p = number of dependent variables.

k = number of independent variables.

In repeated measures, the hypotheses are of the form: $ABC' = D$ with the focus on the C' notation. A is a matrix whose rows consist of contrasts among the cell means. B consists of population means. C' is an identity matrix, and D is null, that is, zero.

Data Sources

Because of the IRS' disclosure policies and the difficulty in obtaining their current data, few studies have used microdata to examine the effect of taxes on income shifting by multinational corporations (Altshuler & Newlon, 1993; Collins, Kemsley, & Shackleford, 1997; Grubert, Goodspeed & Swenson, 1993; Mutti, 1981). Similar studies have used many data sources such as the *Compustat* database (Collins, Kemsley, & Lang, 1998; Collins, Kemsley & Shackleford, 1997; Grubert, Goodspeed & Swenson, 1993; Harris, 1993; Jacob, 1996; Klassen, Lang, & Wolfson, 1993).

The sample for this study was constructed from firm-level data available on *Compustat* for the period from 1992 through 1996. This is consistent with prior research. To focus the analysis on the largest FCDCs and USDCs, all companies with less than $250 million in assets and sales are excluded from the study. Other studies excluded companies with less than $50 million in assets and sales (Altshuler & Newlon, 1993, Collins et al., 1997. Grubert et

al., 1993, & Grubert, 1996). Concentrating on large multinational firms helps identify which are different, foreign firms or multinational firms.

Research Hypotheses

The statistical research hypotheses are given in the null (H_0) and alternative form (H_A). Statistical analyses to test the hypotheses are performed on the null format. Four hypotheses, (A) through (D) follow. Before hypotheses (A) through (C) can be tested, hypothesis (D) must be answered. The null hypothesis (D) concerns the presence of interaction between the groups (control group and treatment group) and time:

D. H_0: There is no interaction between the groups and time.

If there is a significant interaction then hypotheses (A) through (C) cannot be tested without modification. If no interaction is found, the row and column variables are examined for differences in the dependent variables as follows:

A. $H_0(1)$: There is no difference in taxes paid as a percent of sales by FCDCs and USDCs.

B. $H_0(2)$: There is no difference in the percentage of taxes paid across time.

C. $H_0(3)$: There is no difference in the percentage of taxes paid across time and the intervening year, 1994.

Alternate Hypotheses:

A. $H_A(1)$: There is a difference in taxes paid as a percent of sales by FCDCs and USDCs.

B. $H_A(2)$: There is a difference in the percentage of taxes paid across time.

C. $H_A(3)$: There is a difference in the percentage of taxes paid across time and the intervening year, 1994.

The first hypothesis (A) tests whether or not there is a difference in the percentage of taxes paid between the treatment group (FCDC) and the control group (USDC). The second hypothesis (B) examines whether or not there is a difference in the percentage of taxes paid across time. If there is a difference across time, then the third hypothesis (C) will examine which years are significantly different from the intervening year, 1994. The main research question asks whether or not multinational corporations paid higher U.S. taxes subsequent to the transfer pricing regulations. If so, the pre-1994 percentage of taxes paid to sales should have increased after 1994. This change would be the difference between pre-1994 and post-1994 percentages.

If firms manipulate transfer prices to shift income out of the U.S., it is expected that these firms will pay lower levels of U.S. tax than comparable firms that do not manipulate transfer prices. This presumes that firms avoid paying taxes on repatriation of income from low tax

locations, an assumption that was supported by prior research in this area (Altshuler & Newlon, 1993).

Unlike the Grubert, Goodspeed & Swenson's (1993) study, in this paper, foreign-controlled multinational companies are compared against U.S. domestic-controlled multinational companies, rather than FCDCs to all domestic corporations. This focused the investigation on the sources of profit differences and provides evidence about the extent to which it is the foreign firms that are different, versus the multinational firms (Mackie-Mason, 1993).

Summary

The purpose of this chapter is to describe the methodology that is used in this study. It reviews the research questions and hypotheses, the data source, and statistical methods. The study investigates income shifting by multinational corporations in response to changes in U.S. tax policy to determine if the patterns of tax payments have changed.

CHAPTER IV

ANALYSIS AND PRESENTATION OF FINDINGS

Objective

The objective of this chapter is to analyze the data to determine (a) if foreign-controlled domestic corporations (FCDCs) reported more or less U.S. taxes than U.S. domestic corporations (USDCs), and (b) if there was any significant change as a result of the 1994 U.S. tax policy revisions. This study focuses on large FCDCs and compares them on an industry basis to large USDCs that were not controlled by foreign persons. The chapter provides a discussion of the research findings.

Industry Characteristics

Because of the differences in financial characteristics of various industries, it is important to compare companies on an industrial basis. For instance, companies classified in the wholesale trade industry generally report large amounts of receipts compared to their end-of-year assets. By comparison, corporations classified in finance, insurance, and real estate (FIRE) generally report large amounts of assets compared to their receipts. If either assets or receipts were used solely to

select the largest companies, then the largest companies in one of these industrial divisions would have been under-represented, or possibly omitted, in comparison to the other division.

As an example, when the percentage of net income divided by total receipts is used, the FIRE group shows a substantially higher percentage than does the wholesale group. However, when total assets is used as the denominator in place of total receipts, the difference is reversed. For this reason, this study examines FCDCs and USDCs within their respective industries.

Data Sample and Limitations

To determine the taxes paid as a percentage of sales of FCDCs and USDCs, sample data were retrieved from *Compustat PC Plus* database for the years 1992-1996. *Compustat PC Plus* lists approximately 7,151 active firms in the manufacturing industry that fall into Standard Industrial Codes 2000-3999 (SIC). Firms within this SIC included pharmaceutical companies in the data set, unlike Harris et al. (1993). The wholesale industry lists approximately 832 firms (SIC 5000-5199). These two industrial groupings generate almost three-fourths of the total receipts of all FCDCs (IRS, 1998), thus, another reason for selecting these industries for this study.

The SIC represents the principal business activity of the corporation, i.e., the activity which accounted for the largest portion of total receipts. However, statistics classified by industry do have certain limitations. For example, for 1995, FCDCs accounted for approximately 24% of all receipts classified as wholesalers. However, certain U.S. companies (not foreign-controlled) and their subsidiaries may have been involved in both manufacturing and wholesaling of products and reported tax information for these activities on a single (consolidated) report. Thus, they would be classified under the one industry of the principal business activity, that being manufacturing, rather than wholesale trade. Conversely, foreign-controlled domestic companies acted as wholesalers in the U.S. for products manufactured overseas by their parent or other related companies. These domestic companies would have been classified in the wholesale trade industry (IRS, 1998).

The sample firms were separated into the two groups, U.S. domestic corporations and foreign-controlled domestic corporations. Each group was further reduced to only large, multinational firms defined as those with at least $250 million in assets and sales. The size of assets and sales was used to select the largest companies to obtain maximum coverage of the two primary industrial groupings:

manufacturing and wholesale trade. This resulted in a full sample of 1,185 manufacturing companies and 131 wholesale companies. Within the manufacturing industry, the largest companies were concentrated in paper and allied products (SIC 2600-2700) and machinery, equipment and supplies (SIC 3500-3600). For the wholesale industry, the largest companies were almost equally represented for durable and nondurable goods (SIC 5000-5100) as shown in Table 2.

TABLE 2 - FREQUENCY SAMPLE FIRMS BY SIC

Manufacturing Industry

Principal Business Activity	2-Digit SIC	No. of Firms	Percent
Food and kindred products	20	41	6.5%
Tobacco	21	4	0.6%
Textile mill products	22	8	1.3%
Apparel and other textile products	23	9	1.4%
Lumber and wood	24	12	1.9%
Furniture and fixtures	25	11	1.7%
Paper and allied products	26	29	4.6%
Printing, publishing allied industries	27	31	4.9%
Chemical and allied products	28	83	13.1%
Petroleum refining and related industries	29	24	3.8%
Rubber and miscellaneous plastics	30	18	2.8%
Leather and leather products	31	3	0.5%
Stone, clay, glass and concrete product	32	11	1.7%
Primary (ferrous/nonferrous) metal	33	41	6.5%
Fabricated metal products except mach.	34	22	3.5%
Machinery, except electrical	35	99	15.7%
Electrical and electric machinery/equip.	36	80	12.7%
Transportation and equipment	37	51	8.1%
Measuring/controlling instruments	38	48	7.6%
Other manufacturing products	39	7	1.1%
Total		632	100.0%

Wholesale Industry

Principal Business Activity	2-Digit SIC	No. of Firms	Percent
Durable goods	50	38	55.1%
Nondurable goods	51	31	44.9%
Total		69	100.0%

The same companies were used throughout the analysis and they all represented a long enough time series of observations, (five years) because the age characteristics of companies could cause legitimate differences in profitability.

Compustat data has some advantages over tax return data such as separate line items for federal (U.S.), state, and local taxes reported by the firms. Because the objective of this study is to examine the amount of U.S. taxes paid (reported) over a period of time, it is important to separate other taxes from the U.S. taxes prior to the analysis.

Empirical Tests

Firms with no federal tax liability were omitted from the regressions, similar to Harris et al. (1993). All firms with missing values for any of the variables on the MANOVA variable list were also excluded from the analysis, which further reduced the total manufacturing firms to 632 with 3,160 company years, and the wholesale firms to 69 with 345 company years. Manufacturing firms were analyzed separately from wholesale firms.

Hypothesis (A) tested whether there is a difference in the amount of taxes paid (as a percent of sales) between foreign-controlled domestic corporations and U.S. domestic

corporations. The second hypothesis (B) tested whether or not there is a difference across time in the percentage of taxes paid from 1992 to 1996. If there is a difference across time, then hypothesis (C) would test which years are significantly different from the control year, 1994. Hypothesis (D) was tested for any interaction between the groups and time. A two-group repeated measure doubly multivariate analysis of variance (MANOVA) was used as MANOVA allows the researcher to statistically test whether there is a significant difference between the groups and the effect of the repeated measures, as in this study, the year paid. Following is a brief technical explanation of the repeated measure MANOVA and how it was used in this study. The software programs used for this data analysis were the *PC SAS* version 6.12 and *SPSS* version 6.0.

Description of Repeated Measure MANOVA

A repeated measure is where the subjects (companies in this study) are measured more than once with the same instrument. This study used the same variables over time. Consider the model in matrix form:

$$Y = XB + E$$

Where: Y is an n by p, x is an n by k, B is a k by p, and E is an n by p matrix of error.

The assumptions for repeated measures are:

1. Multivariate normality
2. A linear model
3. Independence of subjects
4. Equal variance-covariance matrices for all groups

To test the hypothesis in regression a researcher tests $B=0$ and $AB=0$ in analysis of variance (*ANOVA*). In a repeated measure analysis a researcher tests $ABC' = 0$. Here A is an identity matrix, B is the matrix of population regression coefficients, and C' is an identity matrix. The apostrophe indicates a transposed matrix. In MANOVA, A is a matrix whose rows consist of contrasts among cell means, B consists of population means, and C' is an identity matrix. The focus in repeated measure is on the C' matrix. To solve two-group repeated measures the following steps are performed:

To test for interactions:

1. $B=(X'X)^{-1}X'Y$

2. $G= ABC' - 0$

3. $V=A(X'X)^{-1}A$

4. $H=G'V^{-1}G$

5. $R=E'E$

6. $S=CRC'$

7. Wilks' Lambda = $|S|/|S+H|$

The associated *F*-statistics can then be compared to a tabled value. If there is no interaction, a test of the time factor i.e., repeated measure can be made. By changing the *A* matrix and repeating the seven steps above, the hypothesis of equal means across time can be tested. Similarly, a test across the groups (domestic-controlled versus foreign-controlled) can be made by altering the C' matrix and performing steps one through seven again. These procedures were used in arriving at the results of the statistical tests for this study.

Tests of Hypotheses

The results of the statistical test of hypotheses are discussed in this section and are also summarized in Table 3. To determine whether the variability between the groups is large relative to the variability due to random error, the *F*-value, which is the ratio of the mean square of the effects on time is analyzed. To determine whether the effects are statistically significant, the *p*-values shown for each of the effects in the model are analyzed. Because the null hypothesis (D) concerns the presence of interaction between the groups and time, the *p*-value for interaction, or hypothesis (D), is first examined.

TABLE 3 – STATISTICAL TESTS OF NULL HYPOTHESES

Hypothesis	*F*-value	*p*-value	Industry
A. FCDC vs. USDC across Time	2.3589	0.0954	Manufacturing
B. Time i.e., Years	6.8238	.0001*	Manufacturing
C. Difference in Time (USDC/FCDC) from the intervening year, 1994			Manufacturing
1992-1994 - USDC	14.59	.0001*	
1993-1994	7.7	.0057*	
1995-1994	7.6	.0060*	
1996-1994	6.34	.0021*	
1992-1994 - FCDC	1.45	0.2286	
1993-1994	0.95	0.3296	
1995-1994	3.19	0.0748	
1996-1994	25.34	.0001*	
D. Interaction	0.538	0.8279	Manufacturing
A. FCDC vs. USDC across Time	12.9964	.0001*	Wholesale
B. Time i.e., Years	1.8112	0.0926	Wholesale
C. Difference in Time (USDC/FCDC) from the intervening year, 1994	N/A	N/A	Wholesale
D. Interaction	1.6914	0.1192	Wholesale

*A significant difference occurs when the *p*-value is less than the chosen value of .05.

For the manufacturing industrial group the *p*-value is 0.8279, and for the wholesale group the *p*-value is 0.1192. Both are greater than 0.05 level of significance. The test indicates that the computed *p*-value was not small enough to reject this hypothesis at the .05 significance level. Therefore, it was concluded that the interaction effect is not statistically significant and therefore, the null hypothesis (D) is not rejected. To evaluate the power of the statistical tests and to provide the most informed perspective on the results obtained, the following measures were used to assess multivariate differences across the groups using the same level of significance: Wilks' Lambda, Pillai's Trace, Hotelling-Lawley's Trace, and Roy's greatest character root (gcr). Tables 4 and 5 contain the MANOVA results for testing the interaction effect. All four multivariate tests indicated that the interaction effect was not significant.

TABLE 4 - MANOVA SUMMARY TABLE: INTERACTION EFFECT					
MULTIVARIATE TESTS OF SIGNIFICANCE - MANUFACTURING					
			Degree of Freedom		
Test Name	Value	Approx. F	Between Group	Within Group	Significance Of F-Statistic
Wilks' Lambda	0.9931	0.5384	8	623	0.8279
Pillai's Trace	0.0069	0.5384	8	623	0.8279
Hotelling's Trace	0.0069	0.5384	8	623	0.8279
Roy's gcr	0.0069	0.5384	8	623	0.8279

TABLE 5 - MANOVA SUMMARY TABLE: INTERACTION EFFECT					
MULTIVARIATE TESTS OF SIGNIFICANCE - WHOLESALE					
			Degree of Freedom		
Test Name	Value	Approx. F	Between Group	Within Group	Significance of F-Statistic
Wilks' Lambda	0.8160	1.6914	8	60	0.1192
Pillai's Trace	0.1840	1.6914	8	60	0.1192
Hotelling's Trace	0.2255	1.6914	8	60	0.1192
Roy's gcr	0.2255	1.6914	8	60	0.1192

Because there was no interaction between the groups and time, hypotheses (A), (B), and (C) were tested. For each group within the wholesale industrial grouping, there was a significant difference, *p*-value = .0001, between the percentage of taxes paid by FCDCs and USDCs. Therefore, the

null hypothesis, $H_0(1)$ or (A), is rejected. Tables 6 and 7 contain the MANOVA results for testing hypothesis (A). All four multivariate tests also indicated no significance.

TABLE 6 - MANOVA SUMMARY TABLE: NULL HYPOTHESIS (A)

MULTIVARIATE TESTS OF SIGNIFICANCE - MANUFACTURING

			Degree of Freedom		
Test Name	Value	Approx. F	Between Group	Within Group	Significance of F-Statistic
Wilks' Lambda	0.993	2.3589	2	629	0.0954
Pillai's Trace	0.007	2.3589	2	629	0.0954
Hotelling's Trace	0.008	2.3589	2	629	0.0954
Roy's gcr	0.008	2.3589	2	629	0.0954

TABLE 7 - MANOVA SUMMARY TABLE: NULL HYPOTHESIS (A)

MULTIVARIATE TESTS OF SIGNIFICANCE - WHOLESALE

			Degree of Freedom		
Test Name	Value	Approx. F	Between Group	Within Group	Significance of F-Statistic
Wilks' Lambda	0.0717	12.996	2	66	0.0001
Pillai's Trace	0.2826	12.996	2	66	0.0001
Hotelling's Trace	0.3938	12.996	2	66	0.0001
Roy's gcr	0.3938	12.996	2	66	0.0001

However, there was no significant difference in the taxes paid as a percent of sales for the years 1992 through 1996. The null hypothesis, $H_0(2)$ or hypothesis (B), is not rejected. FCDCs reported an increase in the amount of taxes paid as a percentage of sales from 1992 to 1995; however, the amount was insignificant (approximately one-tenth of one percent each year). The null hypothesis, $H_0(2)$, is not rejected because there was no difference in time. Hence hypothesis $H_0(3)$ or (C), is not applicable and therefore was not tested for the wholesale industrial group. See Tables 8 and 9 below for a comparison of four other multivariate tests.

TABLE 8 – MANOVA SUMMARY TABLE: NULL HYPOTHESIS (B)

MULTIVARIATE TESTS OF SIGNIFICANCE - MANUFACTURING

			Degree of Freedom		
Test Name	Value	Approx. F	Between Group	Within Group	Significance of F-Statistic
Wilks' Lambda	0.9194	6.8238	8	623	0.0001
Pillai's Trace	0.0806	6.8238	8	623	0.0001
Hotelling's Trace	0.0876	6.8238	8	623	0.0001
Roy's gcr	0.0876	6.8238	8	623	0.0001

TABLE 9 - MANOVA SUMMARY TABLE: NULL HYPOTHESIS (B)					
MULTIVARIATE TESTS OF SIGNIFICANCE - WHOLESALE					
			Degree of Freedom		
Test Name	Value	Approx. F	Between Group	Within Group	Significance of F-Statistic
Wilks' Lambda	0.8055	1.8112	8	60	0.0926
Pillai's Trace	0.1945	1.8112	8	60	0.0926
Hotelling's Trace	0.2415	1.8112	8	60	0.0926
Roy's gcr	0.2415	1.8112	8	60	0.0926

For the manufacturing industry, the opposite is true. There was no significant effect, *p*-value = .0954, between the percentage of taxes paid by FCDCs and USDCs. Therefore, the null hypothesis, $H_0(1)$ or (A), is not rejected. However, there is a significant difference, *p*-value = .0001, in the taxes paid as a percent of sales across time. The null hypothesis, $H_0(2)$ or hypothesis (B), is rejected. FCDCs reported an increase in the amount of taxes paid as a percentage of sales from 1992 to 1995 with an insignificant decrease in 1996. Because there was a significant difference in time $H_0(2)$, hypothesis $H_0(3)$ or (C) was tested. The results indicated a significant effect in the difference in time from the intervening year, 1994, thus, $H_0(3)$ is rejected. Appendices C and D graphically illustrate each group's financial behavior before and after the

intervening year, 1994. A numerical summary of the referenced graph is shown in Table 10.

TABLE 10 - SUMMARY OF TAXES PAID/SALES

GROUP	1992		1993		1994		1995		1996		INDUS -TRY
	FED	FOR	FED	FOR	FED	FOR	FED	FOR	FED	FOR	
USDC	0.74	0.001	0.69	0.001	0.86	0.001	0.67	0.006	0.9	0.01	W
FCDC	0.93	0.39	1.1	0.38	1.1	0.31	1.2	0.35	0.89	0.38	W
USDC	1.6	0.67	1.7	0.63	1.9	0.62	2.1	0.66	2.2	0.77	M
FCDC	1.6	0.43	1.9	0.44	2.1	0.41	2.3	0.44	2.3	0.55	M

W = Wholesale M = Manufacturing

FED = Federal (U.S. Taxes) FOR = Foreign Taxes

To summarize, the statistical tests showed that there was a significant difference in the percentage of taxes paid during the period of major tax policy changes for companies in the manufacturing industry. In contrast, there were no significant differences in the percentage of taxes paid for companies in the wholesale industry, but there was a significant difference between the amount paid by FCDCs and USDCs over this same period. The tax payments by FCDCs were greater than the tax payments reported by USDCs, thus the study identified changes in the patterns of U.S. tax

payments as a percent of annual sales for the years 1992 to 1996.

CHAPTER V

SUMMARY AND CONCLUSIONS

This chapter provides a summary of the research and conclusions from this study and identifies possible areas of future research. The study is significant because it adopts the economic approach to noncompliance focusing on the corporate taxpayer instead of the individual taxpayer and uses the most current firm-level data. Additionally, it provides empirical evidence that an increase in tax compliance is positively related to changes in tax policy and it introduces another perspective from which to assess the extent of income shifting.

Summary

This research investigated the effect of tax policy changes on corporate behavior of foreign-controlled and U.S. domestic multinational corporations with reported assets and sales exceeding $250 million. The study used the most recently available firm-level data, 1992 through 1996, within the wholesale trade and manufacturing industries. The age characteristics were also considered to ensure that the data set represented the same companies throughout the five-year period.

Allingham & Sandmo's (1972) study on the economic theory of noncompliance postulated that taxpayers analyze the economic benefits and costs of noncompliance and that income levels, tax rates, audit rates, penalty rates, and risk attitudes are the primary determinants of noncompliance. Their model predicted that both probability of detection and the severity of penalties will impact tax avoidance; if detection is likely and penalties are severe, taxpayers will be more compliant.

The final transfer pricing regulations of 1994 imposed severe penalties, tough reporting requirements, and complex profitability calculations. It also allowed multinational corporations more flexibility in accounting for their domestic and foreign transactions. Based on the results of this study, the percentage of U.S. tax payments were greater for foreign-controlled corporations than for U.S. domestic corporations, and there was a significant difference in the percentage of U.S. taxes paid by firms within the manufacturing industry. Thus, it is concluded that U.S. tax policy changes had a positive effect on corporate behavior as explained by the changes in the patterns of tax payments by FCDCs and USDCs. The severe penalties as well as the threat of increased audits appear

to be an effective deterrent to noncompliance, consistent with the study by Allingham & Sandmo (1972).

Whether additional taxes are due on repatriation of low-tax foreign income to the U.S. depends on the foreign tax credit position of the firm. Firms with excess foreign tax credit can use the credits against the U.S. taxes due and thus avoid taxes on repatriation. Firms with excess limitations i.e., no foreign tax credit, would have to pay U.S. taxes on repatriation. Altshuler & Newlon (1993) found that U.S. multinational companies are able to manipulate the flows of income from their foreign subsidiaries to avoid paying much U.S. tax on their foreign income.

The distribution of foreign-controlled companies' taxable income can provide evidence on how likely it is that manipulation of income is taking place. Persistent large losses in relation to assets or sales would not suggest tax planning, because the foreign company could lower its worldwide tax bill by shifting some of its losses to other jurisdictions.

Income shifted into the United States from abroad by U.S. multinationals is only taxed in the United States. On the other hand, income that is shifted out of the United States is first taxed abroad by the foreign government when it is realized and then again in the United States when it

is repatriated. Thus, shifting income from a high tax country to the United States results in tax savings to the firm, while shifting income from the United States to a low tax foreign country is likely to result in only a deferral of taxes. However, the results of this study indicate that firms are sensitive to the magnitude of the additional tax costs that would be incurred if they did not conform to tax law changes.

Implications for Future Research

Cross-border transfer pricing is quickly becoming the single most important international issue facing multinational corporations. Further, the volume and intensity of activities utilizing electronic commerce, or Internet sales, will be substantial and continue to change the way business is conducted, both domestically and internationally. In an age where globalization, outsourcing and reengineering are no longer new ideas, the tax authorities could focus on the provision of services between related parties as some forms of electronic commerce may produce service-related income and thus, increased opportunities for income shifting.

Existing tax laws and regulations have been unable to keep pace with this rapidly evolving way of doing business. For example, the current tax laws were designed to tax

tangible products and are not easily applied to modern advances in technology. Issues involving the character and source of income and application of treaty provisions have been and are likely to continue to be a source of confusion for both taxpayers and taxing jurisdictions. The tax implications of electronic commerce will raise many questions such as: (a) what are the activities and where are they located? and (b) is there a permanent establishment in another country? In the face of the bulk and complexity of these developments international taxation will be a real challenge.

The services industry as well as businesses involved in electronic commerce can be an excellent base for further analysis. However, it awaits the accumulation of more years of data and more specific information regarding their reliance on tax strategies such as income shifting and transfer price manipulation. The ongoing convergence of the technology, communications, and entertainment industries will continue to alter the ways in which business is conducted. As a result, tax policy must continue to provide guidance so taxpayers will have certainty in analyzing the tax consequences of doing business in cyberspace.

Conclusion

Consistent with prior research, Collins et al. (1997), Grubert et al. (1993), and the GAO-1995 report, the persistence of large multinational corporations' taxable income continues to remain near zero. This has been interpreted by many, including tax policymakers, as being attributed to manipulation of transfer prices. Thus, the haziness of transfer pricing has been an undoubted advantage to the multinational corporations that use it to escape taxation.

APPENDIX A

DESCRIPTIVE STATISTICS

TAXES PAID/SALES - WHOLESALE INDUSTRY

APPENDIX A - TAXES PAID/SALES - WHOLESALE INDUSTRY

Mean Percentages by Year and Group

Variable	n	Mean	Standard Deviation	Minimum	Maximum
Panel A: U.S. Domestic Corporations (USDC) Descriptive Statistics					
U.S. Tax:					
1992	41	0.0073387	0.0097107	-0.0095643	0.3679880
1993	41	0.0068740	0.0088606	-0.0079846	0.0350678
1994	41	0.0086112	0.0092015	-0.0050941	0.0363560
1995	41	0.0066913	0.0098494	-0.0225871	0.0357427
1996	41	0.0089891	0.0155810	-0.0044839	0.0892965
Foreign Tax:					
1992	41	0.0000144	0.0000925	0.00	0.0005920
1993	41	-0.0000145	0.0000928	-0.0005945	0.00
1994	41	-5.1100455	0.0000327	-0.0002095	0.00
1995	41	0.0000564	0.0003023	0.00	0.0019019
1996	41	0.0001150	0.0006087	0.00	0.0038728

Variable	n	Mean	Standard Deviation	Minimum	Maximum
Panel B: Foreign-Controlled Domestic Corporations (FCDC) Descriptive Statistics					
U.S. Tax:					
1992	28	0.0093146	0.0118697	-0.0087936	0.0557527
1993	28	0.0107567	0.0204729	-0.0487790	0.0603891
1994	28	0.0111982	0.0170503	-0.0276616	0.0682548
1995	28	0.0124934	0.0144393	-0.0001736	0.0588459
1996	28	0.0088190	0.0133233	-0.0097642	0.0580535
Foreign Tax:					
1992	28	0.0039364	0.0057435	-0.0004391	0.0265950
1993	28	0.0038415	0.0061663	-0.0032403	0.0281801
1994	28	0.0030982	0.0039742	-0.0008426	0.0179295
1995	28	0.0034718	0.0048995	0.00	0.0193109
1996	28	0.0038223	0.0041276	-0.0004621	0.0141028

APPENDIX B

DESCRIPTIVE STATISTICS

TAXES PAID/SALES - MANUFACTURING INDUSTRY

APPENDIX B - TAXES PAID/SALES - MANUFACTURING INDUSTRY

Mean Percentages by Year and Group

Variable	n	Mean	Standard Deviation	Minimum	Maximum
Panel A: U.S. Domestic Corporations (USDC) Descriptive Statistics					
U.S. Tax:					
1992	531	0.0166668	0.0218623	-0.0374376	0.1384140
1993	531	0.0173220	0.0209346	-0.0419831	0.1452500
1994	531	0.0197780	0.0210431	-0.0281923	0.1077203
1995	531	0.0212344	0.0224102	-0.0449324	0.1381883
1996	531	0.0224959	0.0235649	-0.0326317	0.1616816
Foreign Tax:					
1992	531	0.0067438	0.0000925	-0.0045902	0.0701589
1993	531	0.0062978	0.0000928	-0.0084072	0.0572087
1994	531	0.0061727	0.0000327	-0.0195696	0.0674843
1995	531	0.0066515	0.0003023	-0.0045027	0.0922381
1996	531	0.0077345	0.0006087	-0.0026865	0.0998840

Variable	n	Mean	Standard Deviation	Minimum	Maximum
Panel B: Foreign-Controlled Domestic Corporations (FCDC) Descriptive Statistics					
U.S. Tax:					
1992	101	0.0163119	0.0253977	-0.0313591	0.1374574
1993	101	0.0188260	0.0261286	-0.0205615	0.1634056
1994	101	0.0206249	0.0268999	-0.0412273	0.1311563
1995	101	0.2326260	0.0277639	-0.0253835	0.1418484
1996	101	0.0228772	0.0273862	-0.0144261	0.1318267
Foreign Tax:					
1992	101	0.0043415	0.0071237	-0.0176369	0.0356805
1993	101	0.0043929	0.0064245	-0.0003613	0.0344956
1994	101	0.0041372	0.0066311	-0.0065674	0.0367408
1995	101	0.0044246	0.0061214	-0.0065674	0.0350113
1996	101	0.0055154	0.0066798	-0.0097462	0.0305392

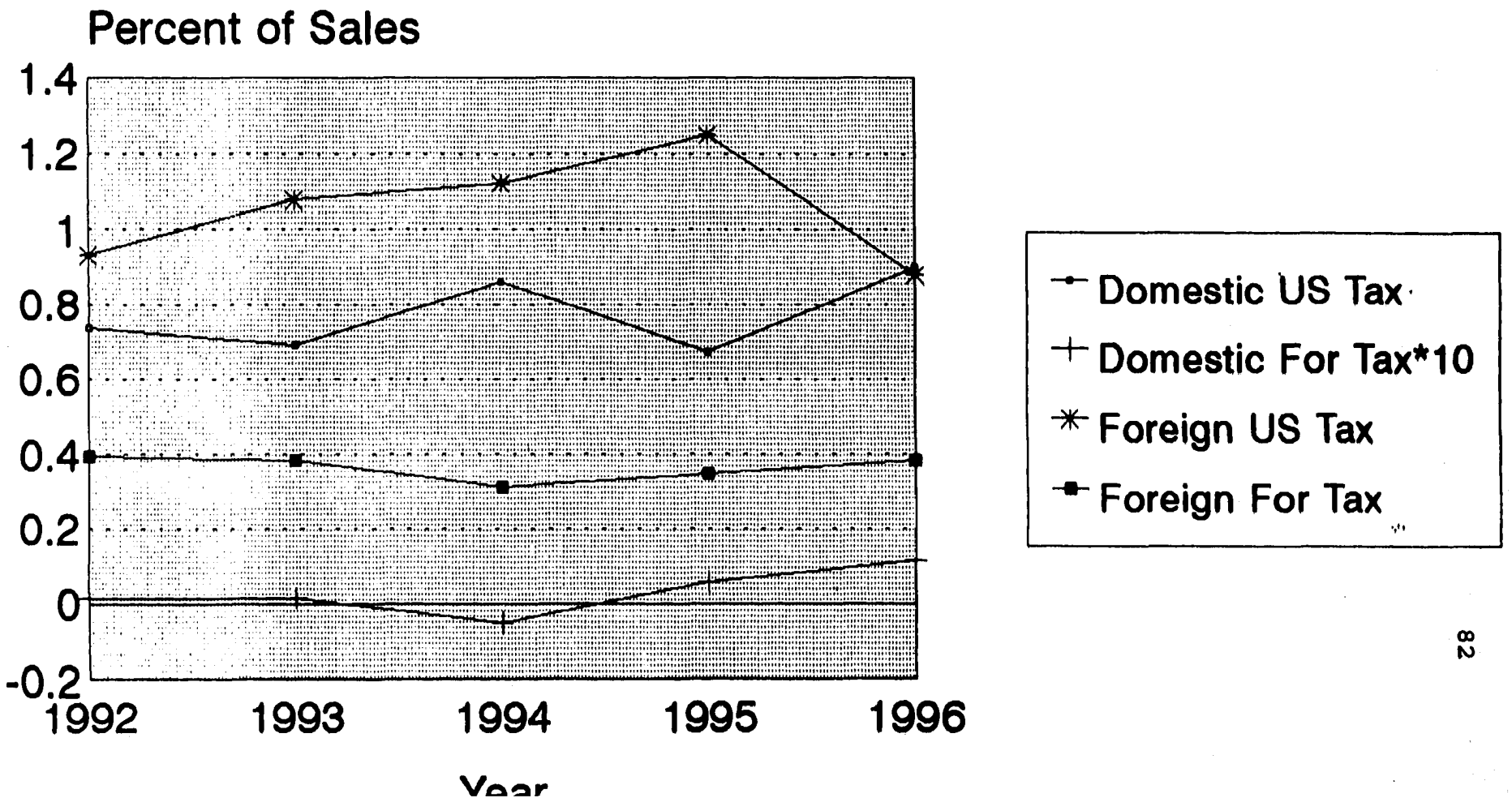
APPENDIX C

TAXES AS A PERCENT OF SALES - WHOLESALE INDUSTRY

Taxes as a Percent of Sales by Year

for Domestic and Foreign Controlled Corporations

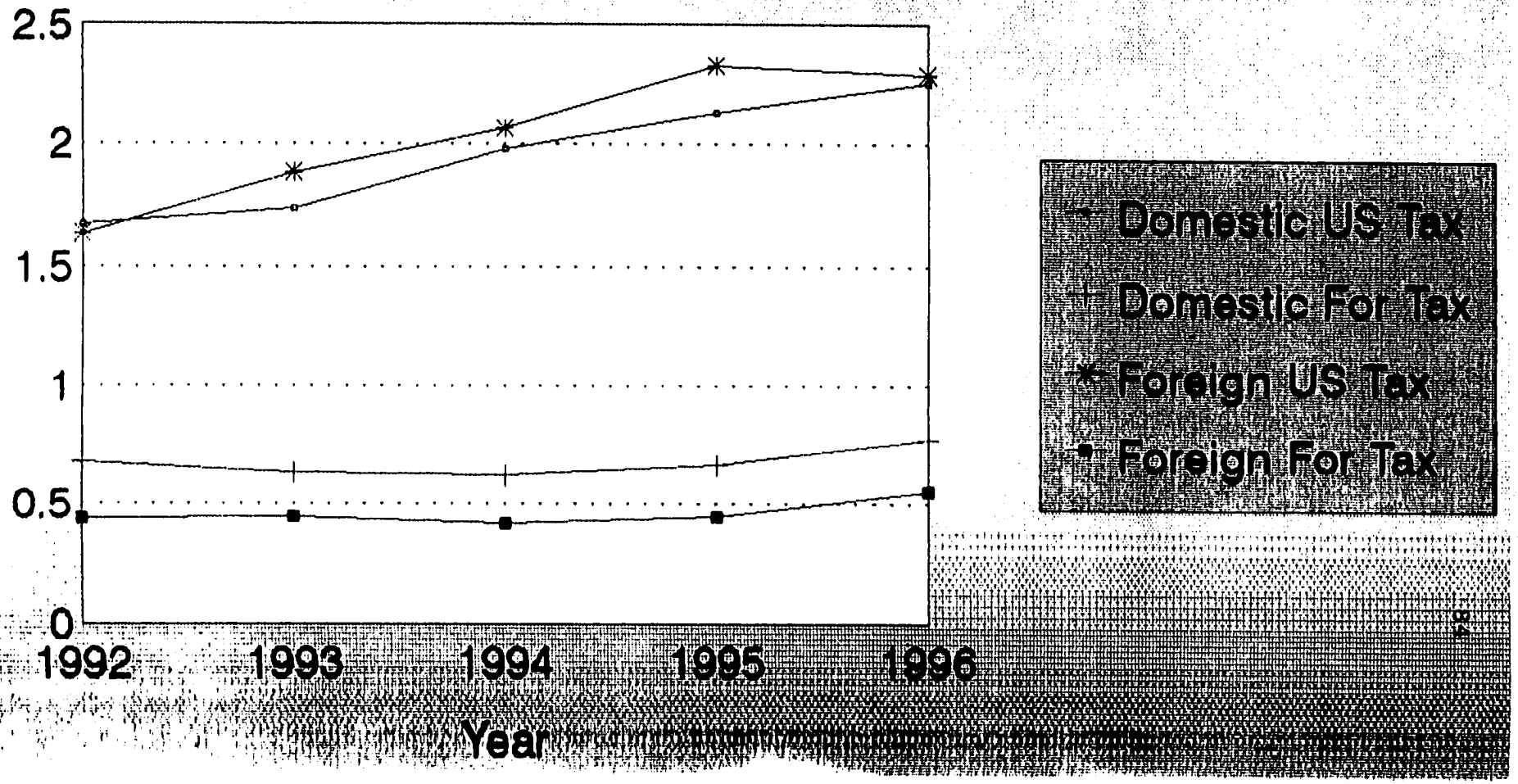
Wholesale



APPENDIX D

TAXES AS A PERCENT OF SALES - MANUFACTURING INDUSTRY

Taxes as a Percent of Sales by Year
for Domestic and Foreign Controlled Corporations
Manufacturing



APPENDIX E

COMPARISON OF RESEARCH STUDIES - THEORY BASED

APPENDIX E - COMPARISON OF RESEARCH STUDIES: THEORY-BASED

Author	Date	Research Focus/ Theoretical Model	General Findings
Becker	1968	Economic theory of crime. Taxpayer decision-making under uncertainty	Nature and causes of criminal activities. People analyze economic costs and benefits. Suggested future research in income tax evasion.
Allingham & Sandmo	1972	Economic theory of noncompliance	Income tax evasion. Extension of the Economic theory of crime.
Yitzhaki	1974	Economic theory of noncompliance - Extended the research of Allingham & Sandmo	Assumptions were changed (Allingham & Sandmo study). Analysis produced a negative relationship between tax rates and noncompliance.
Clotfelter	1983	Noncompliance Used 1969 TCMP data.	Empirical relationships among income, the marginal tax rate, and evasion.
Klepper & Nagin	1989	Noncompliance	A look at the role of penalties and audit probabilities. Cheating on certain line items is more likely to be discovered. Noncompliance is discouraged by a high risk of detection.
Long & Swingden	1990	Noncompliance Used 1985 TCMP data.	Impact of information reporting on compliance (before and after the new reporting rules). Noncompliance is discouraged by a high risk of detection.
Sheffrin & Triest	1992	Noncompliance Used survey data.	Analysis of perceived probability of detection and evasion behavior. Individuals who perceive a higher probability of detection report signific-antly less evasion.

Yaniv	1994	Noncompliance	Achieved a positive relationship Between tax rates and noncompliance. Overturned Yitzhaki (1974).
Lee	1995	Noncompliance	Also achieved a positive relationship Between tax rates and noncompliance. Overturned Yitzhaki (1974).
Joulfaian & Rider	1996	Noncompliance Used 1988 TCMP data	Impact of tax rates for low-income households. Positive relationship - consistent with Clotfelter (1983).
Linster	1997	Noncompliance Graphical model	Compliance and evasion depends upon a taxpayer's risk aversion.

APPENDIX F

COMPARISON OF RESEARCH STUDIES - INCOME SHIFTING

APPENDIX F - COMPARISON OF RESEARCH STUDIES: INCOME SHIFTING

Author	Date	Research Focus	General Findings
Grubert & Mutti	1991	Factors influencing income-shifting and rate of return differentials. (1982 data)	Rate of return on sales by country, against local tax rate. Found evidence of income shifting.
Harris, Morck, Slemrod, & Yeung	1993	Income shifting into the U.S. Examined 95 U.S. firms for years 1984 to 1988.	Found U.S. tax liabilities were lower when firms maintained a legal presence in a tax-haven country.
Harris	1993	Income-shifting into the U.S. following TRA 86. Examined firms for years 1987-1990.	U.S. MNCs paid more U.S. taxes & reported more U.S. income (1987-1990) than U.S. domestics, and reported less foreign income in 1987 and 1988.
Klassen, Lang, & Wolfson	1993	Income-shifting into the U.S. following TRA 86. Examined 191 firms for years 1987-1990.	MNCs shifted income into the U.S. in 1987 and out of the U.S. in 1988.
Altshuler & Newlon	1993	Examined income repatriation patterns of foreign income by 340 U.S. MNCs.	Results suggest that MNCs can manipulate the flow of income of their foreign subsidiaries to reduce global tax.
Grubert, Goodspeed, & Swenson	1993	Attempted to explain low taxable income of 110 FCDCs for years 1980 to 1987. Compared foreign MNCs to all domestics.	FCDCs report significantly less taxable income than do their domestically controlled counterparts. It was suggested that transfer pricing may be a factor.
Feldstein	1994	Examined income repatriation patterns of foreign income by U.S. MNCs for	MNCs repatriate approximately 70% of their foreign earnings after TRA 86.

		years 1984 to 1990.	
Jacob	1996	Examined U.S. firms for years 1982 to 1990.	MNEs with more int'l intrafirm sales paid lower taxes in 1982-1984, and higher taxes in 1988-1990.
Collins, Kemsley, & Shackleford	1997	Examined FCDCs in the wholesale industry from 1981-1990.	Found that prevalence of near-zero taxable income was not linked by manipulation of transfer prices.
Collins, Kemsley, & Lang	1998	Earnings valuation. First study to use market value tests to identify income-shifting into the U.S. (577 manufacturing:1984-1992.)	Cross-jurisdictional income-shifting tests. MNEs with higher foreign tax rates shift income into the U.S.

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