The Impact of Tax Expenditure Policies on Incorporated Small Businesses

by

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Chapter I
Introduction and Summary

Statement of the Problem

The U.S. Internal Revenue Code contains numerous tax and tax credit provisions affecting the operation and after-tax profitability of large and small businesses. The implementation of these policies and the way in which the effects are distributed between large and small firms has not yet been well investigated. Some studies have examined specific programs or policies and others have examined the complexity and administrative detail of the tax code and compliance, and both groups have concluded that small firms wind up being unfairly burdened. However, neither body of literature has studied in a comprehensive way the major tax expenditure programs and their impact on small and large businesses. Tax expenditure programs are broadly defined as tax benefits that allow all taxpayers the opportunity to reduce their tax liability. These programs represent revenue losses attributable to provisions of the federal tax laws that allow a special exclusion, exemption, or deduction from gross income or which provide a special credit, a preferential rate of tax, or a deferral of liability. In other words, tax expenditures are revenue losses resulting from federal tax provisions that allow taxpayers a reduction in their income tax liabilities.

Innovation & Information Consultants, Inc. (IIC, Inc.) has contracted with the Office of Advocacy, U.S. Small Business Administration to study the effects of various tax expenditure programs relying on data collected by the Internal Revenue Service, Statistics of Income (SoI) division, as well as other data and studies performed by the Treasury, Joint Committee on Taxation (JCT) and Congressional Research Service.[1] These data permit us to analyze the impact of various tax expenditure programs such as accelerated depreciation, foreign tax credit and the partial deduction for business meals and entertainment expenses on the basis of firm size and tax rate.

Taxes can be a significant element of a firm's operating costs, and some have argued that large firms, especially those with multinational operations are better able to take advantage of various tax expenditure programs such as foreign tax credits. Small firms are seen as facing a competitive disadvantage where they face higher tax costs because of their inability to take advantage of various tax expenditure programs. Some have argued that many large firms pay virtually nothing in corporate income taxes while small firms pay a significant share (McIntyre and Nguyen 2000). These studies have shown that whereas small firms pay effective corporate tax rates in the range of 25 to 30 percent, larger firms pay at considerably lower rates, by as much as 6 to 8 percentage points. Other studies, however, have argued that these benefits are selective and pertain to a few particular industries with the difference being much smaller in

[1] Although the data analysis in this report pertains to corporations, we did obtain and analyze limited data broken out by firm size for partnerships. In consultation with the SoI, it was determined however that the partnership data included too small a sample of returns to provide a meaningful and representative analysis across industry sectors and thus was excluded from our report.

other industries.[2] Graduated tax rates favoring small firms as well as other programs provide some benefit to small firms as well. Yet no study has attempted to measure comprehensively the impact of these various programs to indicate which tax expenditure programs may benefit small firms and which programs may cause harmful impacts. In order to develop a more complete understanding of this problem and to provide small business stakeholders with guidance on these issues, we have analyzed data on the impact of these programs by business size category to measure these distributional effects. We believe this is the first comprehensive look at the impact on small and large business of the major tax expenditure programs.

In this study, IIC, Inc. has identified ten programs that the JCT and Treasury classify as tax expenditures, as well as two other programs that provide businesses with tax benefits to analyze in detail. These programs include the following:

- Accelerated depreciation
- Graduated corporate income tax rates
- Exclusion of interest on state and local government debt
- Extraterritorial income exclusion
- Deferral of Income from Controlled Foreign Corporations
- Inventory property sales source rule exception
- U.S. possessions tax credit
- R&D tax credit
- Expensing of R&D
- Low income housing tax credit
- Foreign tax credit
- Deduction for travel and entertainment expenses

According to the JCT and Treasury studies, these programs with the exception of the foreign tax credit and deduction for travel and entertainment expenses have accounted for at least 70 percent of the total tax expenditures provided to corporate taxpayers in the United States over the last few years. The JCT and Treasury do not consider the foreign tax credit and the deduction for business meals and entertainment expenditures as true tax expenditures.

The central hypothesis we sought to examine in this study was whether small business has been placed at a competitive advantage or disadvantage by any of the specific tax expenditure programs we identified and if so, to what extent. Also we desired to study whether any programs benefited small firms so that small business advocates and others might be prepared to advocate for the continuation of such programs.

Research Methodology

The first step in our research methodology was to review the relevant literature on each program to give a broader understanding of the specific tax expenditure program, how it came

2 For example, the petroleum, transportation, and electronics industries have been cited as benefiting more than many other industries from various tax programs.

about, the rationale for its existence and any prior analysis that economists and others may have performed regarding the impact of the program. This review revealed that the Congressional Research Service (CRS) has studied a number of these programs and in some limited context has quantified the impacts of certain programs. Others have also examined some of these programs, and their findings are also reported as part of the literature review. This review, including descriptive material on each program, is contained in Chapter II.

The next step in our research was to obtain relevant data to permit an estimation of the impact of each program on effective tax rates. Data collected and maintained by the Treasury and Internal Revenue Service, Statistics of Income, permit estimation of effective tax rates, the rate at which taxes are actually paid after credits, deferrals, deductions and exemptions. SoI was extremely helpful in tabulating data and providing us with data to estimate effective tax rates. They also provided us with data on several of the specific programs listed above to permit isolation of the impact of these tax expenditure programs on the effective tax rate. These data were provided on the basis of firm size groupings to enable us to compute differential effective rates by business size category as well as by general industry category (2-digit NAICS code level). This enabled us to quantify the impact of various programs in terms of both the total dollar value of each program as well as the impact on the effective tax rate, and to measure the differential impact between large and small business. The results of the detailed data analyses using the SoI data are presented in Chapter III.

In addition, for some of the programs for which the data from SoI were incomplete or non-existent, we conducted three case studies to examine these programs in more detail as well as to test the validity of the results from the data analysis. The case studies focused on the Pharmaceutical Preparation Industry (NAICS 325412), the Wired Telecommunications Carriers Industry (NAICS 51331), and the Computer Systems Design Services Industry (NAICS 541512). We selected these industries on the basis of five selection criteria and collected data on each industry as well as detailed financial and operating information about specific firms (both large and small) in each industry. The results of these case studies generally confirmed what we had found from the detailed data analysis. The case studies are discussed in detail in Chapter IV.

Results and Policy Implications

Our data analysis described in detail in Chapter III found that large firms (firms with more than $10 million in revenues) benefited most from the foreign tax credit, realizing a reduction in the effective tax rate of approximately 2.2 percent. Small firms, on the other hand, realized an effective tax rate reduction of 0.13 percent, a significant discrepancy. Small firms in mining and utilities industries as well as holding companies did exhibit reductions of greater than 2 percent in their effective tax rates as a result of the FTC. In addition small firms have generally shown a slight increase in their ability to take advantage of foreign tax credits, perhaps an indication of their expansion in the global economy. The relative differential impacts of this program, however, are significant as it represents the largest discrepancy between large and small firms in terms of difference in effective tax rates.

Our data analysis indicated that most of the other tax expenditure programs favor large business slightly more than small firms with the exception of the partial deduction for travel and entertainment, tax-exempt interest on government bonds, and the Section 179 deduction for depreciation. The one tax expenditure program that clearly benefits small business more than large firms by a sizeable margin is the partial deduction for travel and entertainment expenses.[3] Small firms realized an average reduction of 0.86 percent in their effective tax rate from this program, compared with large firms that witnessed a 0.11 percent reduction. Again this is consistent with the literature that indicates that small firms utilize the travel and entertainment deduction to a larger extent than large firms as a cost-effective way to market and develop their supplier and customer relationships. The widespread use of the partial travel and entertainment deduction by small businesses is so significant that the White House Conference on Small Business (U.S. SBA 2000, 42) made restoring this deduction to its original 100 percent threshold one of its top priorities. We agree with this recommendation as our data analysis indicates this is one area where small firms would obtain a greater benefit by moving back to the 100 percent deduction.

In general, industries such as manufacturing, mining, utilities, and professional, scientific and technical services have benefited the most from the various tax expenditure programs we analyzed. Manufacturing industries benefit largely from the foreign tax credit and possessions programs. The industry category, management of companies (NAICS Code #55), which represents holding companies and the like, also accounted for a significant portion of the gain from the FTC as well as the low income housing credit. Professional services industries received a significant benefit from the travel and entertainment partial deduction as well as the tax credit for research and development.

The case studies enabled us to take a closer look at the impacts of accelerated depreciation and expensing of research and development as well as several of the other programs. In general the case studies confirmed our data analysis, especially with regard to the travel and entertainment deduction. Small firms in the computer systems design industry indicated that they could obtain a 2.76 percent reduction in effective tax rates by moving back to 100 percent deductibility. Large firms in this industry would benefit by a 0.36 percent reduction in their effective tax rate. We found that accelerated depreciation has benefited both large and small firms in the computer services and wired telecommunications industries. In particular, small firms benefited significantly from the Section 179 deduction, a program that is not available to large firms, but is helpful in putting small firms on equal footing with large business. Finally, large firms dominated in their ability to use and benefit from international tax expenditure programs, especially in the pharmaceutical industry.

The implications and conclusions of this study in relation to policy for small business are as follows:

- Small firms benefit from certain tax expenditure programs, although as a general matter, by a smaller amount than large firms. Large firms with more extensive operations are better able to realize advantages from certain tax expenditure programs. Small business

[3] One other program, the Section 179 special depreciation deduction is limited to small firms, but its impact in both relative and absolute terms is much smaller than the travel and entertainment deduction.

advocates should look for ways to narrow this gap to help promote healthy competition between large and small firms and to reduce the subsidy provided to overseas operations.

- Small firms obtain a significant benefit from the partial deduction of travel and entertainment expenses and derive greater benefits from this program than do large firms. Reinstatement of the full 100 percent deduction would benefit small firms (and large firms as well but by a lesser amount). Our analysis suggests that this be a major policy priority with regard to tax policy and small business.

- Contrary to certain findings, small firms do not benefit significantly from tax credits for research and development, and may be more likely to benefit from the expensing provisions for R&D. Large business is the primary beneficiary of tax credits for R&D, but the overall impact of this program appears small in terms of reducing firms' effective tax rate.

- Accelerated depreciation is the most significant in terms of dollar impact, dwarfing all other tax expenditure programs, and favors large firms over small firms by a significant amount. The Section 179 depreciation deduction, however, helps level the playing field for small firms, and small business advocates should work to ensure the continued existence of this program.

- As would be expected, foreign tax credits favor large firms relative to small firms by a significant margin. However, there are signs that small firms are beginning to close the gap slightly over the period 1998-2000 realizing a net effective tax rate gain relative to large firms of approximately one half of a percentage point over this three year period.

Organization of Report

The rest of the report is organized as follows. Chapter II presents a description of each of the tax expenditure programs we studied as well as a review of the literature on specific tax expenditure programs. Chapter III presents the results of our analysis of the SoI data and measures the changes in effective tax rates of each program where the data permit such a computation. Chapter IV describes the case studies, including how each was selected, industry background and the results of our analysis of each industry. Finally, Chapter V presents our conclusions and policy implications stemming from this study.

Chapter II
Literature Review

In this section of our report, we discuss the results of our literature review, which enabled us to describe each of the relevant tax expenditure programs, to discuss why particular programs may have been enacted, and to review what the literature has said about the impacts of these tax expenditures.

The Concept of Tax Expenditures

Stanley S. Surrey, a former Assistant Secretary for Tax Policy in the Treasury Department during the Kennedy and Johnson administrations, first popularized the concept of tax expenditures. Surrey believed that many provisions in the Internal Revenue Code had similar economic effects to government spending. Surrey defined tax expenditures as "spending programs embedded in the Internal Revenue Code" (Surrey and McDaniel 1985, 1). The Treasury Department published the first set of tax expenditure calculations under the leadership of Surrey in 1968. Subsequently, the Congressional Budget and Impoundment Act of 1974 ("the Budget Act") mandated that a list of "tax expenditures" be included in the annual federal budget. Tax expenditures are defined under the Budget Act as "revenue losses attributable to provisions of the Federal tax laws which allow a special exclusion, exemption, or deduction from gross income or which provide a special credit, a preferential rate of tax, or a deferral of liability." As defined in the 1974 Budget Act, the concept of tax expenditures refers only to individual and corporate income taxes. Broadly defined, tax expenditures provide tax benefits that allow taxpayers the opportunity to reduce their tax liability. Indeed, some view tax expenditures as analogous to entitlement programs that distribute benefits to all eligible persons.

Both the Treasury and Joint Committee on Taxation (JCT) define and measure tax expenditures as exceptions to the normal income tax law. Each uses similar definitions of the normal tax baseline, although there are differences in their respective list of tax expenditure programs. The JCT and Treasury definitions of the normal tax baseline include personal exemptions, standard deductions, and graduated individual tax rates, but do not take into account the effects of inflation. One measures tax expenditures as the difference between tax liability under present law and the tax that would result without the tax liability reduction from tax expenditures (i.e., the revenue loss from each tax expenditure). The JCT and Treasury estimates of tax expenditures do not take into account any change in taxpayer behavior. Both JCT and Treasury estimate each tax expenditure provision separately, assuming all other tax expenditures remain in the tax code. This estimation method does not allow for an accurate arithmetical sum of all tax expenditures due to interactions among the tax expenditure provisions (U.S. Congress JCT 2002d). However, a sum of tax expenditures does provide valuable information on the relative size and importance. The Congressional Research Service (U.S. Congress, Senate Committee on Budget 2002, 2-3) classifies tax expenditures into four major categories, as summarized in Table II-1.

Table II-1
Types of Tax Expenditures

Tax Expenditure Category	Function / Effect of Tax Expenditure
Exclusions, exemptions, and deductions	Taxable income is reduced leading to a reduction in the amount of taxes paid
Special tax rates	Allows lower tax rates to be applied to part or all of a taxpayer's income
Credits	Subtracted from tax liability (credit = amount of tax reduction)
Deferrals of tax	Recognition of income delayed

Table II-2 presents the JCT and Treasury estimates of the largest tax expenditure programs affecting business. Based on our review of the data produced by the Joint Committee on Taxation and the U.S. Treasury, we have identified ten significant tax expenditure programs affecting business. As can be seen, one program, accelerated depreciation, accounts for the major portion of tax expenditures as reported by Treasury and the JCT. We have also focused on two programs, the partial deduction of travel and entertainment expenditures and the foreign tax credit that neither JCT nor the Treasury classify as tax expenditures, however, they have many of the same effects. We turn now to a discussion of the literature on each individual expenditure program we have focused on in this study.

Table II-2
Summary of Major Tax Expenditure Programs Affecting Business – FY 2003
Billions of Dollars

Tax Expenditure Program	Treasury	JCT
Accelerated Depreciation	32.7	40.7
Graduated Corporation Income Tax Rate Schedule	6.2	5.4
Exclusion of Interest on Public Purpose State and Local Government Debt	6.2	6.6
Extraterritorial Income Exclusion	5.2	4.8
Deferral of Income from Controlled Foreign Corporations	7.4	4.4
Inventory Property Sales Source Rule Exception	5.2	4.8
Tax Credit for Doing Business in U.S. Possessions	1.5	1.8
Tax Credit for Qualified Research	4.6	5.1
Expensing of R&E Expenditures	2.4	3.8
Low-Income Housing Tax Credit	2.6	2.9

The concept of tax incidence is important to understanding the full effects of certain tax expenditure programs. Tax incidence analyzes who bears the burden of a tax. The statutory incidence of a tax is the initial burden of the tax borne by those who make tax payments to the government. Economic incidence, on the other hand, measures the changes in economic welfare (real incomes) due to the tax. In contrast to statutory incidence, economic incidence takes into account changes in behavior as a result of the tax (Fullerton and Metcalf 2002). Although a tax is initially imposed on the person or entity which is legally bound to make payment to the government, the tax may be shifted to others as it induces changes in costs, prices and incomes. In this sense a tax may be viewed as a cost and to the extent market conditions allow, that higher cost embodied by the tax may be passed on to downstream markets (Stiglitz 1988). The same can be true when a tax (or other cost) is eliminated – downstream markets may benefit from the cost saving and see lower prices. This is the case with tax expenditures which represent a savings from the reduction in a tax.

Types of Tax Expenditures

Accelerated Depreciation (Sections 167, 168, and 179)

Accelerated depreciation is the largest of all business tax expenditures. Accelerated depreciation allows companies to write off the costs of their machinery and equipment at an accelerated rate, typically faster than they actually wear out. Taxpayers may deduct a larger portion of an asset's cost in the early stages of its life, which enables an asset to be fully depreciated over a period of time that is shorter than the actual useful life of the asset. Other things being equal, this allows firms to reduce their taxable income in the short term by reporting larger depreciation expenses. The Congressional Budget Office (1995, 18) describes accelerated depreciation as "an interest-free loan to businesses," because firms essentially delay the payment of taxes. From an incidence perspective, this benefit may or may not be passed on to ultimate consumers. In fact, the motivation behind this program was to spur investment as opposed to reducing prices.

JCT and Treasury measure the tax benefit of accelerated depreciation as the difference between accelerated depreciation under a declining balance method and normal depreciation under the alternative depreciation system. The alternative depreciation system mandates that depreciation costs be recovered over the midpoint of the Asset Depreciation Range (ADR) using straight-line depreciation. The ADR was a set of tax lives specified prior to 1981 that were 20 percent shorter than those established by the Treasury (Surrey and McDaniel 1985, 210). Congress (Senate Committee on Budget 2002) passed the Economic Recovery Tax Act of 1981 that restricted depreciation of equipment assets to a 150 percent declining balance over a recovery period of five years. A 150 percent declining balance is equal to 1.5 times the straight-line depreciation rate of the remaining undepreciated balance. [4]

[4] For example, an asset that originally cost $10,000 and has a 5 year recovery period, 150 percent declining balance depreciation would be $3,000 (=(1.5/5*$10,000) in the first year, $2,100 (=1.5/5)* ($10,000-$3,000)) in the second year, and so on.

Small firms may qualify for another form of accelerated depreciation. Section 179 of the Internal Revenue Code (IRC) allows a sole proprietor, partnership, or corporation to expense fully tangible property in the year it is placed in service. Section 179 in effect allows the full depreciation of business property in a single year. Without this provision, the costs associated with depreciable business property would have to be recovered over a period of years. Congress routinely reviews the amount a taxpayer can claim annually under the Section 179 deduction. The 1996 Small Business Job Protection Act (SBJPA) gradually increased the maximum Section 179 expense deduction from $18,000 in 1997 to $25,000 in 2003. The Jobs and Growth Act of 2003 increased the maximum amount of investment that may be immediately deducted from $25,000 to $100,000. Table II-3 details the Section 179 maximum annual deduction for tax years 1997-2003. Small business constituents have long supported this increase as a way to increase small businesses' ability to accumulate capital for growth and as a way to simplify tax recordkeeping, which will help reduce costs.[5]

Table II-3
Section 179 Maximum Annual Deduction for years 1997–2003

Tax Year	Maximum Deduction
1997	$18,000
1998	$18,500
1999	$19,000
2000	$20,000
2001	$24,000
2002	$24,000
2003	$100,000

However, there is a limit on the maximum annual deduction allowed for tangible property purchased that exceeds a certain limit. The SBJPA established a $200,000 spending limit, while the 2003 Job and Growth Act increased this limit to $400,000. Every dollar that this limit in purchased property results in a loss of $1 from the maximum deduction. For example, if a business purchases $530,000 of Section 179 property in 2003, the excess investment or the amount by which the investment exceeds $400,000 is $130,000. Since the excess investment exceeds the $100,000 maximum, a section 179 deduction is not permissible. On the other hand, if a business purchases $410,000 in 2003, then it can take a section 179 deduction of $90,000. A business investment greater than $200,000 plus the maximum deduction amount disqualifies a taxpayer from the section 179 deduction provision (U.S. Congress, Senate Budget Committee 2002, 259).

Because investments that exceed the maximum amount allowed under section 179 are most likely made by large as opposed to small firms, this provision benefits small firms more than large firms. One study (Holtz-Eakin 1995, 389) found that the expensing provision of section 179 reduced the cost of capital and the effective tax rate on small businesses. Further the study found that the expensing provision provided an effective subsidy to the required rate of

[5] See, for example, U.S. Small Business Administration (2000) and U.S. Small Business Administration, Congressional testimony (2003a, 2003b).

return (cost of capital) of 2.28 percentage points for firms in the 15 percent corporate tax rate bracket.

The Job Creation and Worker Assistance Act of 2002 (U.S. Congress JCT 2002b, 2) created a 30 percent first-year "bonus" depreciation deduction. This bonus depreciation provision was increased to 50 percent by the 2003 Job and Growth Act, and is in addition to the Section 179 deduction for qualified property. Eligible property for the 50 percent bonus depreciation deduction includes new property with a recovery period of 20 years or less, water utility property, and computer software not covered by section 179, and thus increases the tax benefit for small businesses. To qualify for the provisions of this new law, the property must be acquired between September 11, 2001 and September 10, 2004. In addition, the property must be placed in service before January 1, 2005. Gravelle (2003) found the 30 percent bonus depreciation provision reduced on average the effective tax rates for equipment from 26 percent to 20 percent, while the 50 percent bonus depreciation provision further reduced the effective tax rate to 15 percent.

Accelerated depreciation differs from economic depreciation. One does not calculate the depreciation deductions allowed in the estimation of tax expenditures by measuring the actual change in value of buildings or equipment as it ages. Rather, depreciation deductions are specified by law and are calculated by using an historical cost basis depreciation method. Brazell and Mackie (2000) note economic depreciation is often defined as the actual change in the value of an asset. Gravelle (1999) found that if tax deductions equaled economic depreciation deductions, then the effective tax rate on an investment is equal to the statutory tax rate. Estimates of economic depreciation are necessary to compare effective tax rates on buildings and equipment. Both McIntyre (1996) and Gravelle (1999) found the effective tax rate on equipment to be below the statutory rate due to accelerated depreciation. Gravelle (1999) and Brazell and Mackie (2000) also found that investment in equipment was "tax favored" relative to other assets; all three found a greater reduction in the marginal effective tax rate for equipment investment than in other assets.

Graduated Corporation Income Tax Rate Schedule (Section 11)

Small corporations are taxed at lower rates than the normal 35 percent statutory rate. Under this provision, corporations with less than $10 million of taxable income are subject to a graduated corporate tax structure as shown in Table II-4.

Table II-4
Graduated Corporate Income Tax Rate Schedule (As of Fiscal Year 2003)

Taxable Income	Marginal Tax Rate
$0 – $50,000	15%
$50,001 - $75,000	25%
$75,001- $100,000	34%
$100,001 - $335,000	39% (Phase-out)
$335,001 - $10,000,000	34%
$10,000,001 - $15,000,000	35%
$15,000,001 -$18,333,333	38% (Phase-out)
$18,333,334 and up	35%

The graduated schedule taxes the first $50,000 of income at a rate of 15 percent, rising to a rate of 25 percent on the next $25,000 of income, and up to a 34 percent rate thereafter until income reaches $10 million. However, the tax benefit of the 15 percent and 25 percent brackets are only intended for small firms. To prevent larger corporations from splintering their operations by forming small businesses to take advantage of the low tax rates, there are two "phase-out" ranges that result in higher tax rates as firms shift into the higher taxable income categories (U.S. Congress CBO 1995). Therefore, firms with income of $100,001 or more are subject to a 5 percent tax to phase out the benefit of the 15 and 25 percent brackets. The 5 percent tax creates a 39 percent bracket for taxable income between $100,001 and $335,000. Once a firm reaches $335,001 of taxable income, it is taxed at 34 percent until it reaches $10,000,001 in taxable income. The 38 percent bracket phases out the 34 percent bracket for firms with taxable income in excess of $15 million. Thus, the benefits of a graduated corporate tax structure are effectively eliminated for corporations with taxable income in excess of $335,000. When the tax rate increases to 38 percent in the $15 million range, a similar phase out is implemented to deter large companies from taking advantage of this provision. Although the graduated corporate tax rates are intended to benefit small firms, the two phase-out ranges discourage firms from expanding such that they hit these high tax rates (U.S. Congress Senate Committee on Budget 2002, 268).

The tax expenditure estimate for this program is equal to the difference between the amount of taxes paid under the graduated structure and the tax owed if all income were taxed at a flat 35 percent rate. Experts in the literature disagree about the impact of this program, especially as it relates to small business. According to McIntyre (1996), the graduated income tax offers little benefit to a majority of business owners who make less than about $60,000. He believes that married business owners will remain in the 15 percent personal income tax bracket until they reach about $60,000 in income. Therefore he reasons they receive no tax benefit from incorporating and paying the lower corporate rate as opposed to not incorporating and paying personal income taxes on their profits. Holtz-Eakin (1995, 393) contends that the graduated tax helps "young" small businesses, but the phase-out rules create disincentives for small firms to grow. He argues that as small firms grow, so does their cost of capital under these tax regimes. Contrary to McIntyre, Guenther (2001, CRS-3) believes the graduated tax rate structure benefits small businesses because their taxable income most likely remains below the $335,000 cutoff point. He also argues the reduced rates on corporate taxable income provide an incentive for

sole proprietorships to incorporate. Guenther believes the lower corporate tax rates can benefit individuals who are very well off by providing them with a tax shelter, whereby they may split their incomes between the personal and corporate tax schedules. Under this scenario, individuals avoid high personal income taxes by placing profits into corporations at a lower tax rate.

Exclusion of Interest on State and Local Government Debt
(Section 103 & 141)

The interest income earned by individuals and corporate buyers of state and local bonds is tax-exempt. These tax-exempt bonds are classified as either governmental bonds or private activity bonds. Governmental bonds are issued to help finance a public purpose, such as schools and highways. For a bond to be considered a governmental bond, less than 10 percent of the proceeds must be used directly or indirectly by a non-governmental entity or by property used in a trade or business. These governmental bonds can be issued in unlimited quantities. Bonds that do not meet these two criteria but still provide both public and private benefits are referred to as private-activity bonds. In contrast to governmental bonds, there are limitations on the amount of qualified private-activity bonds that can be issued. In 2001, all government entities within a state were limited to the greater of either $62.50 per resident or $187.5 million. The rationale for tax exemption of local and government bonds is based on the economic argument that without tax exemption, state and local governments would raise an inadequate amount of capital, i.e., these markets are not efficient (Fortune 1998, 48). There has been considerable debate regarding the efficiency of the tax-exempt bond market and whether it should qualify for special tax-exempt status.

There are three fundamental aspects to the efficiency in the tax-exempt bond market: the share of the federal revenue loss in tax-exempt bonds; reduced state or local government interest expenses; and the windfall gains for the buyer of the bonds. Many economists believe the tax-exempt bond market is inefficient. Ettlinger (2002, 126) points out that exempting the interest earned on state and local government bonds actually results in lost revenues for the federal government that are greater than the savings in interest payments for state and local governments. He also argues the tax-exempt bond market favors wealthy individuals and large corporations. According to Ettlinger, corporations (especially banks) in the 35 percent tax bracket, claim approximately one-third of all tax-exempt bonds due to their ability to invest a greater percentage of income in these bonds. He estimated 27 percent of the total subsidy for tax-exempt bonds is claimed by C-corporations in the form of interest savings and windfall gains.

The concept of tax incidence plays an important role in the analysis of this tax expenditure program. The amount of tax savings per dollar of each tax-exempt bond increases with the taxpayer's marginal tax rate. Thus, firms in the 35 percent tax bracket would save $35 in tax for every $100 of interest, whereas firms in the 34 percent bracket would save a dollar less. In addition, the tax savings from tax-exempt bonds is passed onto state and local governments in the form of a lower cost of capital, which should increase state and local capital investment.

Foreign Tax Credit (Section 901)

The Foreign Tax Credit (FTC) allows U.S. corporations to reduce the potential impact of double taxation. U.S. firms are subject to U.S. taxation on their worldwide income. The FTC permits a dollar-for-dollar offset of U.S. tax liability, subject to certain limitations, for foreign income taxes paid to foreign countries. The Revenue Act of 1921 limited the foreign tax credit to an amount equivalent to the U.S. tax on foreign source taxable income. The FTC is calculated by multiplying U.S. tax liability by the ratio of foreign source to worldwide income. Foreign taxes in excess of U.S. income tax on foreign source income may be carried back to the two preceding years by filing an amended return or carried forward five years. Foreign taxes may be used as a credit during those years, subject to the current-year foreign tax credit limitation. In short, a firm may only claim a foreign tax credit if it earns foreign source income, pays foreign income tax on the foreign source income, and has a U.S. income tax liability.

While the JCT and Treasury do not view the FTC as a tax expenditure because its intent is to prevent double taxation of foreign source income, we believe it is important to measure the impact of this program due to its large magnitude and its interaction with other provisions of the Internal Revenue Code, as well as literature that indicates the FTC provides certain tax benefits.

By the nature of its design, multinational corporations that have extensive overseas operations claim a greater percentage of foreign tax credits than small firms that lack overseas operations. Desai and Hines (1998) found American firms claimed more excess foreign tax credits as a result of the Tax Reform Act of 1986 (1986 TRA). This infusion of excess foreign tax credits held by multinational firms significantly affected the organizational structure of U.S. business activity overseas, which subsequently resulted in a sharp decline in U.S.-owned international joint ventures. The authors cite the 1986 TRA's reduction in the U.S. corporate tax rate from 46 to 34 percent and the additional limitations placed on the FTC that prevented the use of excess foreign tax credits to eliminate the U.S. tax liability on income from joint ventures in low tax countries. Altshuler and Fulghieri (1994) found the opportunity cost of investment could either increase or decrease depending on where and when multinationals use their excess foreign tax credits. They found multinationals claiming excess foreign tax credits earlier in the five-year allowable carryfoward period will increase the cost of capital for investments in high tax countries and vice-versa.

In addition, there is literature indicating large firms with more extensive foreign operations are able to reduce their U.S. tax liability more easily through tax planning strategies than small firms with limited if any overseas operations (Grubert and Slemrod, 1996). Leblang (1998, 181-182) claimed U.S corporations with foreign operations have a lower tax rate than U.S. corporations with no overseas business. McIntyre (1999) argued before the House Committee on the Budget that an increasing number of American multinational companies are able to reduce their effective tax rate by utilizing the numerous tax expenditure programs related to international operations. On the other hand, Rego (2002) found evidence that seems to conflict with the assertions of Grubert, Slemrod, and Leblang. Rego found that without controlling for foreign operations, large corporations, including multinational firms, do indeed have lower effective tax rates. However, she found that when one controls for firm size and pre-tax income

on the extent of foreign operations, firms with more extensive foreign operations have higher effective tax rates.

Extraterritorial Income Exclusion (Sections 114 & 941-2)

The extraterritorial income exclusion (ETI) allows U.S. firms to exclude a portion of their export or foreign trade income from gross income. The ETI is the latest in a series of measures designed to provide a tax incentive to promote exports. The Domestic International Sales Corporation (DISC) provision was enacted in 1971 as the first such measure followed later by the foreign sales corporation (FSC) and then the ETI. The DISC provision encouraged U.S. firms to create subsidiaries through which export sales could be conducted. The DISC program allowed a portion of income from export sales to be deferred until it was distributed back to its parent, usually in the form of a dividend (Brumbaugh 2000). The countries of the European Economic Community (EEC) quickly criticized the DISC provision as an illegal export subsidy, and thus a violation of the General Agreement on Tariffs and Trade (GATT) (Lederman and Hirsh 2001, 174).

Congress replaced the DISC with the Foreign Sales Corporation (FSC) provision in 1984. The FSC provision allowed for a portion of a U.S. firm's export income to be tax-exempt. To adhere to the GATT Council, the FSC provision established guidelines to determine eligibility and the size of the tax benefit allowed (Lederman and Hirsh 2001, 174-175). As a result, a U.S. exporter had to establish a subsidiary in one of four U.S. possessions (American Samoa, North Mariana Islands, Guam, or the U.S. Virgin Islands) or a qualified country.[6] The requirements for FSCs included that there be no more than 25 shareholders; that they maintain an office outside the United States where a principal bank account was established; that at least one person who was not a U.S. resident be included on the board of directors; and that they partake in activities classified as "economic processes." These activities included: advertising, processing of orders, delivery of goods to customers, transmittal of invoices and receipt of payment, and the assumption of credit risk (Funk 2001).

The amount of tax-exempt income allowed for U.S. export firms depended on the allocation method used to divide the income between the parent and the FSC. If a firm determined the FSC income by arm's-length pricing rules under Section 482, 30 percent of the FSC's income would be tax-exempt. If a firm used either of the two administrative methods, 15/23 of the FSC's income would be tax-exempt (16/23 if the firm did not pay corporate taxes) (Funk 2001, 6). Brumbaugh (2000, CRS-5) calculates that under these rules, the FSC tax exemption for U.S exporting firms would always range between 15 and 30 percent of income.

The Foreign Sales Corporation Repeal and Extraterritorial Income Exclusion Act of 2000 (which took effect September 30, 2000) created the extraterritorial income exclusion (ETI) tax expenditure program. The ETI program is similar to the FSC provision it replaced, but with several notable differences. A firm no longer has to establish a subsidiary to sell exports. Although the ETI provision states that extraterritorial income is exempt from U.S. tax, the

[6] A qualified country had to have a tax information exchange agreement under the Caribbean Basin Economic Recovery Act of 1983. See Lederman and Hirsh (2001).

definition of this income is gross income resulting from the sale of qualified "foreign trade property" (Funk 2001, 9). The ETI defines qualified "foreign trade property" differently in two ways. First, qualified property can now be produced in the United States or abroad. Second, no more than 50 percent of the qualifying property's value can be attributed to foreign labor costs (U.S. Congress JCT 2002c, 4). The ETI definition of qualified tax-exempt income is broader in scope than the FSC definition, because it allows foreign-produced property to be included in a firm's tax-exempt income. The amount of tax-exempt income under ETI is equal to either 1.2 percent of foreign trade gross receipts, 15 percent of foreign trade income, or 30 percent of foreign sale and leasing income (U.S. Congress JCT 2002c, 3-4). Brumbaugh (2002, CRS-4) determined the size of the ETI tax benefit to be essentially the same as allowed under the FSC provisions, ranging from 15 percent to 30 percent of export income from taxes.

By eliminating the need for a firm to establish a separate entity in order to obtain a tax benefit on its export income, the ETI tax expenditure program allows small businesses to enjoy a potential tax benefit that they otherwise were unable to receive. Lederman and Hirsh (2001, 182) argue that the costs associated with creating and maintaining a FSC prohibited small businesses from collecting a tax benefit on export income. However with the abolition of the FSC provision, small firms should find it easier to realize a tax benefit.

Some economists have viewed the FSC and ETI provisions as being harmful to the U.S. economy. Brumbaugh (2002, CRS-5) found the FSC provision increased U.S. exports by reducing the required rate of return of investment prior to taxes. He also found the FSC tax expenditure program reduced the effective tax rates on an exporting firm by a minimum of 4 percentage points. However, Brumbaugh points out that economic theory suggests that exchange rate adjustments will likely diminish the impact that the FSC or ETI provisions have in increasing exports. According to economic theory, international tax benefits should lead to an increase in foreign purchases of U.S. exports, which would then result in an increased demand for U.S. dollars. This increased demand for dollars would cause the value of the dollar to increase relative to other currencies, effectively making U.S. exports more expensive. Brumbaugh estimates the FSC provision increased both imports and exports by only two-tenths of one percent. Rousslang, and Tokarick (1994) provide empirical evidence suggesting U.S. welfare would be increased, as would the U.S. terms of trade if the sales source rules and the FSC provisions were both eliminated.

Deferral of Income from Controlled Foreign Corporations (Sections 953 & 954)

Firms incorporated in the United States are taxed based on their worldwide income. However, foreign subsidiaries that are at least 50 percent owned by U.S. shareholders are taxed only on their U.S. source income (Yoder 1999). Under the deferral provision, a U.S. firm's foreign source income earned through a foreign subsidiary is only taxed when it is repatriated to the U.S. parent. When foreign income is repatriated, usually in the form of a dividend, the U.S. parent is allowed a tax credit for the foreign taxes the subsidiary has paid.

U.S. firms in the 1950s were taking full advantage of the deferral provision by operating subsidiaries in low-tax countries. In response to the perceived increased outflow of U.S. capital

and the Kennedy Administration's push to reduce the use of the deferral provision, Congress enacted Subpart F of the Internal Revenue Code (sections 951-964) (U.S. Treasury, Office of Tax Policy 2002, 10), which taxes a foreign subsidiaries' sales, services, and certain elements of income on a current basis. Subpart F provisions were intended to mitigate the effects of the deferral of foreign-sourced income.

There is little disagreement about whether this tax expenditure provision has had a harmful impact on business. The Treasury (Office of Tax Policy 2002, 56-61) found no conclusive evidence that Subpart F harms the competitiveness of U.S. firms. Treasury (Office of Tax Policy 2002, 57) estimated the effective tax rates of U.S.-owned foreign subsidiaries abroad were 10 percent lower than the effective rates for domestic firms. Using average effective tax rates and data on labor and capital, Hines and Rice (1994) concluded that U.S. subsidiaries in foreign countries with lower effective tax rates reported higher profits than subsidiaries in countries with higher effective tax rates. They found that a significant portion of American companies' foreign activity takes place in low-tax rate countries, and that foreign direct investment is sensitive to changes in taxes. Rousslang (1997) uses data on assets, sales, income, income taxes, and dividend distributions to measure the amount of income U.S. firms in the manufacturing sector shifted to low-tax rate countries. He found that foreign subsidiaries of U.S. firms did shift substantial amounts of income from high tax rate countries to countries with a low tax rates. Rousslang also discovered a modest shift in income resulting from sales operations, which possibly may have been due to Subpart F. However, Rousslang offers no conclusive evidence that Subpart F was the primary factor in the modest shift in sales operations income to tax haven countries.

Inventory Property Sales Source Rule Exception (Sections 861, 862, 863, and 865)

The Internal Revenue Code includes a number of rules that define the source (i.e., whether it is foreign- or U.S.-generated) of different items of income. Gross income resulting from the sale of personal property is sourced according to the residence of the seller (the residence rule); thus U.S. exports of personal property generate U.S. rather than foreign source income (U.S. Congress, Senate Committee on Budget 2002, 40). In response to concerns that the residence rule would discourage U.S. businesses from exporting, Congress provided an exception for property carried as inventory. Inventory that is purchased and resold is sourced according to the title passage rule: the income is sourced to the country where the sale takes place. Inventory that is manufactured in the U.S and sold by firms abroad has a divided source of income, where half of the income generated from the inventory property is U.S. source and the other 50 percent is deemed to be foreign source income (U.S. Congress CBO 2001). Under these rules, a U.S. firm that manufactures inventory in the United States but sells it overseas receives a tax exemption on 50 percent of the generated income. This effectively allows U.S. firms to shift or allocate more income generated from inventory exports as foreign-sourced, thereby increasing the amount of foreign taxes that can be credited.

In theory, U.S. multinational corporations are required to pay U.S. tax on their worldwide income, including the income earned through subsidiaries in a foreign country. Foreign countries also tax the income of these subsidiaries. In an effort to alleviate double taxation on

foreign source income, U.S. tax law allows firms to credit income taxes paid to foreign governments against what they would have owed in U.S. income taxes. Put another way, foreign taxes are only allowed to offset those U.S. taxes that relate to a firm's foreign rather than domestic source of income. The credit on foreign income cannot exceed what would have been owed in the United States, which prohibits firms from receiving a tax credit if foreign taxes exceed U.S. taxes on foreign income. However, under this scenario firms can collect what are known as excess credits (U.S. Congress CBO 1995, 20). Firms with excess credits can reduce U.S. taxes further by sourcing additional income as foreign in nature (U.S. Congress CBO 1995, 39). Thus, the source of income plays a vital role in determining a firm's tax liability.

Rousslang (1997, 2) indicates that firms with excess foreign tax credits receive greater tax savings by electing not to use a Foreign Sales Corporation to sell exports. He found the effective tax rate for firms with excess foreign tax credits that elected not to use a FSC to be 17.5 percent, while firms that used a FSC had a higher effective tax rate of 29.75 percent. He also found that a majority of companies which benefit from the sourcing rules do not receive an export stimulus. In an earlier study, Rousslang (1994, 4) provides evidence that indicates the export source rules increased U.S. exports by only a very small amount. He found that U.S. exports would have decreased by $518 million (only 0.2 percent of total U.S. merchandise in 1990) had there not been these export sourcing rules in 1990.

Tax Credit for Doing Business in U.S. Possessions (Section 936, 30A)

The possessions tax credit contained in Section 936 of the Internal Revenue Code and the Puerto Rican economic activity tax credit in Section 30A allow U.S. corporations that conduct business operations in U.S. possessions a tax credit to offset a portion of their U.S. tax liability. The principal purpose of the provision is to encourage U.S. corporations to conduct business operations and thereby increase employment in the following U.S. possessions: Puerto Rico, the U.S. Virgin islands, Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands (U.S. GAO 1997). To qualify for the possessions tax credit, a firm must satisfy two income requirements. First, 80 percent of a firm's income must be generated from within the U.S. possession; and second, a firm must earn at least 75 percent of its gross income from the active conduct of a business or trade in the possessions.

The U.S. possessions tax credit has undergone several significant changes since its inception in 1921. Prior to 1994, companies operating in U.S. possessions were allowed an unrestricted tax credit for income earned in U.S. possession territories. As a result, firms were allowed effectively to exempt their entire U.S. possession source income from U.S. taxes (Miller 1999, 170). The manufacturing sector, specifically the pharmaceutical and electronic industries, have been the primary benefactors of this tax credit due to their ability to transfer income earned from intangible property and to establish transfer prices that permitted them to shift income to lower tax U.S. possession territories (Suarez 2000, 64). Pharmaceutical companies accounted for 53 percent of all tax credits claimed in 1995 under this program (Miller 1999, 170). Grubert and Slemrod (1998, 368) confirm that the pharmaceutical industry is a major benefactor of this program, citing Statistics of Income data for 1987, which revealed the average annual return of Puerto Rican possessions companies for the manufacturing sector to be 98.5 percent, while the

pharmaceutical industry enjoyed a 138.6 percent operating rate of return. In addition, Suarez found pharmaceutical and electronics firms benefited the most from this program by transferring ownership of their products (including various intangible assets) to their island affiliates, and their ability to invest and repatriate profits from these possessions without incurring U.S. tax liabilities.

The Omnibus Budget Reconciliation Act of 1993 placed a limit on the U.S. possessions tax credit effective January 1994. To compel companies to increase their investment in labor and capital in U.S. possessions (i.e., in tangible as opposed to intangible assets), Congress limited a company's maximum possessions tax credit by either a percentage limitation or by the economic activity method (Miller 1999, 170). The percentage limitation method reduced the credit to 40 percent of the credit a firm could have received prior to 1994. The economic activity method limited the tax credit to specific amounts of labor (usually 60 percent) and depreciation (varies depending on type of property) expenses incurred for the year. Firms that had a larger share of depreciation and labor expenses than profits usually chose this method (Miller 1999, 170-175).

In 1996 Congress enacted a partial repeal of the possessions tax credit under the Small Business Job Protection Act (SBJPA) (Suarez 2000, 145). Only firms that claimed a possessions tax credit prior to 1995 could receive the credit following the SBJPA. The SBJPA also included a provision that effectively ends the possession tax credit in 2005.[7] It appears the changes made in 1993 (as well as the 1996 changes) made it more difficult for firms to earn a tax credit under this provision of the tax code, even though there have never been a large number of firms who claim a possessions tax credit. In fact, only 353 firms claimed a credit in 1995. Miller (1995, 168-170) found the number of firms that claimed a possessions tax credit in 1995 declined 10.6 percent or $1.5 billion from 1993.

Tax Credit for Qualified Research (Section 41) and Expensing of Research & Experimental (R&E) Expenditures (Section 174)

The tax credit for qualified research expenditures, also known as the Research and Development tax credit (R&D), was enacted as Section 41 of the Internal Revenue Code with the passage of the Economic Recovery Tax Act of 1981. The credit is an incentive program designed to increase private sector research. Congress has never made the credit a permanent part of the Internal Revenue Code, but has extended it a total of ten times. The credit is scheduled to expire on June 30, 2004.

A second program, section 174 of the Internal Revenue Code, allows firms to deduct the entire cost of qualified research in the year in which those costs were incurred. Alternatively, a firm could recover these costs by treating them as an investment, and therefore depreciate them over a period of at least 60 months. Firms have been able to deduct research and development (R&D) expenditures from taxable income since 1954. There are however certain limitations on the research expenditures that can be expensed. Treasury regulations define these expenditures as "research and development costs in the experimental or laboratory sense." Expenditures on structures and capital equipment used in a firm's R&D cannot be expensed, but rather recovered

[7] The U.S. Possessions Credit has been phased out until 2005 when it will be completely repealed.

by claiming depreciation deductions permitted by the tax code. When Congress enacted the R&D tax credit in 1981, firms were allowed to enjoy the full tax benefits of both the R&D credit and expensing provisions. However, in 1988 Congress created an expensing adjustment to reduce these benefits. This adjustment reduced the deduction allowed under section 174 for qualified research expenses to 50 percent of the R&D tax credit claimed. The Omnibus Budget Reconciliation Act of 1989 increased this reduction to 100 percent. As a result, the amount a firm can expense R&D expenditures is reduced by the amount of any R&D credit claimed. This expensing adjustment in effect taxes any R&D credit claimed, since the amount of the R&D credit claimed is added back to a firm's taxable income.

Even though the R&D tax credit has been modified several times over the course of ten extensions, the basic calculation for the credit has remained the same: the credit is equal to qualified research expenditures that exceed a base amount, multiplied by the statutory credit rate, then by deducting this amount from the corporate income tax rate (U.S. Congress OTA 1995, 8).

The definition of qualified research and expenditures has sparked considerable debate and confusion. A 1995 report by the General Accounting Office (U.S. GAO 1995, 9) found the IRS encountered a considerable amount of difficulty in properly identifying qualified research for the credit. In a 1989 GAO survey, one-fifth of IRS agents responsible for administering the credit claimed the definition for qualified research was ambiguous. In an attempt to clarify this confusion and eliminate loopholes, the IRS issued final regulations in 1994 that defined what research and expenditures qualified for credits under IRS section 41.

In 1981, the R&D tax credit was equal to qualified research expenditures that exceeded a base amount equal to the average qualified research expenditures of the past three years multiplied by a credit rate of 25 percent. The 1981 provision required that the base amount be at least 50 percent or more of a firm's qualified research expenditures. The R&D tax credit has always been incremental in design in order to provide firms with an incentive to increase their R&D expenditures above a level they would spend without the tax credit (U.S. Congress OTA 1995, 9). There was one major flaw in this design, however: the credit's incentive would diminish as firms increased their research expenditures. This occurs because a firm's base amount would consequently increase, thereby reducing the amount of the credit (Guenther 1999, CRS-4).

The passage of the Tax Reform Act of 1986 significantly modified the R&D tax credit. The Act lowered the credit rate from 25 to 20 percent, and created a separate credit for expenditures relating to research conducted by universities for businesses. This separate research credit was designed to encourage businesses to increase donations to universities for basic research (Guenther 1999, CRS-4).

There have been more recent changes to the calculation of the R&D credit. Firms today calculate their credit for qualified research expenditures based on three different methods. The first two methods were enacted as part of the Omnibus Business Reconciliation Act of 1989 (OBRA), which revised the definition of a firm's base amount. OBRA replaced the moving average of research expenditures for the previous three years with a fixed base percentage for calculating a firm's R&E tax credit. The fixed base percentage is equal to the ratio of a firm's

qualified research expenditures from 1984-1988 to its gross income for the same period, but which cannot exceed a ratio of 0.16. This fixed base percentage is then multiplied by the firm's previous four years average gross income to determine the base amount of qualified research expenditures that a firm must exceed in order to receive the R&D tax credit. The base amount cannot be smaller than 50 percent of a firm's current research expenditures (Guenther 1999, CRS-1-CRS-5). For start-up firms that did not exist during the period 1984-1988, a fixed base percentage of 0.03 is assigned (Guenther 1999, CRS-5).

The Small Business Job Protection Act (SBJA) in 1996 enacted the last significant modification to the R&D credit and created an alternative three-tiered incremental research credit, or AIRC. The Act increased the percentage of non-profit contract research expenditures eligible for the tax credit from 65 to 75 percent (Guenther 1999, CRS-5). The AIRC was specifically designed to help small businesses that were unable to qualify for the R&D credit under the other two methods (Guenther 1999, CRS-2). The AIRC assigns three fixed rates of credit to research expenditures in an incremental structure. The increments are the percentages of the previous four years average gross receipts. Table II-5 shows the AIRC rates.

Table II-5
AIRC Credit Rates

Fixed Base Parentages	Credit Rate
1.0% to 1.5%	2.65%
1.5% to 2.0%	3.20%
Greater than 2.0%	3.75%

Source: U.S. Congress, Senate Committee on Budget (2002, 47).

Since the R&D tax credit was enacted in 1981, large firms have been the primary beneficiaries. Reports by the Office of Technology Assessment (OTA) and General Accounting Office (GAO) have found that large firms, especially manufacturing firms, have accounted for an overwhelming majority of the R&D tax credits. The OTA (1995, 19) found that in 1992, firms with $10 million or less in assets received only approximately 11 percent of the R&D credit, while firms with $250 million or more in assets claimed 70 percent of the credit. The GAO (1995, 14) reported findings similar to the OTA; in 1992, 74 percent of the R&D credits were claimed by firms with assets in excess of $250 million, while only 16 percent of the credits were claimed by firms with assets of $10 million or less. Both the OTA and GAO found that manufacturing firms claimed 76 percent of the R&D credits in 1992. These studies indicate the R&D tax credit favors large businesses substantially more than small businesses.

Economists have also analyzed the effectiveness of the R&D tax credit in providing an incentive for firms to increase research spending. Although the expensing adjustment in effect adds the R&D credit back to a firm's taxable income, Guenther (1999) argues firms can circumvent this caveat by claiming a smaller R&D tax credit than they are permitted. By adding the current corporate tax rate of 35 percent for most firms, the effective rate of the R&D credit is reduced from 20 percent to 13 percent (0.20 * (1-0.35)). Hall (1993, 29) found the R&D credit prior to the changes of the 1989 OBRA was more effective than previously thought. He found the credit generated an additional $2 billion per year in R&D spending. This would be an indication that firms did not pass on the benefit of the credit directly, but rather the benefit was

passed on in the form of more innovation and development of new technology stemming from greater R&D spending.

Low Income Housing Tax Credit (Section 42)

Enacted as part of the Tax Reform Act of 1986 and made permanent in 1993, the Low-Income Housing Tax Credit (LIHTC) provides a tax subsidy to investors of low-income housing units. The rationale behind the LIHTC is to encourage the acquisition, construction, and rehabilitation of housing units for low-income families. State housing authorities administer the LIHTC program by distributing the credits to developers (i.e., owners of housing projects). To raise capital for housing projects, most developers sell their 10-year stream of tax credits to private investors.

A housing project must satisfy certain criteria to qualify for a tax credit. A low-income housing project by definition is required to have a certain number of units reserved for low-income tenants. The 40/60 occupancy rule and the 30/60 price rule are the two tests used to determine whether residential rental housing units qualify as a low-income housing project. Under the 40/60 occupancy rule, families with less than 60 percent of the area median must occupy 40 percent of the units in a rental housing project. The 30/60 price rule requires the rent charged on low-income housing units be limited to 30 percent of the 60 percent of area median income. In addition, project owners are required to provide low-income housing units for a minimum of 30 years. However, they are able to break this agreement after 15 years by selling the project at a controlled price or if the housing authority cannot find a buyer willing to maintain the project for low-income families.

The LIHTC allows taxpayers to claim a tax credit over a period of 10 years for a portion of the depreciable costs associated with the acquisition, construction, and/or rehabilitation of low-income housing units. There are two levels of tax credits. The first level is equal to an amount that has a present value up to 70 percent for costs associated with the construction or renovation of low-income housing units that do not receive additional federal subsidies, such as tax-exempt bond financing. A reduced credit of a present value up to 30 percent is granted for the cost of acquiring a qualified housing unit and construction and renovation cost that receive other federal subsidies.

To prevent project owners and investors from earning excess profits, states are limited to the amount of credits they can distribute. The Tax Reform Act of 1986 originally established an annual per-resident limit of $1.25 for low-income housing projects not financed with tax-exempt bonds. However, under the Community Renewal Tax Relief Act of 2000 (P.L. 106-554), the LIHTC increased to $1.50 per state resident in 2001, $1.75 in 2002, and starting in 2003 the limit will be adjusted for inflation. The Congressional Research Service (U.S. Congress, Senate Committee on Budget 2002, 207) found corporations, primarily banks and the government-sponsored mortgage houses, Fannie Mae and Freddie Mac, claim the largest percentage of LIHTCs. Clearly a motivation for this program is the expectation that the benefit of the credit will be passed on to ultimate consumers (occupants) in the form of lower rental or purchase costs.

Travel and Entertainment Deduction (Section 274)

The Tax Reform Act of 1986 enabled companies to deduct 80 percent of the cost of business meals and entertainment. The Budget Reconciliation Act of 1993 lowered the deductible amount to only 50 percent. Business meal and entertainment expenses are eligible for a deduction if they meet at least one of two criteria.

1. The entertainment or meal must be "directly related" to the active conduct of the taxpayer's business. This means business must be the primary purpose of the meal or entertainment.

2. The entertainment or meal must be "associated with" the taxpayer's business. This means the meal or entertainment expense precedes or follows a substantial business discussion.

Numerous small business organizations have argued the travel and entertainment deduction provides small firms with a cost-effective means to market and develop their supplier and customer relationships. The National Restaurant Association, National Federation of Independent Businesses, National Association of Women Business Owners (NAWBO), and the National Business Association all argue that small businesses depend heavily on this program to grow their businesses.[8] In testimony before the House Committee on Ways and Means, Michael A. Wolyn, Executive Director of the National Alliance of Sales Representatives Association, cited findings from a M/A/R/C study that found the business meal and entertainment deduction is largely utilized by small businesses and the self-employed. A 1999 press release by the House Small Business Committee Chairman, Jim Talent (R-Mo.), cited the same M/A/R/C study in introducing a bill that would have increased the business meals and entertainment deduction to 80 percent.[9] Furthermore, the White House Conference on Small Business (U.S. SBA 2000, 42) made restoring this deduction to its original 100 percent threshold one of its top priorities.

[8] Terry Neese, former president and currently a consultant to the NAWBO, argued the importance of the business and meal and entertainment deduction to small businesses in her testimony before the House Small Business Committee on June 8, 2000: "Small and women-owned business typically rely on close personal relationships…Expenditures for meals and entertainment are often an important part of this effort."

[9] The M/A/R/C research found that small companies with 100 or fewer employees account for one-fifth of business meal users. http://www.house.gov/smbiz/pres/106th/1999/990318.htm

Chapter III
Analysis of Tax Data

Overview

In this chapter we discuss our findings based on our review and analysis of the data provided by the Corporation Statistics Branch of the Internal Revenue Service Statistics of Income (SoI) Division, as well as other data published by the SoI (U.S. Treasury IRS 2001, 2002, and 2003). The Corporation Statistics Branch has provided detailed data on the following tax expenditure programs:

- Foreign tax credit[10]
- U.S. possessions credit
- Tax-exempt interest on government securities
- Low income housing tax credit
- Research and development credit
- Accelerated depreciation and section 179 deduction
- Partial deduction for travel and entertainment expenses

Because of confidentiality issues or lack of specific data, SoI was unable to provide us with data on the other programs described in Chapter II.

These expenditure programs, excluding the foreign tax credit and the partial deduction for travel and entertainment expenses, represent 60 percent of the total tax expenditures provided to industry during the three-year period we examined (1998-2000). Treasury and JCT identified these programs as among the most significant in terms of dollar impact of all tax expenditure programs.[11] Even though the JCT and Treasury do not measure the dollar impact of either the foreign tax credit or the partial deduction for business travel and entertainment expenses, others have estimated these two programs to be among the largest programs claimed by corporations. The Century Foundation (2002, 134-135) estimated the partial deduction for business travel and entertainment expenses would amount to $36 billion over the five-year period 2000-2004. Along with Singmaster and Helibronner (2002, 177), we found corporations claimed $37.3 billion in foreign tax credits for 1998.

To evaluate the impact of each program on small and large firms in various industry sectors, we obtained data on the magnitude of each tax expenditure program broken out by firm size category. We defined three categories of firm size: (1) small firms with annual sales (receipts) less than $5 million; (2) medium size firms with receipts between $5 and $10 million; and (3) large firms with receipts greater than $10 million. When we consulted with the SoI concerning our data request, we both agreed that these size categories would allow their statisticians to provide us with the most accurate and expedited delivery of our requested data.

[10] As mentioned in Chapter II, the JCT and Treasury do not classify either the Foreign Tax Credit or the partial deduction for travel and entertainment expenses as tax expenditures.

[11] This 60 percent figure is a weighted average for the years 1998-2000 based on tax expenditure estimates reported in the following two sources: U. S. Congress (JCT 1998, 1999, 2001, 2002a) and OMB (1999, 2000, 2001, 2002).

We computed the impact of each program on the effective tax rate[12] paid by firms in each size category for each of the 18 NAICS industry sectors for which we had complete data. Thus, we calculated the difference between tax liability under present law and the tax liability that would result if there were no tax expenditure program and the consequent effective tax rates.

For two programs relating to depreciation, we were unable to compute effective tax rates due to the lack of data on the underlying basis upon which the depreciation was computed. Businesses depreciate many different types of assets that have varying capital bases and useful lives. Without data on the initial bases or the useful lives, we were unable to compute the effective tax rate with and without the effects of accelerated depreciation. However, we have provided a measure of the significance of each program by comparing the amount of claimed depreciation as a percentage of total sales revenue.

Results of Data Analysis

Our analyses found accelerated depreciation, the foreign tax credit, and tax-exempt interest on government securities were the three largest tax programs in terms of dollar impact. Large firms tended to receive greater benefits, especially with regard to the foreign tax credit. Small firms benefited most from the travel and entertainment deduction as well as accelerated depreciation and tax-exempt interest, although these impacts varied significantly across different industries. Table III-1 presents a summary of the impact of each expenditure program by firm size classification in terms of the reduction in the effective tax rate and corresponding dollar value. Appendix C provides more detail on how we computed effective tax rates and the changes in effective tax rates for each program.

[12]A firm's effective tax rate is the percentage of actual income tax paid divided by taxable income.

Table III-1
Summary of Tax Impact of Various Tax Expenditure Programs: 1998-2000

Tax Program	Business Receipts < $5M		Business Receipts $5M -		Business Receipts > $10M	
	Percentage Point Reduction in Effective Tax Rate	$ Equivalent ($000s)	Percentage Point Reduction in Effective Tax Rate	$ Equivalent ($000s)	Percentage Point Reduction in Effective Tax Rate	$ Equivalent ($000s)
Foreign Tax Credit	0.13%	$43,342	0.20%	$23,009	2.18%	$14,434,417
U.S. Possessions Credit	0.03%	$6,253	0.11%	$13,038	0.27%	$1,753,089
Tax-Exempt Interest on State and Local Bonds	0.58%	$752,976	0.69%	$926,995	0.53%	$16,082,752
Low-Income Housing Tax Credit	0.02%	$5,802	0.10%	$8,767	0.38%	$1,560,610
Research and Development Credit	0.05%	$14,378	0.18%	$17,488	0.46%	$2,629,021
Partial Deduction for Travel and Entertainment Expenses	0.86%	$1,158,757	0.22%	$264,306	0.11%	$3,226,450

Source: IIC, Inc. Analysis based on SoI Custom Tabulations and U.S. Treasury (IRS, 2001, 2002, 2003).

To calculate the impact of each tax expenditure program, we assume that only the program in question is eliminated and that all other aspects of the tax law remain the same. As we discussed in Chapter II, this assumption is important as it would be incorrect to take the arithmetical sum of all tax expenditure impacts because such a sum would not take into account the interaction of individual tax expenditure programs.

Table III-1 indicates large firms (firms with more than $10 million in revenues) benefited most from the foreign tax credit (FTC), realizing a reduction in the effective tax rate of approximately 2.18 percent. Small firms, on the other hand, realized an effective tax rate reduction of only 0.13 percent, a significant discrepancy. The item labeled "dollar equivalent" represents the dollar amount that corresponds to the percentage point reduction in effective tax rates. Thus it is measured as is the difference in the amount of taxes paid with and without the specific tax program, except for the foreign tax credit where the dollar equivalent is the difference in the amount of taxes paid between crediting and deducting foreign taxes. This is consistent with the findings from other studies[13] that found that larger, multinational firms benefit more since they are more likely to have extensive overseas operations and generate foreign tax credits. The relative magnitude of this program, however, is significant as it represents the largest discrepancy between large and small firms in terms of difference in effective tax rates.

[13] See, for example, Grubert and Slemrod (1996) and Leblang (1998).

Most of the other tax expenditure programs favor large firms slightly more than small firms with the exception of the partial deduction for travel and entertainment, and tax-exempt interest on government bonds. The one tax expenditure program that clearly benefits small business more than large firms by a sizeable margin is the partial deduction for travel and entertainment expenses.[14] Small firms realized an average reduction of approximately 0.86 percent in their effective tax rate from this program, compared with large firms that witnessed about a 0.11 percent reduction. This is consistent with the literature that indicates small firms utilize the travel and entertainment deduction to a larger extent than large firms as a cost-effective way to market and develop their supplier and customer relationships. Numerous small business groups have echoed this sentiment including the National Restaurant Association, National Federation of Independent Businesses, National Association of Women Business Owners (NAWBO), and the National Business Association. The widespread use of the partial travel and entertainment deduction by small businesses is so significant that the White House Conference on Small Business (U.S. SBA 2000, 42) made restoring this deduction to its original 100 percent threshold one of its top priorities.

Table III-2 provides a summary of the industry sectors that benefit the most from the tax expenditure programs we analyzed. In some cases, the same industry sector receives the largest impact regardless of firm size, such as the U.S. possessions credit. However, some tax expenditure programs provide certain firm sizes in different industry sectors the largest impact, such as the partial deduction for travel and entertainment expenses. In general, the same industry in each of the firm size classes receives the largest impact from the tax expenditure program.

As noted above, we were unable to compute an effective tax rate impact for the two depreciation-related programs. However, Table III-3 shows an alternative measure of the effect of these programs on various firm sizes by showing the percentage of sales these two depreciation programs represented. Depreciation is a deductible expense for tax purposes and thus the amount that such depreciation reduces revenue has a direct relationship to the impact on taxable income. Depreciation expressed as a percentage of revenue provides an idea of the magnitude of this impact.

[14] One other program, the Section 179 special depreciation deduction, is limited to small firms, but its impact in both relative and absolute terms is much smaller than the travel and entertainment deduction.

Table III-2
Summary of Industry Sectors that Receive the Largest Benefit from Selected Tax Expenditure Programs

Tax Program	Business Receipts < $5M	Business Receipts $5M - $10M	Business Receipts > $10M
	Industry Sector		
Foreign Tax Credit	Management of Companies and Enterprises (NAICS Code 55); Mining (NAICS Code 21)	Management of Companies and Enterprises (NAICS Code 55)	Manufacturing (NAICS Codes 31-33); Mining (NAICS Code 21)
U.S. Possessions Credit	Accommodation and Food Services (NAICS Code 72); Manufacturing (NAICS Codes 31-33)	Manufacturing (NAICS Codes 31-33)	Manufacturing (NAICS Codes 31-33)
Tax-Exempt Interest on State and Local Bonds	Finance and Insurance (NAICS Code 52)	Finance and Insurance (NAICS Code 52)	Finance and Insurance (NAICS Code 52)
Low-Income Housing Tax Credit	Real Estate and Rental and Leasing (NAICS Code 53)	Finance and Insurance (NAICS Code 52); Real Estate and Rental and Leasing (NAICS code 53)	Finance and Insurance (NAICS Code 52); Real Estate and Rental and Leasing (NAICS Code 53); Management of Companies and Enterprises (NAICS Code 55)
Research and Experimentation Credit	Professional, Scientific, and Technical Services (NAICS Code 54)	Health Care and Social Assistance (NAICS Code 62)	Professional, Scientific, and Technical Services (NAICS Code 54)
Accelerated Depreciation	Management of Companies and Enterprises (NAICS Code 55), Construction (NAICS Code 23); Utilities (NAICS Code 22)	Management of Companies and Enterprises (NAICS Code 55)	Management of Companies and Enterprises (NAICS Code 55), Real Estate and Rental and Leasing (NAICS Code 53); Information (NAICS Code 51)
Section 179 Deduction	Professional, Scientific, and Technical Services (NAICS Code 54)	Professional, Scientific, and Technical Services (NAICS Code 54)	Professional, Scientific, and Technical Services (NAICS Code 54)
Partial Deduction for Travel and Entertainment Expenses	Educational Services (NAICS Code 61); Professional, Scientific, and Technical Services (NAICS Code 54); Transportation and Warehousing (NAICS Codes 48-49)	Transportation and Warehousing (NAICS Codes 48-49)	Professional, Scientific, and Technical Services (NAICS Code 54)

Source: IIC, Inc. Analysis based on SoI Custom Tabulations and U.S. Treasury (IRS, 2001, 2002, 2003).

Table III-3[15]
Three-Year Average Impact of Depreciation Expenditure Programs
1998-2000

Tax Program	Claimed Depreciation as a Percent of Total Sales Revenue		
	Business Receipts < $5M	Business Receipts $5M - $10M	Business Receipts > $10M
Accelerated Depreciation	2.40%	1.83%	3.52%
Section 179 Deduction	0.43%	0.08%	0.00%

Source: IIC, Inc. Analysis based on SoI Custom Tabulations and U.S. Treasury (IRS, 2001, 2002, 2003).

As Table III-3 shows, the impact of accelerated depreciation is quite large, representing over 2 percent of revenue for small firms and about 3.5 percent for large firms. Large firms appear to avail themselves of the tax advantages of this program to a greater extent than small firms. This is balanced to some extent, but not completely, by the Section 179 deduction, which helps small firms, but has no impact on large firms.[16]

Program by Program and Industry by Industry Analysis

In this section we present the detailed results on an industry by industry basis of each of the tax expenditure programs that we analyzed using the SoI data.

Foreign Tax Credit

We found large firms utilized the foreign tax credit much more extensively than small firms, largely due to the fact that most small firms either do not have foreign operations or are not of the size or scope to generate significant foreign tax credits. As Table III-4 shows, for large firms, the manufacturing and mining sectors are able to reduce their effective tax rates the most by crediting rather than deducting foreign taxes, realizing significant reductions in their effective tax rate of between 3 and 4.5 percent.[17] Many mining companies have their basic operations overseas and many manufacturing companies also have large-scale production and distribution facilities located abroad. In one industry sector, management of companies and enterprises (NAICS Code 55), small firms were able to generate significant foreign tax credits along with larger firms because many firms, whether small or large, establish offshore holding

[15] The methodology for determining the dollar amount of accelerated and Section 179 depreciation deductions is explained in Appendix C.

[16] It should be noted that the Section 179 deduction is a "super-accelerated" depreciation expense that is a component of accelerated depreciation. Thus, we estimated that the Section 179 deduction for small firms accounted for 17.9 percent of the accelerated depreciation impact for small firms (0.43%/2.40%).

[17] We analyzed the impact of the foreign tax credit as the difference between a firm's ability to claim a credit for the payment of foreign taxes vs. allowing a deduction for payment of foreign taxes, as otherwise the firm would be subjected to double-taxation which is clearly not the intent of our tax code.

companies for the sole purpose of reducing their tax liability (Multistate Tax Commission 2003, 4).

There is significant variation from industry sector to industry sector and year to year in terms of impact, especially among large firms, but even for smaller firms. For example, small firms in the utilities sector began to generate significant foreign tax credits in 1999 and 2000 after having generated nothing in 1998. Generally, small firms claimed more foreign tax credits in 2000 than either 1999 or 1998, probably as a result of increasing globalization and expansion even among small firms. The information and finance and insurance industry sectors showed significant year-to-year differences even among large firms. Both large and small firms in 2000 generally realized an increased benefit from crediting rather than deducting foreign taxes relative to the prior two years.

Table III-4
Difference in Effective Tax Rates between Crediting and Deducting Foreign Taxes

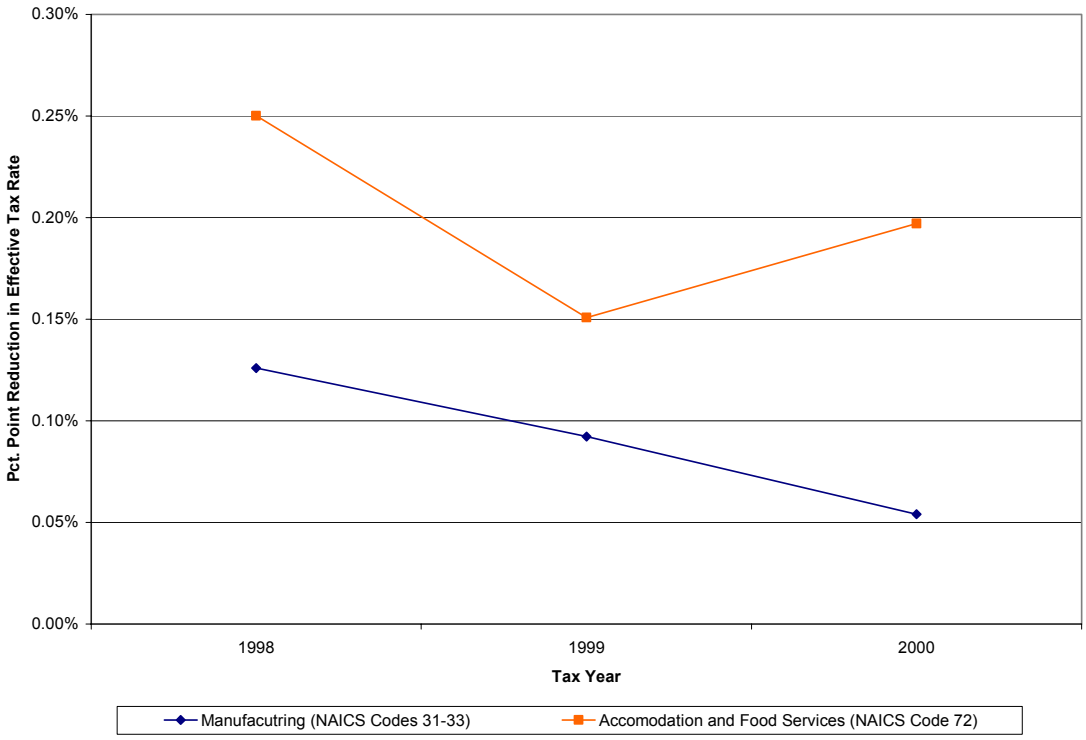
Industry	1998 Tax Year			1999 Tax Year			2000 Tax Year		
	Business Receipts < $5M	Business Receipts $5M - $10M	Business Receipts > $10M	Business Receipts < $5M	Business Receipts $5M - $10M	Business Receipts > $10M	Business Receipts < $5M	Business Receipts $5M - $10M	Business Receipts > $10M
Agriculture, Forestry, Fishing, and Hunting (NAICS Code 11)	0.00%	0.00%	2.10%	0.01%	0.00%	1.29%	0.01%	0.00%	0.06%
Mining (NAICS Code 21)	0.04%	0.01%	3.34%	3.74%	0.08%	4.51%	0.93%	1.31%	3.21%
Utilities (NAICS Code 22)	0.00%	0.00%	0.55%	0.85%	0.00%	0.30%	1.59%	0.00%	0.19%
Construction (NAICS Code 23)	0.00%	0.01%	0.25%	0.01%	0.00%	0.31%	0.01%	0.00%	0.19%
Manufacturing (NAICS Codes 31-33)	0.04%	0.01%	3.98%	0.06%	0.26%	3.75%	0.21%	0.39%	4.04%
Wholesale and Retail Trade (NAICS Codes 42, 44-45)	0.07%	0.01%	0.54%	0.04%	0.09%	0.52%	0.05%	0.01%	0.55%
Transportation and Warehousing (NAICS Codes 48-49)	0.03%	0.16%	0.39%	0.04%	0.22%	0.51%	0.08%	0.47%	0.83%
Information (NAICS Code 51)	0.14%	0.03%	0.99%	0.17%	0.11%	0.78%	0.10%	0.01%	1.53%
Finance and Insurance (NAICS Code 52)	0.03%	0.06%	0.98%	0.04%	0.10%	1.63%	0.08%	0.03%	1.44%
Real Estate and Rental and Leasing (NAICS Code 53)	0.04%	0.01%	0.08%	0.02%	0.02%	0.19%	0.02%	0.05%	0.07%
Professional, Scientific and Technical Services (NAICS Code 54)	0.08%	0.22%	1.19%	0.11%	0.07%	1.81%	0.13%	0.33%	1.19%
Management of Companies & Enterprises (NAICS Code 55)	1.75%	1.08%	1.58%	0.99%	0.74%	1.11%	0.79%	0.82%	2.00%
Administrative and Support and Waste Management and Remediation Services (NAICS Code 56)	0.01%	0.00%	0.97%	0.02%	0.00%	2.84%	0.10%	0.00%	1.70%
Educational Services (NAICS Code 61)	0.30%	0.00%	0.84%	0.62%	0.00%	0.46%	0.54%	0.00%	0.33%
Health Care and Social Assistance (NAICS Code 62)	0.00%	0.00%	0.11%	0.00%	0.00%	0.08%	0.00%	0.00%	0.55%
Arts, Entertainment, and Recreation (NAICS Code 71)	0.00%	0.05%	1.57%	0.04%	0.60%	1.15%	0.12%	0.00%	1.27%
Accommodation and Food Services (NAICS Code 72)	0.01%	0.00%	2.09%	0.01%	0.04%	2.40%	0.03%	0.04%	1.79%
Other Services (NAICS Code 81)	0.04%	0.07%	0.46%	0.02%	0.01%	0.49%	0.05%	0.00%	0.36%

Source: IIC, Inc. Analysis based on SoI Custom Tabulations and U.S. Treasury (IRS, 2001, 2002, 2003).

U.S. Possessions Credit

Large firms utilized the U.S. possessions tax credit more extensively than small firms, having claimed over 99 percent of the total credits in each year from 1998-2000. In contrast to large firms, many small firms do not have operations in either Puerto Rico or a U.S. possession and thus do not qualify for possessions credits. The impact of the U.S. possessions credit for large and small firms is confined to just a few industry sectors, primarily manufacturing (NAICS Code 31) and the food and accommodation service (NAICS Code 72). Large firms in the manufacturing sector were able to reduce their effective tax rates the most with this program, realizing reductions between 0.50 and 0.99 percent, the largest reduction for industry sectors for either large, small, or medium size firms. This is consistent with the findings of other studies that found large firms in the manufacturing sector, especially the pharmaceutical industry, have been the primary benefactors of the possessions tax credit.[18] The impact of the possessions credit has declined significantly for large firms and to a lesser extent for small firms from year to year. Small firms in the food and accommodation service sector, however, did receive a larger impact from the possessions credit in 2000 than 1999, but this was still significantly less than what they enjoyed in 1998. This reduction follows Congressional legislation that gradually phases out the credit until 2005 when it will be completely repealed. The reduced impact of the possessions credit from 1998-2000 is illustrated in Figures III-1 and III-2 for small and large firms respectively.

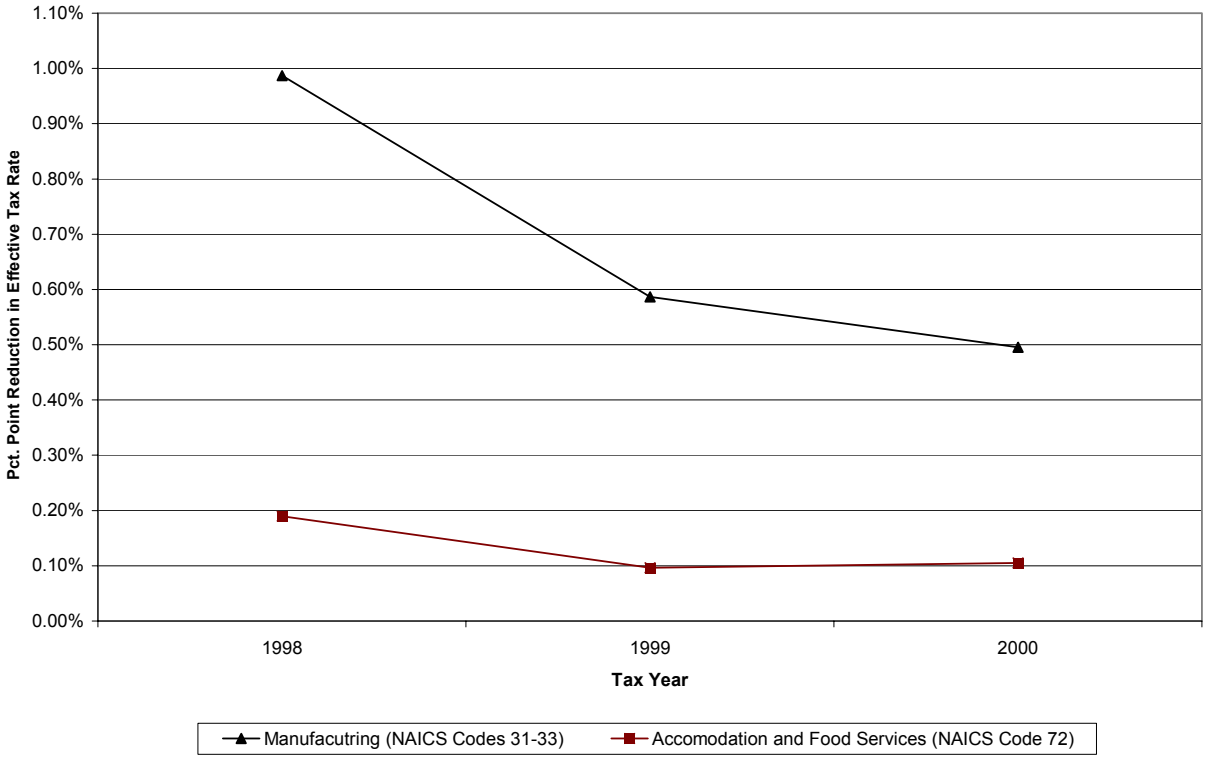
Figure III-1
Impact of U.S. Possessions Tax Credit on Small Firms
In the Manufacturing and Accommodation & Food Services Industries



Source: IIC, Inc. Analysis based on SoI Custom Tabulations and U.S. Treasury (IRS, 2001, 2002, 2003).

[18] See, for example, Grubert and Slemrod (1998, 368); Miller (1999, 170); and Suarez (2000, 64).

Figure III-2
Impact of U.S. Possessions Tax Credit on Large Firms
In the Manufacturing and Accommodation & Food Services Industries

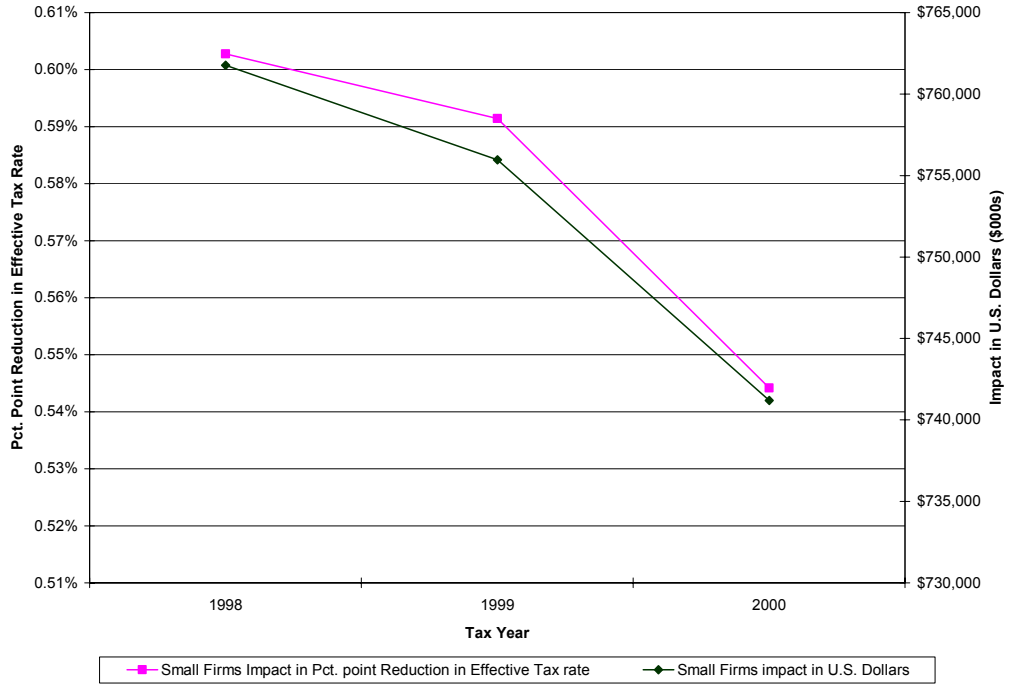


Source: IIC, Inc. Analysis based on SoI Custom Tabulations and U.S. Treasury (IRS, 2001, 2002, 2003).

Tax-Exempt Interest on Government Bonds

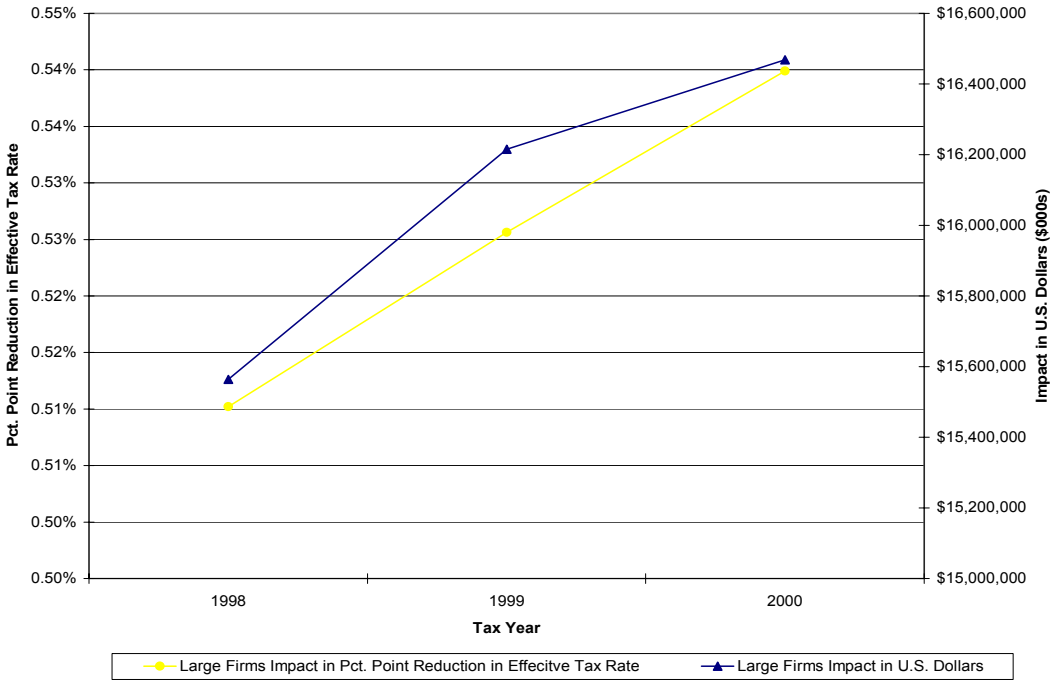
We found only one program where small and large firms generally received a similar benefit and this was the tax-exempt interest from government bonds. Holding companies and the finance and insurance industries benefited the most. In fact, small firms in the finance and insurance sector were able to reduce their effective tax rates by at least 1.5 percent more than large firms in each of the three years we examined. However, the impact of this program across all industries for small firms declined over time, while large firms received an increased benefit, albeit the impact in terms of the percentage point reduction in effective tax rate and dollar amounts were relatively small for both sized firms. Figures III-3 and III-4 illustrate this trend for small and large firms respectively.

Figure III-3
Small Firms Impact from Tax-Exempt Interest on State & Local Bonds



Source: IIC, Inc. Analysis based on SoI Custom Tabulations and U.S. Treasury (IRS, 2001, 2002, 2003).

Figure III-4
Large Firms Impact from Tax-Exempt Interest on State & Local Bonds



Source: IIC, Inc. Analysis based on SoI Custom Tabulations and U.S. Treasury (IRS, 2001, 2002, 2003).

As shown in Table III-5, small firms in the finance and insurance sector (NAICS Code 52) received an increased benefit from the tax-exempt interest on state and local bonds from year-to-year (2.63 percent in 1998 to 3.02 percent in 2000), while large firms obtained an increased tax benefit in 1999 from 1998 (0.87 percent in 1998 to 1.34 percent in 1999) before staying relatively constant in 2000. Although NAICS Code 55, holding companies, is the other industry sector where both large and small firms received the largest impact, small firms received a significantly greater impact, almost twice the reduction in effective tax rates in each year than large firms received from this tax expenditure.

Table III-5[19]
Reduction in Effective Tax Rate Caused by
Tax-Exempt Interest Income on State & Local Bonds

Industry	1998 Tax Year		1999 Tax Year		2000 Tax Year	
	Business Receipts < $5M	Business Receipts > $10M	Business Receipts < $5M	Business Receipts > $10M	Business Receipts < $5M	Business Receipts > $10M
Agriculture, Forestry, Fishing, and Hunting (NAICS Code 11)	0.18%	0.13%	0.70%	0.10%	0.15%	0.02%
Mining (NAICS Code 21)	0.18%	0.03%	0.36%	N/A	0.11%	0.02%
Utilities (NAICS Code 22)	0.03%	0.02%	0.04%	0.02%	N/A	0.01%
Construction (NAICS Code 23)	0.09%	0.02%	0.09%	0.03%	0.06%	0.02%
Manufacturing (NAICS Codes 31-33)	0.07%	0.11%	0.05%	0.11%	0.04%	0.11%
Wholesale and Retail Trade (NAICS Codes 42, 44-45)	0.12%	0.02%	0.08%	0.01%	0.22%	0.01%
Transportation and Warehousing (NAICS Codes 48-49)	0.08%	0.02%	0.06%	0.02%	0.11%	0.02%
Information (NAICS Code 51)	0.05%	0.05%	0.04%	0.04%	0.04%	0.04%
Finance and Insurance (NAICS Code 52)	2.63%	0.87%	2.85%	1.34%	3.02%	1.19%
Real Estate and Rental and Leasing (NAICS Code 53)	0.13%	N/A	0.10%	0.00%	0.09%	0.06%
Professional, Scientific and Technical Services (NAICS Code 54)	0.05%	0.14%	0.19%	0.10%	0.11%	0.07%
Management of Companies & Enterprises (NAICS Code 55)	1.04%	0.40%	0.71%	0.34%	0.64%	0.46%
Administrative and Support and Waste Management and Remediation Services (NAICS Code 56)	0.12%	0.04%	0.07%	0.08%	0.11%	0.10%
Educational Services (NAICS Code 61)	0.22%	0.06%	0.09%	0.04%	N/A	0.01%
Health Care and Social Assistance (NAICS Code 62)	0.06%	0.01%	0.04%	0.01%	0.07%	0.04%
Arts, Entertainment, and Recreation (NAICS Code 71)	0.10%	0.04%	0.07%	0.00%	0.19%	0.10%
Accommodation and Food Services (NAICS Code 72)	0.15%	0.02%	0.33%	0.02%	0.20%	0.01%
Other Services (NAICS Code 81)	0.15%	0.01%	0.16%	0.04%	0.41%	0.01%

Source: IIC, Inc. Analysis based on SoI Custom Tabulations and U.S. Treasury (IRS, 2001, 2002, 2003).

Our impact analysis both confirms and differs from the literature in two aspects. As the literature indicated, the two industry sectors that benefit most from this expenditure program are firms in the financial services sector and holding companies, both sectors where firms have the ability to invest a greater portion of their income in state and local projects. In contrast to previous studies (Ettlinger 2002, 126), we found small firms are not placed at a disadvantage

[19] Although we analyzed and found the impact of this expenditure program to be the largest for medium size firms (i.e. firms with business receipts $5M - $10M), we determined the findings were an anomaly as neither the Statistics of Income or we could explain the large increase in impact for this size category. Therefore, given the likely unreliability of data for this size category due to the small sample size we chose not to display or rely on these results.

from this program, but rather receive generally the same benefit as large firms. However, small and large firms in only a few industry sectors enjoy the impact.

Low-Income Housing Tax Credit (LIHTC)

As Table III-1 above shows, the LIHTC benefited large firms the most where they realized a reduction in the effective tax rate of approximately one-fourth of one percent. Small firms, on the other hand, barely realized any benefit from the LIHTC with a reduction in the effective tax rate of only 0.02 percent. In fact, the LIHTC had the smallest impact on small firms than any of the other seven tax expenditure programs we examined. Table III-6 shows that, for large firms, holding companies as well as the finance and insurance industry sectors were able to reduce their effective tax rates the most with this program in each of the three years we analyzed. These two sectors realized reductions in their effective tax rate of between 0.5 and 1.01 percentage points, while small firms witnessed a reduction in their effective tax rate of only between 0.01 and 0.06 percentage points, a significant difference. This is consistent with the literature that indicates large corporations enjoy most of the tax benefits associated with the LIHTC.[20]

[20] See McCarthy (1990) and Seifel (1986, 6).

Table III-6
Reduction in Effective Tax Rate Caused by LIHTC

Industry	1998 Tax Year			1999 Tax Year			2000 Tax Year		
	Business Receipts < $5M	Business Receipts $5M - $10M	Business Receipts > $10M	Business Receipts < $5M	Business Receipts $5M - $10M	Business Receipts > $10M	Business Receipts < $5M	Business Receipts $5M - $10M	Business Receipts > $10M
Agriculture, Forestry, Fishing, and Hunting (NAICS Code 11)	0.03%	0.00%	0.00%	0.03%	0.00%	0.02%	0.04%	0.00%	0.00%
Mining (NAICS Code 21)	0.00%	0.00%	N/A	N/A	0.00%	N/A	N/A	N/A	N/A
Utilities (NAICS Code 22)	0.00%	0.00%	0.54%	0.00%	0.00%	0.39%	0.00%	0.00%	0.35%
Construction (NAICS Code 23)	0.05%	0.14%	0.15%	0.04%	0.03%	0.13%	0.05%	0.00%	0.03%
Manufacturing (NAICS Codes 31-33)	0.01%	N/A	0.11%	0.00%	N/A	0.12%	0.00%	0.00%	0.09%
Wholesale and Retail Trade (NAICS Codes 42, 44-45)	0.00%	0.02%	0.08%	0.00%	0.00%	0.06%	0.00%	0.00%	0.05%
Transportation and Warehousing (NAICS Codes 48-49)	0.00%	0.00%	0.03%	0.00%	0.00%	0.03%	0.00%	0.00%	0.02%
Information (NAICS Code 51)	0.00%	N/A	0.14%	N/A	0.02%	0.17%	N/A	N/A	0.19%
Finance and Insurance (NAICS Code 52)	0.01%	0.13%	0.54%	0.01%	0.08%	0.61%	0.01%	0.27%	0.63%
Real Estate and Rental and Leasing (NAICS Code 53)	0.08%	0.02%	0.46%	0.06%	3.03%	0.22%	0.03%	0.27%	0.60%
Professional, Scientific and Technical Services (NAICS Code 54)	0.00%	0.00%	0.03%	0.01%	0.00%	0.04%	0.00%	0.00%	0.04%
Management of Companies & Enterprises (NAICS Code 55)	0.04%	0.04%	0.75%	0.06%	0.13%	0.94%	0.01%	0.04%	1.01%
Administrative and Support and Waste Management and Remediation Services (NAICS Code 56)	0.00%	0.00%	0.09%	0.00%	0.00%	0.08%	N/A	0.00%	0.06%
Educational Services (NAICS Code 61)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Health Care and Social Assistance (NAICS Code 62)	0.00%	0.20%	0.03%	0.00%	0.00%	0.05%	N/A	0.00%	0.06%
Arts, Entertainment, and Recreation (NAICS Code 71)	0.00%	0.00%	N/A	0.00%	0.00%	N/A	0.00%	0.00%	N/A
Accommodation and Food Services (NAICS Code 72)	0.02%	0.00%	0.29%	0.00%	0.00%	0.22%	0.00%	0.00%	0.26%
Other Services (NAICS Code 81)	0.00%	0.00%	0.10%	0.00%	0.00%	0.16%	0.00%	0.00%	0.14%

*N/A indicates impact analysis could not be performed due to SoI Disclosure Protection.
Source: IIC, Inc. Analysis based on SoI Custom Tabulations and U.S. Treasury (IRS, 2001, 2002, 2003).

The impact for small firms varies little across industries and from year to year, indicating that the LIHTC not only continues to be utilized by the same industries but its impact is

relatively small and constant over time. For example, small firms in the construction industry during 1998-2000 received a reduction in their effective tax rate of 0.05, 0.04, and 0.05 percentage points respectively. The benefit of the LIHTC for large firms on the other hand varied significantly from year-to-year in certain industries. For example, large firms in the real estate (NAICS Code 53), as well as the accommodation and food sector (NAICS Code 72), sectors received less of a benefit in 1999 than either 1998 or 2000. Meanwhile, large firms in the information (NAICS Code 51), finance, insurance (NAICS Code 52), and the management of companies and enterprises (NAICS Code 55) sectors received an increased benefit in each of the three years.

Research and Development Credit (R&D Credit)

Our analysis confirms the findings from other studies that indicate the R&D credit tends to benefit large firms to a greater degree than small firms.[21] The R&D Credit resulted in a positive impact in only four industry sectors for small firms in 1998 and 1999. Large firms on the other hand realized positive impacts from the R&D Credit in at least 14 industry sectors from 1998-2000. As Table III-7 shows, for both large and small firms, the manufacturing (NAICS Code 31) and professional, scientific, and technical service (NAICS Code 54) sectors were able to reduce their effective tax rates the most with this program. However, large firms in these two sectors realized a significantly greater reduction in their effective tax rates than small firms. For example, small firms in these two industry sectors were able to reduce their effective tax rate of between 0.14 and 0.39 percentage points, whereas large firms realized a reduction in their effective tax rate between 0.89 and 1.50 percentage points.

[21] See U.S. Congress (OTA, 1995, 18-20) and U.S. GAO (1995, 14).

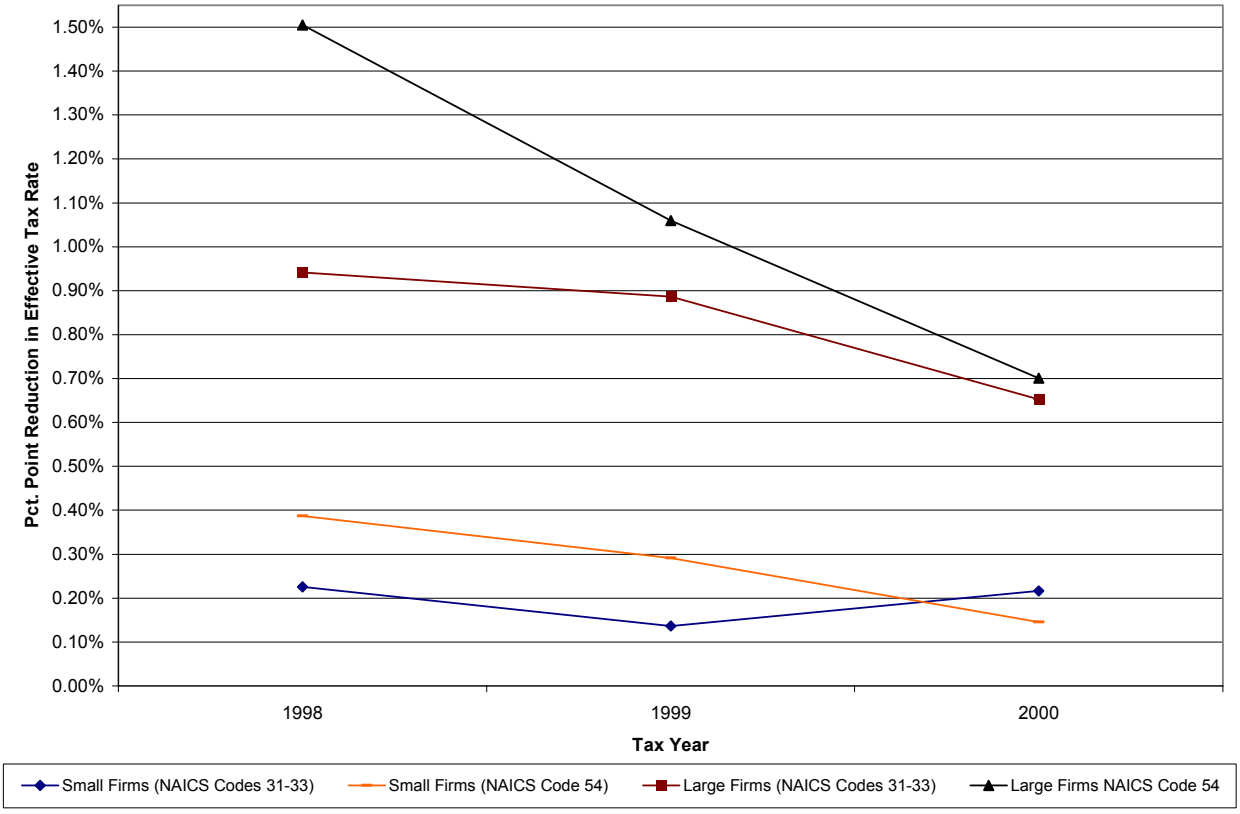
Table III-7
Reduction in Effective Tax Rate Caused by the Research & Development Credit

Industry	1998 Tax Year			1999 Tax Year			2000 Tax Year		
	Business Receipts < $5M	Business Receipts $5M - $10M	Business Receipts > $10M	Business Receipts < $5M	Business Receipts $5M - $10M	Business Receipts > $10M	Business Receipts LT $5M	Business Receipts $5M LT $10M	Business Receipts GE $10M
Agriculture, Forestry, Fishing, and Hunting (NAICS Code 11)	0.00%	0.15%	0.67%	0.00%	0.00%	0.57%	0.00%	0.00%	0.10%
Mining (NAICS Code 21)	0.00%	0.00%	0.16%	0.00%	0.00%	0.02%	0.00%	0.00%	0.01%
Utilities (NAICS Code 22)	0.00%	0.00%	0.04%	0.00%	0.00%	0.02%	0.00%	0.00%	0.02%
Construction (NAICS Code 23)	0.00%	0.00%	0.03%	0.00%	0.00%	0.05%	0.00%	0.00%	0.05%
Manufacturing (NAICS Codes 31-33)	0.23%	0.33%	0.94%	0.14%	0.48%	0.89%	0.22%	0.37%	0.65%
Wholesale and Retail Trade (NAICS Codes 42, 44-45)	0.03%	0.12%	0.11%	0.01%	0.09%	0.07%	0.02%	0.00%	0.06%
Transportation and Warehousing (NAICS Codes 48-49)	0.00%	0.00%	0.08%	0.00%	0.00%	0.10%	0.00%	0.00%	0.16%
Information (NAICS Code 51)	0.04%	0.19%	0.49%	0.00%	0.04%	0.41%	0.00%	0.00%	0.37%
Finance and Insurance (NAICS Code 52)	N/A	0.00%	0.07%	0.00%	0.00%	0.07%	0.00%	0.00%	0.07%
Real Estate and Rental and Leasing (NAICS Code 53)	0.00%	N/A	0.00%	0.00%	0.00%	N/A	0.00%	0.00%	0.00%
Professional, Scientific and Technical Services (NAICS Code 54)	0.39%	0.45%	1.50%	0.29%	0.62%	1.06%	0.15%	0.96%	0.70%
Management of Companies & Enterprises (NAICS Code 55)	0.00%	N/A	0.07%	0.01%	0.00%	0.02%	0.06%	0.00%	0.04%
Administrative and Support and Waste Management and Remediation Services (NAICS Code 56)	0.00%	0.00%	0.06%	0.00%	0.04%	0.04%	0.00%	0.00%	0.03%
Educational Services (NAICS Code 61)	0.00%	0.00%	0.02%	0.00%	0.00%	N/A	0.00%	0.00%	0.00%
Health Care and Social Assistance (NAICS Code 62)	0.03%	3.32%	0.06%	0.00%	2.16%	0.08%	0.00%	0.00%	0.00%
Arts, Entertainment, and Recreation (NAICS Code 71)	0.00%	0.00%	0.18%	0.00%	0.00%	0.23%	0.00%	0.00%	0.00%
Accommodation and Food Services (NAICS Code 72)	0.00%	0.00%	0.04%	0.00%	0.00%	0.02%	0.00%	0.00%	0.02%
Other Services (NAICS Code 81)	N/A	0.00%	0.23%	0.00%	0.00%	0.18%	0.00%	0.00%	0.10%

Source: IIC, Inc. Analysis based on SoI Custom Tabulations and U.S. Treasury (IRS, 2001, 2002, 2003).

The impact of the R&D Credit for both large and small firms declined in each of the three years from 1998-2000, possibly as a result of many firms choosing to expense rather than credit their research expenditures. This trend is consistent with the literature (U.S. Congress OTA 1995, 16-19) that found the impact of the R&D Credit has been reduced over time. For example, with the exception of small firms in the manufacturing sector in 2000, both large and small firms realized a reduction in the size of the R&D Credit in terms of impact, as shown in Figure III-5.

Figure III-5
Impact of Research and Development Credit
In the Manufacturing and Professional, Scientific, & Technical Service Industries



Source: IIC, Inc. Analysis based on SoI Custom Tabulations and U.S. Treasury (IRS, 2001, 2002, 2003).

Accelerated Depreciation & Section 179 Deduction

As explained above, we calculated an alternative measure to capture the impact of accelerated depreciation by comparing the amount of accelerated depreciation claimed as a percentage of sales.[22] The industry sector in which both large and small firms received the largest benefit from accelerated depreciation during 1998-2000 is management of companies and enterprises (NAICS Code 55). However, large firms in this industry sector were able to realize an impact that was twice as large as that of small firms in 1998 and three times as large in both 1999 and 2000. There are two other industry sectors for which large firms obtained an impact from accelerated depreciation that exceeded 10 percent of revenues in 1999 and 2000: information (NAICS Code 51) and the real estate and rental industry (NAICS Code 53) sectors. Large firms in both of these industry sectors obtained a significant impact that was far greater

[22] We obtained results that approximated our original findings when we used this alternative measure on the other tax expenditure programs with one caveat. We found the impacts on the other tax expenditures were underestimated with the alternative measure due to the relatively small amount of the tax expenditure claimed compared to the industry sector's aggregate sales volume. Nonetheless, the alternative measure provided results that allowed one to determine the industry sectors that received the largest impact from the tax expenditure program analyzed.

than what small firms were able to receive. However, there were two industry sectors where small firms received a greater impact from accelerated depreciation than large firms, albeit the level of magnitude significantly smaller than NAICS Codes 51, 53, and 55. For example, small firms in the construction and utilities industry sectors received at least twice the impact of accelerated depreciation than large firms. Table III-8 shows which industry sectors, small or large firms, received the greatest impact of accelerated depreciation across all three years.

Table III-8
Industry Sectors where Small or Large Firms Received the Largest Impact of Accelerated Depreciation

	Small Firms	Large Firms
Construction (NAICS Code 23)	Yes	No
Utilities (NAICS Code 22)	Yes	No
Holding Companies (NAICS Code 55)	No	Yes
Mining (NAICS Code 21)	No	Yes
Manufacturing (NAICS Code 31)	No	Yes
Wholesale and Retail Trade (NAICS Codes 42, 44-45)	No	Yes
Professional, Scientific and Technical Services (NAICS Code 54)	No	Yes
Administrative and Support and Waste Management and Remediation Services (NAICS Code 56)	No	Yes
Health Care and Social Assistance (NAICS Code 62)	No	Yes
Arts, Entertainment, and Recreation (NAICS Code 71)	No	Yes

As noted earlier, the Section 179 deduction permits the depreciation of relatively small amounts of business property to be "super accelerated." Our analysis confirms what others have found (Holtz-Eakin 1995), that the Section 179 deduction benefits small firms over large firms. We found the impact of the Section 179 deduction varied significantly across different industries. For small firms the greatest impact was in the Professional, Scientific, and Technical Service industry sector (NAICS Code 54) where the section 179 deduction accounted for at least 35 percent of the industry's accelerated depreciation impact in each of the three years from 1998-2000. While the section 179 deduction accounted for less than 10 percent of the accelerated depreciation impact for small firms in the Agriculture, Forestry, Fishing, and Hunting and Utilities sectors (NAICS Codes 11 and 22 respectively), small firms in the Wholesale and Retail trade, Finance and Insurance, and Health Care and Social Assistance sectors (NAICS Codes 42, 44-45, 52, and 62 respectively) received a significantly greater impact from section 179, representing at least one-third of the industry sector's total accelerated depreciation benefit. In fact, the wholesale and retail trade industry sector realized the largest year-to-year increase from section 179 in 1999 with over a 20 percent jump in the sector's total accelerated depreciation impact attributable to section 179. As shown in Table III-9, the significance of section 179 not only varied across industries but also from year-to-year.[23]

[23] It appears that the relatively small increase in the expensing limit had little if any impact on small firms' incentive to utilize the section 179 deduction.

Table III-9
Percentage of Accelerated Depreciation Impact Attributable to Section 179
(Small Firms Only)

	Tax Year		
Industry	**1998**	**1999**	**2000**
Agriculture, Forestry, Fishing, and Hunting (NAICS Code 11)	8.34%	8.55%	7.85%
Mining (NAICS Code 21)	5.54%	3.39%	9.58%
Utilities (NAICS Code 22)	1.45%	6.21%	6.30%
Construction (NAICS Code 23)	19.74%	20.52%	17.88%
Manufacturing (NAICS Codes 31-33)	11.90%	11.10%	11.24%
Wholesale and Retail Trade (NAICS Codes 42,44-45)	18.41%	31.34%	30.72%
Transportation and Warehousing (NAICS Codes 48-49)	7.36%	5.28%	N/A
Information (NAICS Code 51)	10.41%	7.91%	8.06%
Finance and Insurance (NAICS Code 52)	29.53%	25.64%	31.28%
Real Estate and Rental and Leasing (NAICS Code 53)	5.57%	5.29%	5.24%
Professional, Scientific and Technical Services (NAICS Code 54)	37.48%	37.52%	34.51%
Management of Companies & Enterprises (NAICS Code 55)	10.07%	10.93%	9.79%
Administrative and Support and Waste Management and Remediation Services (NAICS Code 56)	20.74%	23.53%	23.36%
Educational Services (NAICS Code 61)	22.98%	26.30%	23.10%
Health Care and Social Assistance (NAICS Code 62)	29.75%	31.57%	31.78%
Arts, Entertainment, and Recreation (NAICS Code 71)	11.22%	10.89%	9.29%
Accommodation and Food Services (NAICS Code 72)	11.08%	11.78%	N/A
Other Services (NAICS Code 81)	21.47%	21.74%	18.10%

* N/A indicates impact analysis could not be performed due to SoI Disclosure Protection.
Source: IIC, Inc. Analysis based on SoI Custom Tabulations and U.S. Treasury (IRS, 2001, 2002, 2003).

Partial Deduction for Travel and Entertainment Expenses (T&E Deduction)

As noted earlier, the one tax program that clearly benefits small businesses more than large firms is the partial deduction for travel and entertainment expenses. We analyzed this program under two assumptions:

1. The impact of the current program of 50 percent deductibility of T&E expenses
2. The impact of increasing deductibility of T&E expenses to 100 percent

As Table III-10 indicates, we found that the current program of 50 percent deductibility benefits large firms by .75 percent less than small firms. Small firms obtain a reduction in the effective tax rate of 0.86 percent relative to having no T&E expense deduction. In addition, we found that small firms would receive an increased reduction in their effective tax rate of 1.04 percent if T&E expenses were restored to 100 percent deductibility relative to 50 percent deduction. Large firms, however, would receive an additional reduction in the effective tax rate of only 0.11 percent. Nevertheless, large firms would still prefer a 100 percent deduction as opposed to only 50 percent. Thus, small firms would have a stronger incentive for 100 percent deductibility than is true for large firms.

Table III-10
Percentage Point Reduction in Effective Tax Rates
Due to the Travel & Entertainment Deduction 1998-2000

3 Year Average Impact of Current 50 % T&E Deduction		
Business Receipts < $5M	**Business Receipts $5M - $10M**	**Business Receipts > $10M**
0.86%	0.22%	0.11%
3 Year Average Impact of Increasing T&E Deduction from 50 % to 100%		
Business Receipts < $5M	**Business Receipts $5M - $10M**	**Business Receipts > $10M**
1.04%	0.25%	0.11%

Source: IIC, Inc. Analysis based on SoI Custom Tabulations and U.S. Treasury (IRS, 2001, 2002, 2003).

As Table III-11 indicates, small businesses in numerous industry sectors were able to reduce their effective tax rate by at least one percentage point in each of the three years we examined. Among these industry sectors, small businesses in the educational services (NAICS Code 61), professional, scientific, and technical services (NAICS Code 54), and the administrative and support, waste management and recreation service sectors (NAICS Code 56) received the largest impact from the T&E deduction, realizing a reduction in their effective tax rates between 1.5 and nearly 4 percentage points. In contrast, large firms in the professional, scientific, and technical services sector (NAICS Code 54) and the administrative and support, waste management and recreation service sector (NAICS Code 56) received the largest benefits from the T&E deduction. However, their impact ranged from only from a 0.14 to 0.34 percentage point reduction in effective tax rates over the three years, a significant discrepancy.

Table III-11
Reduction in Effective Tax Rate Caused by the
Partial Deduction for Travel & Entertainment Expenses

Industry	1998 Tax Year			1999 Tax Year			2000 Tax Year		
	Business Receipts < $5M	Business Receipts $5M - $10M	Business Receipts > $10M	Business Receipts < $5M	Business Receipts $5M - $10M	Business Receipts > $10M	Business Receipts < $5M	Business Receipts $5M - $10M	Business Receipts > $10M
Agriculture, Forestry, Fishing, and Hunting (NAICS Code 11)	0.38%	0.04%	0.15%	0.36%	0.14%	0.12%	0.31%	0.08%	0.02%
Mining (NAICS Code 21)	0.34%	0.04%	0.18%	0.76%	0.02%	0.19%	0.19%	0.20%	0.14%
Utilities (NAICS Code 22)	0.01%	0.07%	0.05%	0.03%	N/A	0.01%	0.29%	N/A	0.02%
Construction (NAICS Code 23)	0.81%	0.19%	0.04%	0.85%	0.35%	0.07%	1.08%	0.33%	0.05%
Manufacturing (NAICS Codes 31-33)	0.64%	0.15%	0.19%	0.57%	0.21%	0.17%	0.40%	0.28%	0.18%
Wholesale and Retail Trade (NAICS Codes 42, 44-45)	1.23%	0.41%	0.05%	1.31%	0.45%	0.04%	1.29%	0.42%	0.04%
Transportation and Warehousing (NAICS Codes 48-49)	1.34%	0.37%	0.17%	1.34%	0.67%	0.23%	1.60%	0.54%	0.23%
Information (NAICS Code 51)	0.32%	0.09%	0.04%	0.29%	0.07%	0.03%	0.33%	0.06%	0.06%
Finance and Insurance (NAICS Code 52)	0.72%	0.11%	0.03%	0.69%	0.03%	0.05%	0.75%	0.02%	0.04%
Real Estate and Rental and Leasing (NAICS Code 53)	0.22%	0.01%	N/A	0.21%	0.09%	0.00%	0.25%	0.02%	0.09%
Professional, Scientific and Technical Services (NAICS Code 54)	1.69%	0.50%	0.21%	1.82%	0.24%	0.29%	1.59%	0.42%	0.26%
Management of Companies and Enterprises (NAICS Code 55)	0.04%	0.02%	0.03%	0.07%	0.01%	0.03%	0.04%	0.01%	0.04%
Administrative and Support and Waste Management and Remediation Services (NAICS Code 56)	1.64%	0.39%	0.14%	1.48%	0.66%	0.34%	2.03%	0.59%	0.31%
Educational Services (NAICS Code 61)	1.79%	N/A	0.07%	3.98%	0.10%	0.05%	2.61%	0.12%	0.03%
Health Care and Social Assistance (NAICS Code 62)	1.32%	0.14%	0.01%	1.39%	0.31%	0.02%	1.41%	0.56%	0.06%
Arts, Entertainment, and Recreation (NAICS Code 71)	0.94%	0.25%	0.14%	1.21%	0.28%	N/A	2.33%	0.01%	0.21%
Accommodation and Food Services (NAICS Code 72)	1.31%	0.37%	0.10%	0.91%	0.45%	0.10%	0.64%	0.35%	0.10%
Other Services (NAICS Code 81)	1.20%	0.61%	0.06%	1.55%	0.42%	0.08%	1.22%	0.50%	0.06%

*N/A indicates impact analysis could not be performed due to SoI Disclosure Protection.
Source: IIC, Inc. Analysis based on SoI Custom Tabulations and U.S. Treasury (IRS, 2001, 2002, 2003).

Small and large firms in the professional, scientific, and technical services sector (NAICS Code 54) obtain a significant benefit from this program. There are a large number of newly established firms in this industry sector, which helps explain the significant impact of this deduction on this industry sector.[24] The primary argument for this program, which is advocated by many small business organizations and the White House Conference on Small Business (U.S. SBA 2000, 42), is the fact that many small firms rely on this deduction as a marketing tool to

[24] According to the U.S. Census Bureau, Statistics of U.S. Businesses, there were over 3,000 newly established small businesses (employment size less than 500) during 1998-2000.

promote their products and services, and marketing is an essential component of newly established firms' business plans. This argument is underscored by the fact that nearly half of the 18 industry sectors for small firms reduced their effective tax rate by at least one percentage point.

Chapter IV
Case Studies

In this chapter we extend our analysis of the data by examining three industries in greater detail to understand the impact of various tax expenditure programs on specific small and large firms. The purpose of the case studies is to provide a better understanding of what contributes to the disparity in effective tax rates between small and large firms, and their relative ability to take advantage of certain tax expenditure programs.

Overview of Industry Selection

To begin our selection process, we developed a set of criteria to help facilitate and narrow our industry search. We used these criteria to ensure that we selected industries which used various tax expenditure programs, and for which sufficient data needed for analysis were readily available. The criteria for selecting the industries to be used in the case studies included:

1. Industries with observed disparities in effective tax rates paid by large and small firms.

2. Industries characterized by both large and small firms.

3. Industries in which the availability and use of the subject tax expenditure programs are at a high level.

4. Industries for which publicly available data are readily available, i.e., industries where there is a large proportion of publicly traded companies.

5. Industries in which firms utilize several different tax expenditure programs.

We started our selection process by first looking at two-digit NAICS code industries, but found them to be too broad for case study analysis. Instead we found it necessary to select NAICS industries classified by at least a five-digit specification. Reliance on a five-digit NAICS code industry is essential to identifying a case study where firms directly compete with one another. Industries that did not satisfy all of the criteria were eliminated from consideration. Appendix A provides a list of the industries we examined and the rationale for why we eliminated industries from consideration. The majority of industries were eliminated from consideration due to the lack of firms that are publicly traded thus resulting in insufficient financial data for analyses.

Overview of Selection Criteria for Individual Firms and Methodology for Analysis

We also developed a set of criteria to help facilitate and narrow our company search for each of the three case studies. We used these criteria to ensure we selected companies whose 10-

K filings provided sufficient information to measure certain tax expenditure programs. The criteria for selecting companies to be used in the three case studies included:

1. A company's primary SIC code needed to match 2834, 4813, 7373 and 7379.[25]

2. A company needed to report a profit in at least two of the three years.[26]

3. A company's 10-K report needed to provide enough information to determine the impact of at least one tax expenditure program we have analyzed.

4. Size standards for companies were based on the SBA's definitions.[27]

As we commenced our analysis, we quickly discovered that many public companies (especially those with annual receipts less than $5 million) reported losses in each of the three years we examined. As a result, we were forced to rely upon the SBA size standards, which are based on employment size for the pharmaceutical preparations and wired telecommunications industries and revenues for the computer systems design service industry in selecting small and large companies. As others have found, most notably in a report completed by the Institute on Taxation and Economic Policy in 2000 (McIntyre and Nguyen 2000, 7-13), the company's annual reports do not provide detail on all tax expenditure programs. Nonetheless, our selection of large companies focused on those firms considered industry leaders by the trade press.[28] After examining the financials of numerous large and small companies, we chose the companies whose 10-K reports contained the most detailed information from which we could estimate the impact of selected tax expenditure programs. We collected data contained in 10-K filings from fiscal year-end 1998 to 2000 for firms whose fiscal year-end occurs in the month of December, and from fiscal year-end 1999 to 2001 for firms whose fiscal year-end occurs in the month of June.[29] The computational procedure used to analyze reported tax expenditure programs was the same as that used in the previous chapter using the SoI data, with the exception of measuring the impact of accelerated depreciation. We were unable to calculate the tax savings firms enjoyed under accelerated depreciation from the SoI data, however, individual company data provide enough information that permit a calculation of the tax savings attributable to accelerated depreciation.

[25] According to various federal agencies, including the Securities and Exchange Commission, companies with SIC code 2834, 4813, and both 7373 and 7379 are considered to belong respectively to the pharmaceutical preparations, wired telecommunications industry, and the computer system design service industries.
[26] The year in which a company reported a negative income subject to tax was omitted from our analysis.
[27] The maximum number of employees a pharmaceutical preparations company could have and still be considered small by the SBA is 750. This employment cutoff size is 1,500 employees for the wired telecommunications industry. The cutoff size for the computer systems design service industry is $21 million.
[28] The trade press identified industry leaders based on among other things, employment size, revenues, and profits.
[29] Calendar year company tax liabilities approximately correspond to payments in subsequent federal fiscal years. For example, the JCT estimates of tax expenditures for fiscal year 1999, 2000, and 2001 are based on the committee's projected corporation tax liability for calendar year 1998, 1999, and 2000 respectively. In other words, the JCT estimates of tax expenditures for fiscal year 1999, 2000, and 2001 are based on tax law enacted as of December 1998, 1999, and 2000 respectively.

Pharmaceutical Preparations Industry Case Study (NAICS 325412)

Overview of Industry Selection Process

The first industry we selected is a subset of chemical manufacturing sector,[30] the pharmaceutical preparation industry. The *Corporation Income Tax Returns* data indicate that the manufacturing segment of the U.S. economy (NAICS Code 31) in general was the largest sector that claimed the foreign tax credit and the U.S. possessions tax credit for tax years 1998-2000. The chemical manufacturing industry was the largest three-digit NAICS industry to have claimed both the foreign tax credit and U.S. possessions tax credit during tax years 1998-2000, with the exception of the petroleum and coal industries. Table IV-1 details the level of these two tax credits claimed by the manufacturing segment as a whole, and more specifically by the chemical manufacturing industry.

Table IV-1
Foreign Tax Credit & U.S. Possessions Tax Credit Claimed
by NAICS Code 31 & 325 Industries
1998-2000
($ 000)

	Foreign Tax Credit		U.S. Possessions Tax Credit	
Tax Year	Manufacturing (NAICS Code 31)	Chemical Manufacturing (NAICS Code 325)	Manufacturing (NAICS Code 31)	Chemical Manufacturing (NAICS Code 325)
1998	$26,775,792	$5,550,853	$2,339,676	$1,527,779
1999	$26,004,784	$5,258,292	$1,443,118	$915,243
2000	$32,636,512	$4,809,910	$1,414,308	$746,276

Source: U.S. Treasury (IRS, 2001, 2002, 2003).

Our preliminary work reviewing the *Corporation Income Tax Returns* data indicated that the chemical manufacturing sector would be a viable case study. Furthermore, our literature review indicated that a large percentage of firms in the pharmaceutical preparation manufacturing industry (NAICS Code 325412) utilized several of the various tax expenditure programs we are analyzing. For example, Brumbaugh (2000, CRS-19) found that chemical manufacturing, in particular the pharmaceutical sector, was one of the four largest industries claiming the Foreign Sales Corporation tax expenditure deduction (as it was called at that time).[31] Suarez (2000, 64) identified the pharmaceutical and the electronic components industries as the largest beneficiaries of the U.S. possessions tax credit. The Office of Technology Assessment (U.S. Congress OTA 1995, 18) found that the chemical manufacturing industry claimed the largest share of the tax credit for qualified research, and specifically found that the pharmaceutical industry claimed the largest share of the research credit among comparable six-digit NAICS code industries. Also, we identified the pharmaceutical preparation industry as one where there might be several large companies, which have claimed the various "international"

[30] The U.S. Census Bureau defines Chemical Manufacturing (NAICS code 325) as being "based on the transformation of organic and inorganic raw materials by a chemical process and the formulation of products."
[31] The extraterritorial income exclusion replaced the foreign sales corporation income exclusion provision in 2000.

tax expenditure programs. Therefore, the pharmaceutical preparation industry satisfies our industry selection criterion #5 by utilizing a number of tax expenditure programs.

Next, we investigated whether there were a sufficient number of small and large firms in this industry. According to the U.S. Census Bureau, Statistics of U.S. Businesses, there were at least 600 firms in the pharmaceutical preparation industry in 1998, 1999, and 2000 that were classified as small under the U.S. Small Business Administration size standards of no more than 750 employees. Finally, we investigated whether there were enough publicly traded small and large firms in the pharmaceutical preparations industry. By matching the NAICS code with the appropriate SIC code and review SEC materials, we determined there were a sufficient number of small and large publicly traded firms and that the pharmaceutical preparation industry fits our case study selection criteria.

Background Information on Pharmaceutical Preparations Industry

The federal government plays a vital role in the research and development (R&D) activities of the pharmaceutical preparations industry. A partial listing of these activities includes the federal approval of new patented and generic drugs, the federal patent policy toward prescription drugs, and various federal tax subsidies for pharmaceutical companies. These policies, in turn, influence innovation in the pharmaceutical industry. We were also able to shed light on the impact of the expensing of R&D expenditures. We found large pharmaceutical companies are more likely to benefit from the possessions tax credit, the research tax credit, and the deferral of federal income tax on the retained earnings of foreign subsidiaries as a result of their extensive foreign operations, whereas many small firms only have domestic operations and thus fail to even qualify for several of these tax benefits that their large counterparts enjoy. In 2001, for example, sales by Pharmaceutical Research and Manufacturers of America (PhRMA 2003, 80) member companies through their subsidiaries and branches equaled approximately $46.3 million, or 35.81 percent of domestic sales by these companies. Our examination of small firms in the pharmaceutical preparations industry revealed very few had overseas operations.

The pharmaceutical preparations industry includes companies that produce a range of preparations for human and veterinary treatment. These companies produce tablets, capsules, vials, ointments, powders, solutions, and suspensions in final form for internal and external consumption. There are two primary markets for which patented (brand-name) and generic drugs are made available to the public. Prescription drugs are available to the public but only with a prescription from a licensed doctor. In the second market, “over-the-counter” (OTC) drugs are sold openly to the public without the need for a prescription. The pharmaceutical preparations industry is characterized by its innovative activities, which are driven in part by heavy investment in R&D and dependence on patent protection.

The prescription drug market is relatively concentrated even though there are hundreds of companies that comprise the market. The ten largest pharmaceutical preparation companies in terms of revenue accounted for 53 percent of the U.S. retail patented prescription drug market in

1997.[32] The generic drug sector of the prescription market is significantly less concentrated than the patented market with approximately only 50 companies primarily engaged in the production of generic prescription drugs (S&P 1998, 8).

Other products produced by the pharmaceutical preparation companies are made available to the public is through a second market, over-the-counter. These drugs are often intended to treat less serious medical conditions, such as common colds and headaches. The over-the-counter market broadens a drug's marketability and extends its economic life. Over-the-counter drugs face more traditional supply and demand forces than prescription drugs, since the increased availability and distribution of these drugs fosters greater competition among companies. The over-the-counter drug market recorded sales of approximately $16.6 billion in 1997. A majority of the same companies that dominate the patented prescription drug market are also the market leaders in over-the-counter drugs, including Bristol-Meyers Squibb, and SmithKline Beecham (S&P 1998, 8).

The pharmaceutical preparations industry is one of the most research-intensive industries in the United States. According to the National Science Board (2000, A-102), U.S. pharmaceutical companies spent 10.5 percent of their net sales on R&D in 1997, whereas the manufacturing sector spent only 3.3 percent of sales on R&D. The Pharmaceutical Research and Manufacturers of America (PhRMA 2002, 2), estimated that domestic spending on pharmaceutical R&D by member firms ranged from $17 billion to over $26 billion between 1998 and 2000.

Findings

Our analysis of the eight companies we selected confirms many findings from the SoI data analysis of various industrial sectors in the U.S. economy, as well as those findings from the literature. The companies we examined account for well over one-quarter of the retail patented prescription drug industry. The review of individual company 10-K reports allowed us to estimate the impact of two tax expenditure programs we were unable to analyze with the SoI data. These programs are the expensing of R&D expenditures and the deferral of federal income tax on foreign source income.

Foreign Tax Expenditures

The large firms we analyzed all had extensive operations overseas and in Puerto Rico, while only the largest of the small companies we examined, Medicis, had any operations outside the continental United States, a wholly-owned subsidiary located in Canada. Medicis, however, did not report either any deferral of federal income taxes on foreign-source income or any

[32] See Standard & Poor's (1998, 8). These ten companies included Bristol-Meyers Squibb (6.1 percent market share), Glaxo Wellcome (6.0 percent), Johnson & Johnson (6.0 percent), Merck & Company (6.0 percent), American Home Products (5.8 percent), Pfizer Inc. (5.3 percent), Eli Lilly & Co. (4.7 percent), SmithKline Beecham (4.3 percent), Novartis (4.3 percent), and Schering-Plough (4.0 percent).

foreign tax credits claimed in the three years we analyzed. As a result, only the large firms we examined qualified and were able to realize a substantial benefit from the U.S. possessions credit, foreign tax credit, or deferral of foreign source income. As Table IV-2 indicates, each of the four large firms we examined reduced their tax rate significantly due to these three tax programs. All five companies were able to reduce their effective tax rate by at least 1 percentage point. The deferral of foreign source income benefited these five companies the most, as each was able to reduce its effective tax rate on average between 8.25 percent and 8.43 percent. Each of the five companies we analyzed deferred at least $3 billion in foreign source income in each year from 1998-2000.

Table IV-2
Impact of Foreign Tax Expenditure Programs

	U.S. Possessions			Foreign Tax Credit			Deferral of Foreign		
Company Name	**1998**	**1999**	**2000**	**1998**	**1999**	**2000**	**1998**	**1999**	**2000**
Bristol Meyers Squibb	2.50%	1.80%	N/A	2.36%	1.46%	N/A	6.69%	9.29%	9.71%
Schering Plough	N/A	N/A	N/A	N/A	N/A	N/A	9.58%	11.82%	12.83%
Merck	1.64%	1.55%	1.08%	N/A	1.00%	1.65%	5.61%	1.85%	5.56%
Pfizer	2.00%	1.50%	1.20%	1.65%	1.61%	3.01%	11.58%	10.38%	5.64%
Warner Lambert	1.80%	1.50%	N/A	N/A	N/A	N/A	7.88%	7.92%	N/A
Average	**1.98%**	**1.59%**	**1.14%**	**2.00%**	**1.36%**	**2.33%**	**8.27%**	**8.25%**	**8.43%**

Source: IIC, Inc. Analysis based on Company 10-K Filings.
N/A implies impact analysis could not be conducted due to lack of data.[33]

Consistent with our literature review and earlier data analysis, Table IV-2 demonstrates that we found large firms enjoyed a substantially greater benefit, both in terms of dollar amounts claimed and a reduction in effective tax rates from the foreign tax credit and U.S. possessions credit. The impact over time of both the possessions and foreign tax credits on our four large companies mirrored that of our SoI data analysis as well. The impact of the possessions credit declined over time for each of the four companies as this credit was being phased out, and the foreign tax credit had its largest impact in 2000. It is clear from the literature, our SoI data analysis, and our industry case study that large firms in the pharmaceutical preparations industry reduce their already low effective tax rates substantially by taking advantage of certain tax expenditure programs that are predominantly available only to large firms with operations either in Puerto Rico or overseas.[34]

Research & Development Expensing and Research Credit

As described in the literature,[35] the 10-K filings only sparsely disclose information about research credits. The dearth of data on R&D credits may be due to the fact many more firms choose to expense R&D rather than take a credit because of the credit's design. For example, the credit is not refundable and thus firms with only positive tax liabilities can utilize the credit.

[33] Bristol Meyers Squibb did not disaggregate their reported tax savings between Puerto Rico and Ireland in 2000. Nonetheless, we measured their reported tax savings from Puerto Rico and Ireland to have been substantial with a reduction in their effective tax rate of 12.21 percentage points. However, a large portion of this impact is due to their operations in Ireland and not from Puerto Rico.
[34] The average effective tax rate for the five large companies we analyzed over the three-year period from 1998-2000 was 19.59 percent.
[35] See, for example, McIntyre and Nguyen (2000).

Firms in a loss position are allowed to carry forward any R&D credits up to 20 tax years, but the incentive in accumulating R&D credits is reduced by the time value of money where the value of a credit today is more valuable than the same credit used in the future. Furthermore, firms with positive tax liabilities may simply be unable to claim large R&D credits due to the statutory limits on the amount of general business credits that can be claimed.[36] As a result, only three of our selected companies, all large, provided sufficient data to measure the impact of this credit. Table IV-3 indicates both the large and small firms we selected invested heavily in R&D from 1998-2000, which is consistent with the literature. However, large firms on average spent a greater percentage of their sales on R&D during 1998-2000 than small firms.

Table IV-3
R&D as a Percentage of Sales

Small Firms	1998	1999	2000	Average
Akorn	7.08%	4.27%	6.17%	5.84%
Hi Tech	4.83%	5.18%	6.32%	5.44%
Medicis	15.21%	3.52%	15.21%	11.31%
Average	**9.04%**	**4.32%**	**9.23%**	**7.53%**

Large Firms	1998	1999	2000	Average
Bristol Meyers Squibb	8.63%	9.11%	10.64%	9.46%
Schering Plough	12.47%	12.98%	13.58%	13.01%
Merck	6.77%	6.32%	5.81%	6.30%
Pfizer	14.23%	14.74%	15.00%	14.66%
Warner Lambert	8.59%	9.74%	N/A	9.16%
Average	**10.14%**	**10.58%**	**11.26%**	**10.66%**

Source: Company 10-K Filings.

We found the impact of the R&D credit to be substantially less than the impact of expensing of R&D. As shown in Table IV-4, all three large companies reduced their effective tax rates at least 0.8 percentage points in each of the three years. The average impact of the R&D credit for these three large companies declined year-to-year from a 1.3 percentage point reduction in the effective tax rate in 1998 to a 1.0 percentage point reduction in 2000. This trend is consistent with our analysis of the SoI data, as well as the literature, which found conclusive evidence that the R&D credit has been reduced over time.

Table IV-4
Reduction in Effective Tax Rate Due to R&D Credit

Large Firms	1998	1999	2000	Average
Schering Plough	0.80%	0.80%	0.80%	0.80%
Pfizer	1.80%	1.20%	1.20%	1.40%
Warner Lambert	1.30%	1.10%	N/A	1.20%
Average	**1.30%**	**1.03%**	**1.00%**	**1.11%**

Source: IIC, Inc. Analysis based on Company 10-K Filings.

[36] The R&D credit is a component of the general business credits.

Although we could not estimate directly the impact of expensing of R&D expenditures from the SoI data, we used the company's reported R&D expenditures in their 10-K filings to estimate the impact of this program. Under this program, firms are permitted to deduct up to 100 percent of their R&D costs in the year in which they incurred. Alternatively, firms would have to capitalize these R&D investments on a straight-line basis over a period of at least 60 months, treating them as capital investments. Our measure of this program's impact most likely overstates the impact a firm receives from expensing R&D expenditures because there are limitations on the research expenditures that can be expensed.[37]

We found the tax preference for R&D expensing benefited large firms to a greater degree than small firms in each of the three years we examined. As Table IV-5 indicates, large firms were able to reduce their effective tax rates, realizing an average reduction in their effective tax rate of between 3.47 and 4.35 percent. Small firms, on the other hand, were only able to realize an average reduction in their effective tax rate of between 0.74 and 1.47 percentage points. Further, a three-year average of this program's impact indicates large firms were able to reduce their effective tax rate by 2.92 percentage points more than small firms. Large firms likely receive a greater benefit from R&D expensing than small firms due to the fact that they spend a greater percentage of their revenues towards R&D, as shown in Table IV-3.

Table IV-5
Reduction in Effective Tax Rate due to R&D Expensing[38]

Small Firms	1998	1999	2000	Average
Akorn	2.17%	1.87%	N/A	2.02%
Hi Tech	0.77%	0.03%	N/A	0.40%
Medicis	N/A	0.30%	0.98%	0.64%
Average	**1.47%**	**0.74%**	**0.98%**	**1.06%**
Large Firms	**1998**	**1999**	**2000**	**Average**
Bristol Meyers Squibb	3.56%	4.37%	4.10%	4.01%
Schering Plough	4.19%	4.76%	4.90%	4.62%
Pfizer	7.43%	6.19%	3.08%	5.57%
Merck	2.05%	0.64%	1.79%	1.49%
Warner Lambert	4.54%	4.66%	N/A	4.60%
Average	**4.35%**	**4.12%**	**3.47%**	**3.98%**

Source: IIC, Inc Analysis based on Company 10-K Filings.

[37] For example, the cost of structures and equipment used in a firm's R&D cannot be deducted under this expensing provision. In addition, companies only report their total worldwide R&D expenditures but do not disaggregate domestic R&D expenses from their foreign R&D expenses. We assumed firms utilized this program by expensing 100 percent of reported R&D expenditures. As a basis of comparison, we assumed a firm would deduct its R&D expenditures on a straight-line basis over at least a 60-month period if this program were not permitted. If however a firm reported any R&D credits, we computed the proper adjustment by reducing the amount a firm could expense by the amount of R&D credits claimed.

[38] The shading on the large companies indicates these companies claimed R&D credits in the year shown. The impact of R&D is adjusted to reflect this. N/A indicates there was not enough information in the company's 10-K filing to estimate the impact of R&D expensing.

As discussed above, the current design of the R&D credit is the most likely reason for the reduced incentive and utilization of R&D credits by both large and small firms. In addition, many small firms, including the three we examined, may find the R&D credit too complex and administratively costly to use. We found the impact in terms of a percentage point reduction in effective tax rates is greater by expensing rather than crediting R&D expenditures. For example, the three-year average reduction in the effective tax rate for the three firms that both credited and expensed R&D expenditures was 3.82 percentage points higher from expensing than crediting R&D expenditures.[39] However, this result occurs because the R&D credit rate of 20 percent is less than the statutory tax rate of 35 percent for the top bracket.

Conclusion

Our examination of the differential impact of various tax expenditure programs between large and small firms in the pharmaceutical preparations industry confirms our findings from the SoI data analysis and enabled us to estimate the impact of two programs for which the SoI could not provide data. We found large pharmaceutical companies have extensive operations in Puerto Rico and overseas, whereas small firms are confined to operating inside the United States. This has significant tax consequences for both large and small firms, as we found large pharmaceutical companies are more likely to qualify for tax preferences that encourage foreign operations and thus receive a disproportionate share of tax relief than small firms that do not have the resources to expand globally. The design of the R&D credit reduces the incentive for both large and small firms to take advantage of the intended tax benefit.

Wired Telecommunications Industry Case Study (NAICS 51331)

Overview of Industry Selection Process

We identified the wired telecommunications carriers industry[40] as a good candidate for a case study to analyze the use of accelerated depreciation. From our literature review, we confirmed that firms in high technology and capital-intensive industries, such as telecommunications and computer and electronic product manufacturing, likely utilized accelerated depreciation rules to a greater extent than many other industries. These industries likely invest heavily in research and development as a way to innovate and purchase cost-effective equipment and structures. Therefore, we concluded that firms in these industries would satisfy our criterion #5.

[39] R&D Expensing Impact Three-Year Average = (4.62 + 5.57+ 4.60) / 3 = 4.93; R&D Credit Impact Three-Year Average = 1.11; Thus, 4.93 – 1.11 = 3.82.

[40] The U.S. Census Bureau defines the wired telecommunications industry as "establishments engaged in operating and maintaining switching and transmission facilities to provide direct communications via landlines, microwave, or a combination of landlines and satellite linkups, or furnishing telegraph and other non-vocal communications using their own facilities (NAICS Code 513310)."

The telecommunications industry tends to have more depreciable assets than less capital-intensive industries, and therefore claims a larger deduction for accelerated depreciation. The *Corporation Income Tax Returns* data indicate that the broadcasting and telecommunications industry claimed the largest depreciation deductions during 1998-2000. A study by the Congressional Budget Office (1995, 39) found the communications sector of the U.S. economy was the second largest beneficiary of the accelerated depreciation rules, receiving support equal to 1.5 percent of the sector's gross domestic product in 1995. The same report found the manufacturing segment of the U.S. economy (NAICS Code 31) to be the sixth largest beneficiary. Based on this report and our assumption on the level of accelerated depreciation deductions claimed, we concluded that the broadcasting and telecommunications, as well as the computer and electronics industries satisfied our criterion #3. Table IV-6 shows the amount of depreciation deductions claimed by the broadcasting and telecommunications industry during tax years 1998-2000.

Table IV-6
Total Depreciation Deductions Claimed by NAICS Code 513 & 334 Industries: 1998-2000
($ 000)

	Broadcasting & Telecommunications (NAICS Code 513)
Tax Year	**Depreciation Deductions Claimed**
1998	$49,724,506
1999	$58,438,879
2000	$65,458,544

Source: U.S. Treasury (IRS, 2001, 2002, 2003).

Among the telecommunications industry subgroups, we selected wired rather than wireless telecommunications carrier, because the wired telecommunications carrier is a more mature industry. Firms in a more mature industry would likely have assets that have been in use longer. Although the wireless telecommunications industry encompasses more firms, the difference is relatively small. We found the wired telecommunications carrier industry to have a sufficient number of small and large firms needed to conduct a case study analysis regarding accelerated depreciation rules, and thus satisfy our selection criterion #2.[41] Before deciding to select the wired telecommunications carriers industry for a case study, we investigated whether there were enough publicly traded small and large firms to satisfy our selection criterion #4. After reviewing materials available from the SEC, we determined there were a sufficient number of publicly traded firms.

[41] The U.S. Small Business Administration classifies any wired telecommunications firm as small if it employs no more than 1,500 persons. According to the U.S. Census, Statistics of U.S. Businesses, there were 2,968, 3,107, and 3,257 wired telecommunication firms with less than 500 employees in 1998, 1999, and 2000 respectively.

Background Information on Wired Telecommunications Industry[42]

The wired telecommunications industry includes companies that provide electronic communications by means of wire networks or fiber-optic lines. The industry is divided into local telephone companies and long distance carriers. Local telephone companies provide basic telephone services that include bringing telephone access lines into the home and servicing local lines and equipment. These companies also connect customers to long distance carriers. In addition to basic services, many local telephone companies also publish phone directories, offer operator assistance, and provide add-on services, such as voice-mail and caller identification. The majority of local telephone companies operate in the more than $100 billion local exchange market (S&P 2000b, 16). The Bell Operating Companies, often referred to as the "Baby Bells" from the 1984 AT&T divestiture, and the more than 1,000 independent local phone companies are known as Incumbent Local Exchange Carriers (ILECs). In addition to the ILECs, new local telephone service providers are referred to as Competitive Local Exchange Carriers (CLECs). These CLECs also include competitive access providers (CAPs) that utilize fiber optic telephone lines that connect businesses to long-distance providers. The local telephone market, however, is dominated by the "Baby Bells," which provided service to approximately two-thirds of the nearly 205 million U.S. local access lines that were in service at the beginning of 2000 (S&P 2000b, 7).

Long-distance carriers, the other segment of the wired telecommunications industry, comprise a $90 billion market providing national and international telephone services (S&P 2000b, 17). In contrast to local telephone companies, long-distance carriers are not restricted to a specific region or market; rather the entire United States is one large competitive market. Long-distance companies typically pay a fee to local carriers to connect long distance calls to their lines. There are predominantly two types of long distance carriers in the United States. Facilities-based carriers are infrastructure rich companies that allow them to lease transmission facilities to either other long-distance companies or to large corporations that use them as private communications networks. In addition to facilities-based carriers, resellers are long-distance carriers that connect calls by using transmission facilities leased from a large national carrier. Three companies have dominated the long-distance market: AT&T, MCI Worldcom, and Sprint. These companies accounted for approximately 82 percent of the long-distance market, while the remaining 18 percent of the market is comprised of some 400 smaller companies (S&P 2000b, 8).

The Telecommunications Act of 1996 increased competition and subsequently stimulated innovation in the industry. This legislation authorized local telephone companies, long-distance carriers, and cable television operators to enter one another's markets. The "Baby Bells," however, were prohibited from offering long-distance service until they could demonstrate their markets were open to viable competition. By mid 2000, only one of the remaining four "Baby

[42] We anticipated being able to examine several tax expenditure programs in the wired telecommunications industry. However, we discovered that many company 10-K filings in this industry did not provide enough data from which we could estimate the impact of R&D expensing and credits. Therefore, we could only estimate the impact of accelerated depreciation in the wired telecommunications industry.

Bells" actually cleared this hurdle and started offering long-distance service (S&P 2000b, 9). The ability to offer additional services allowed individual telephone companies to provide customers multiple lines of service, including local and long distance calls, as well as internet access. These changes sparked growth in the competitive local exchange market, so that switched access lines increased to approximately 5 million in 1999. As a result, CLECs increased their market share of the local exchange market to 3.5 percent from 3 percent in 1998. In comparison, smaller long-distance companies increased their market share from 17 percent in 1998 to 18 percent in 1999 (S&P 2000b, 11-12; 1999, 9-10). As competition increased, both long distance and local carriers started to develop digital technology to increase the speed of data transmission. For example, in 1998, local carriers installed 3.4 million miles of fiber-optic wire.[43] In addition, local telephone companies started to introduce internet services, such as DSL high-speed internet access on these fiber-optic wires.

The wired telecommunications industry is a capital-intensive industry; local carriers must physically connect residential homes and long-distance carriers and must either lease or build large transmission centers. As competition and innovation increased, the wired telecommunications industry further increased its large capital spending for structures and equipment. According to the U.S. Census Bureau, the wired telecommunications industry increased their capital investment by 31 percent in 2000 and by 10 percent in 1999 (U.S. Census Bureau 2002, 8, 11; 2001, 8, 14).

[43] See Encyclopedia of American Industries (2003b). Fiber optic wire is able to transmit larger volumes of data than traditional copper wire.

Findings

Our analysis of the six selected companies confirms our findings from the SoI data analysis of accelerated depreciation. These companies accounted for 27 percent of the industry's total revenues in 1998.[44] The findings detailed in Table IV-7 clearly show that accelerated depreciation benefits large firms more than small firms by a sizable amount.

Table IV-7
Reduction in Effective Tax Rate Due to Accelerated Depreciation

Small Firms	1998	1999	2000	Average
Hector Communications	0.35%	1.51%	1.04%	0.97%
New Ulm Telecommunications	0.46%	0.74%	1.63%	0.94%
Warick Valley Telephone	0.83%	0.84%	2.16%	1.28%
Average	**0.55%**	**1.03%**	**1.61%**	**1.06%**
Large Firms	**1998**	**1999**	**2000**	**Average**
Bell South	1.58%	1.62%	4.69%	2.63%
SBC	4.39%	5.35%	7.74%	5.83%
Alltel	1.90%	0.99%	2.32%	1.73%
Average	**2.62%**	**2.65%**	**4.92%**	**3.40%**

Source: IIC, Inc. Analysis based on Company 10-K Filings.

As Table IV-7 indicates, large firms realized an average reduction in their effective tax rates of between 2.62 and 4.92 percentage points, while small firms were only able to reduce their effective tax rate between 0.55 and 1.61 percentage points. Additionally large firms benefited significantly in reducing their effective tax rate of 2.34 percentage points more than small firms over the three-year period 1998-2000. The increased benefit from year-to-year for both small and large firms is the result of each company increasing its investment in capital expenditures from 1998-2000. Accelerated depreciation as a percent of sales on average over the three-year period was twice as large (0.9 percent versus 0.3 percent) for large firms. It is not surprising therefore to find large companies receive a substantially greater impact from accelerated depreciation than small firms, since they have greater revenues with which to make capital investments. Appendix C provides more detail on how these computations were made.

There is significant variation among both large and small firms in terms of impact within each year. Hector Communications, for example, received a 1.5 percentage point reduction in its effective tax rate in 1999, while New Ulm and Warwick Valley each received less than a single percentage point reduction in its effective tax rate as a result of accelerated depreciation. This similar difference in impact is observed among large companies as well; the accelerated depreciation impact is at least 30 percent greater for SBC than the other two large firms in 1999. This differential impact among firm size is found in each of the three years we analyzed.

[44] This 27 percent is equal to the 1998 reported revenues of the selected companies divided by the total sales for the entire wired telecommunications industry as reported in the 1997 Economic Census.

Conclusion

By examining selected individual company 10-K filings, we were able to estimate in greater detail the differential impact of accelerated depreciation between large and small firms. Increased competition and innovation in the wired telecommunications industry led to a higher level of investment in capital assets. The tax consequences of such expenditures are undoubtedly factored into a firm's decision to make such purchases. We found large firms in the wired telecommunications industry were able to reduce their effective tax rate substantially more than small firms. It is clear from both our case study and SoI data analyses that the accelerated depreciation rules that were in effect from 1998-2000 have enabled large firms to reduce their effective tax rates by a greater percentage than small firms.

Computer Systems Design Services Industry (NAICS 541512)

Overview of Industry Selection Process

Our analysis of the SoI data and review of the literature indicate many small businesses rely on the travel and entertainment deduction as a marketing tool to promote their products and services. In fact, many small businesses find the meals and entertainment deduction to be a cost-effective way to market and develop their supplier and customer relationships. Although there is a lack of industry-specific literature and publicly available data regarding business meals and entertainment deductions, one can assume that industries with a large share of small businesses and newly established firms would likely realize a greater reduction in effective tax rates from this program.

Data provided by the U.S. Census Bureau[45] indicate that the three two-digit NAICS code industries that experienced the largest growth in newly established small businesses during 1998-2000 were the following, respectively: construction; professional, scientific, and technical services; and retail trade. We concluded that the professional, scientific, and technical services sector (NAICS Code 54) would include a greater number of publicly held small and large firms than the construction and retail trade sectors. We further determined the seven largest four-digit NAICS code industries within the professional, scientific & technical services industry that experienced the largest increase in newly established firms. These industries were: computer systems design and related services (NAICS Code 5415); management, scientific, and technical services (NAICS Code 5416); legal services (NAICS Code 5411); architectural, engineering, and related services (NAICS Code 5413); accounting, tax return preparation, bookkeeping, and payroll services (NAICS Code 5412); other professional, scientific, and technical services (NAICS Code 5419); and advertising and related services.[46]

[45] These data are provided by the U.S. Census Bureau, Statistics of U.S. Businesses detail the number of newly established firms by employment size for tax years 1998, 1999, and 2000.

[46] Of these six industries, the computer systems design and related services industry (NAICS Code 5415) experienced the largest number of newly established firms. For example, there were 17,216 and 17,694 newly established firms in this industry between 1998 and 1999, and 1999 and 2000 respectively.

To select an industry where firms directly compete with one another, we selected a sub-industry based on our selection criterion #2 (six-digit NAICS code) within each of the above six four-digit NAICS code industries with the exception of NAICS Code 5419. We determined many firms in the other professional, scientific, and technical services industry (NAICS Code 5419) provide too many different lines of business and therefore a sample of firms would not be reflective of a specific industry. Thus, we narrowed our industry selection process to six-digit NAICS code industries: computer systems design services (NAICS Code 541512); administrative and general consulting services (NAICS Code 541611); lawyer offices (NAICS Code (541110); architectural services (541310); offices of Certified Public Accountants (NAICS Code 541211); and advertising agencies (NAICS Code 54180). According to data reported in the 1997 Economic Census, we determined there were a sufficient number of both small[47] and large firms within each of the six-digit NAICS code industries we selected.[48]

Although we initially selected six six-digit NAICS code industries as potential candidates to serve as a case study analyzing business meals and entertainment deductions, we were forced to eliminate all of them except for the computer systems design services industry based on the availability of public data. This is the only industry that we determined had a sufficient number of firms with publicly available financial data and therefore satisfied all of our selection criteria. In addition, we believe firms in the computer systems design services industry invests heavily in equipment and therefore most likely takes advantage of both the travel and entertainment deduction and accelerated depreciation rules.

Background Information on Computer Systems Design Services Industry

The computer systems design services industry primarily includes companies that provide computer assistance by designing computer systems that combine hardware, software, and communication technologies. Firms in this industry are engaged in at least one of the following three services: (1) the development or modification of computer software; (2) the marketing of purchased computer hardware; and (3) assistance in all phases of systems development from design through installation. The most common services provided by computer systems design service companies include: systems integration, outsourcing, consulting services, and networking. These four services are intended to meet the specific design and operational functions of clients.

Computer system design service companies market their ability to create more efficient and effective computer systems for their clients. Systems integration combines expertise in software and hardware components to develop customized information systems for a client's needs. The integration process is divided into several different stages, including planning, design, construction, implementation and operation, and specialized personnel training of the customized system (S&P 2001). Computer system design service companies offer a second popular service known as outsourcing, the management of a client's entire technology

[47] U.S. Small Business Administration size standards for NAICS Code 54 are based on the average annual receipts of a firm, rather than employment size.
[48] According to the U.S. Census Bureau, 1997 Economic Census, there were at least 3,000 firms in each of these six-digit NAICS Codes with annual revenues of both less than and greater than $5 million.

infrastructure, including systems analysis, applications development, network operations, desktop computing and data center monitoring.[49] Firms in this industry also provide two other types of outsourcing: business process outsourcing and disaster recovery. Business process outsourcing includes claims processing, credit checking, human resources, and customer call centers. Disaster recovery provides clients with a secondary processing site where data are stored in the event it becomes lost or destroyed. Consulting services offered by these companies include information technology (IT) and management consulting, with which these companies advise clients on the "strategic acquisition and utilization of IT and on business strategy, operations, change management and business process reengineering."[50] Small firms dominate the computer systems design service industry. In the early 1990s, "more than 80 percent of the companies in this industry were smaller, entrepreneurial firms with sales below $2 million" (Encyclopedia of American Industries 2003a).

Findings

Our analysis of the six companies in this industry that we selected confirms the findings from the SoI data and literature review. Theses companies accounted for 28 percent of the industry's revenues in 1998.[51] We found large firms benefit less than small firms from the partial deduction for T E expenses. Also, we found no differential impact on large firms whether they receive either a 50 or 100 percent deduction for T&E expenses. As Table IV-8 indicates, the impact of the partial deduction for T&E expenses for small firms resulted in an average reduction of 1.32 percentage points in their effective tax rates between 1998 and 2000. Large firms on the other hand realized an average reduction of only 0.36 percentage points, nearly a one percentage point difference from small firms. Thus, our results clearly indicate the partial T&E deduction provides small firms with greater tax relief than large firms.

Table IV-8
Reduction in Effective Tax Rate due to 50 Percent Deductibility of T&E Expenses

Small Firms	1998	1999	2000	Average
Comtrex Systems	0.14%	2.46%	1.22%	1.28%
Cellular Technical Services	NA	1.63%	3.51%	2.57%
Integral Systems	NA	0.58%	2.01%	1.30%
Average	**0.14%**	**1.56%**	**2.25%**	**1.32%**
Large Firms	**1998**	**1999**	**2000**	**Average**
Unisys Corporation	0.32%	0.29%	0.60%	0.40%
Computer Sciences Corporation	NA	0.40%	0.45%	0.43%
Micros Systems Incorporated	0.20%	0.15%	NA	0.18%
Average	**0.26%**	**0.28%**	**0.53%**	**0.36%**

Source: IIC, Inc. Analysis based on Company 10-K Filings.

[49] See 10-K filing for Computer Sciences Corporation, 2000.
[50] See 10-K filing for Computer Sciences Corporation, 2000.
[51] This 28 percent is equal to the 1998 reported revenues of the selected companies divided by the total sales for the entire computer systems design services industry as reported in the 1997 Economic Census and thus probably understates the coverage of this industry in this case study.

As Table IV-9 indicates, the impact of increasing the T & E deduction to 100 percent, as advocated by many small business organizations, provides small firms with a substantially greater benefit, while large firms would receive little if any additional reduction in their effective tax rate. Large firms would realize on average the same reduction in their effective tax rate of 0.36 percentage points regardless of whether the T&E deduction were increased to 100 percent or completely eliminated. The impact of increasing the T&E deduction to 100 percent for small firms however is approximately 48 percent greater than if the deduction were completely eliminated (2.76 percent vs. 1.32 percent). These results clearly indicate increasing the T&E deduction to 100 percent would provide small firms with a significantly greater tax benefit, while the impact for large firms would be the same regardless of whether the T&E deduction were eliminated or increased.

Table IV-9
Reduction in Effective Tax Rate if T & E Deduction were Increased to 100 Percent

Small Firms	1998	1999	2000	Average
Comtrex Systems	0.58%	8.12%	3.78%	4.16%
Cellular Technical Services	NA	1.97%	5.74%	3.85%
Integral Systems	NA	0.71%	2.77%	1.74%
Average	**0.58%**	**3.60%**	**4.10%**	**2.76%**
Large Firms	**1998**	**1999**	**2000**	**Average**
Unisys Corporation	0.33%	0.29%	0.62%	0.41%
Computer Sciences Corporation	NA	0.41%	0.46%	0.44%
Micros Systems Incorporated	0.20%	0.15%	NA	0.18%
Average	**0.27%**	**0.28%**	**0.54%**	**0.36%**

Source: IIC, Inc. Analysis based on Company 10-K Filings.

Our analysis of accelerated depreciation among the selected firms that provided enough data in their 10-K filings to measure the impact of this tax expenditure confirms the results of our SoI data analysis and the wired telecommunications industry case study. As Table IV-10 indicates, large firms realized an average reduction in their effective tax rates between 1.00 and 2.27 percentage points, while small firms were only able to reduce their effective tax rate between 0.84 and 1.65 percentage points. In addition, large firms were able to reduce their effective tax rate on average by 0.26 percentage points more than small firms between 1998 and 2000. There is significant variation among both large and small firms in terms of impact within each year. Unisys Corporation, for example, received a 2.48 percentage point reduction in its effective tax rate in 1998, while Micros Systems received less than one half a percentage point reduction in its effective tax rate in 1999. This similar difference in impact is observed among small companies as well; the accelerated depreciation impact is six-tenths of one percent greater for Integral Systems in 1998 than for Cellular Technical Services in 1999. As Table IV-10 indicates, the differential impact among firm size is found in each of the three years we analyzed.

Table IV-10
Reduction in Effective Tax Rate Due to Accelerated Depreciation[52]

Small Firms	1998	1999	2000	Average
Cellular Technical Services	NA	0.84%	1.65%	1.24%
Integral Systems	1.47%	NA	NA	1.47%
Average	**1.47%**	**0.84%**	**1.65%**	**1.32%**
Large Firms	**1998**	**1999**	**2000**	**Average**
Unisys Corporation	2.48%	1.88%	1.35%	1.90%
Computer Sciences Corporation	NA	0.68%	3.19%	1.94%
Micros Systems	0.47%	0.44%	NA	0.45%
Average	**1.48%**	**1.00%**	**2.27%**	**1.58%**

Source: IIC, Inc. Analysis based on Company 10-K Filings.

Conclusion

Our examination of the differential impact of accelerated depreciation and the partial deduction for travel and entertainment expenses between large and small firms in the computer systems design services industry confirms our findings from the SoI data analysis. We found increasing the partial travel and entertainment deduction would provide a significant increased reduction for small firms' effective tax rates, while large firms would neither be harmed nor benefited from either reducing or increasing the deduction. Accelerated depreciation rules appear to benefit large firms to a greater degree than small firms in the computer services design industry, which is consistent with our findings from the SoI data analysis that indicated large firms in the professional, scientific, and technical services sector took greater advantage of this tax expenditure. It is clear from both our case study and the SoI data analysis that the partial deduction for travel and entertainment expenses is significantly more important to small than large firms, whereas accelerated depreciation rules that were in effect form 1998-2000 disproportionately benefited large firms to a greater degree than small firms.

[52] Comtrex Systems Corporation did not provide enough information in their 10-K filing to calculate the tax savings from accelerated depreciation and thus the impact of this program could not be calculated. NA indicates the company did not report enough information in the given year to measure the impact of accelerated depreciation.

Chapter V
Conclusions and Policy Issues

This study has involved a review of the relevant literature related to tax expenditure programs as well as a detailed examination of data on various programs. Using these data we have been able to compute effective tax rates by firm size and estimate the impact of these programs on the effective tax rates. Further we were able to evaluate the findings from the data analyses and literature review through three case studies. Our research has led us to the following conclusions and policy recommendations:

- Small firms benefit from certain tax expenditure programs, although as a general matter, by a smaller amount than large firms. In many cases these differences are relatively small. However, large firms appear to be in a better position to take advantage of certain programs, especially those involving tax credits for overseas operations. Small business advocates should look for ways to narrow this gap to help promote healthy competition between large and small firms and to reduce the subsidy provided to overseas operations.

- Small firms do obtain a significant benefit from the partial deduction of travel and entertainment expenses and benefit more from this program than do large firms. Reinstatement of the full 100 percent deduction would greatly benefit small firms (and large firms as well, but by a lesser amount). Our analysis strongly suggests that this be a major policy priority with regard to tax policy for small business.

- Accelerated depreciation is the most significant in terms of dollar impact, dwarfing all other tax expenditure programs, and favors large firms over small firms by a modest amount. The Section 179 depreciation deduction, however, helps level the playing field for small firms, and small business advocates should work to ensure the continued existence of this program.

- Contrary to certain findings, small firms do not benefit significantly from tax credits for research and development, and are more likely to benefit from the expensing provisions for R&D. Large business is the primary beneficiary of tax credits for R&D, but the overall impact of this program appears small in terms of reducing firms' effective tax rate. Expensing of R&D clearly appears to have a more dramatic impact for small firms, and small business advocates should emphasize the importance of this program particularly in relation to the R&D tax credit program.

- As would be expected foreign tax credits favor large firms relative to small firms by a significant margin. However, there are signs that small firms are beginning to close the gap slightly over the period 1998-2000, realizing a net effective tax rate gain relative to large firms of approximately one half of a percentage point over this three-year period.

Appendix A
Industries Examined for Case Study Analysis

Industry	NAICS Code	Satisified Criteria #	Did Not Satisfy Criteria #
Construction	23	2, 3	4, 5
Manufacturing	31	1, 2, 3, 4, 5	-
Chemical mfg.	325	1, 2, 3, 4, 5	-
Pharmaceutical Preparation mfg.	325412	1, 2, 3, 4, 5	-
Machinery mfg.	333	2, 3, 5	4
Computer and Electronic Product mfg.	334	1, 2, 3, 4, 5	-
Electronic Computer Mfg.	334111	2, 3, 4, 5	2
Transportation Equipment mfg.	336	3, 5	1, 3, 4
Retail Trade	42	2, 4	3
Information	51	1, 2, 3, 4, 5	-
Broadcasting & Telecommunications	513	1, 2, 3, 4, 5	-
Television Broadcasting Industry	5133	1, 4, 5	2, 3
Telecommunications	5131	1, 2, 3, 4, 5	-
Finance & Insurance	52	1, 2, 3, 4, 5	-
Credit intermediation & related activities	522	1, 2, 3, 5	4
Securities intermediation & related activities	523	1, 2, 3, 5	4
Insurance Carriers & related activities	524	1, 2, 3, 5	4
Real Estate & rental housing	53	5	1, 2, 3, 4
Professional, scientific, & technical services	54	1, 2, 3, 4, 5	-
Legal Services	5411	2, 3, 5	4
Accounting, tax return prep, bookkeeping, & payroll services	5412	2, 3, 5	4
Architectural, engineering, & related services	5413		4
Computer Systems design & related services	5415	1, 2, 3, 4, 5	-
Management, scientific, & technical consulting services	5416	2, 3, 5	4
Advertising & related services	5418	2, 3, 5	4
Other Professional, scientific,& technical services	5419	2, 3, 5	4
Computer Systems Design Services	541512	1, 2, 3, 4, 5	-
Admin. And General Management Consulting Serv.	541611	2, 3, 5	4
Office of Lawyers	541110	2, 3, 5	4
Architectual Services	541310	2, 3, 5	4
Office of Certified Public Accountants	541211	2, 3, 5	4
Adertisitng Agencies	541810	2, 3, 5	4

Appendix B
Brief Descriptions of Companies
Selected for Analysis

Pharmaceutical Preparations Industry (NAICS Code 325412)

Large Firms

Bristol Myers Squibb Company operates three business segments: pharmaceuticals, nutritional, and other healthcare. The pharmaceutical division is the largest business segment with activities that include manufacturing, distributing, and marketing branded and generic ethical pharmaceuticals. The company employed approximately 44,000 employees at year-end 2000 and has significant foreign operations in Europe, Asia, Africa, and South America.

Schering-Plough, headquartered in Kenilworth, New Jersey, is engaged in the discovery, development, manufacturing, and marketing of a diverse range of pharmaceutical products. The company has extensive overseas operations in Europe and South America. From 1998-2000, Schering-Plough employed an average of 26,567 employees and reported $9 billion in revenue.

Merck & Company is a global pharmaceutical company that discovers, develops, manufactures, and markets a broad range of human and animal health products. The company, headquartered in Whitehouse Station, New Jersey, employed 69,300 employees worldwide with 42,000 employed in the United States at the end of 2000. The company's foreign operations are extensive, including operations in Asia, Europe, and the Middle East.

Pfizer, Incorporated is a worldwide pharmaceutical company that discovers, develops, manufacturers, and markets human and animal health products. The pharmaceutical division primarily manufactures products in three therapeutic classes: cardiovascular disease, infectious diseases, and central nervous system disorders. At year-end 2000, the company employed 90,000 employees worldwide. The company's foreign operations include Europe, Asia, and the Middle East.

Warner-Lambert Company merged with Pfizer in 2000. Prior to the merger, Warner-Lambert's primary business segment was its pharmaceutical division, which consisted of ethical pharmaceuticals. The company was headquartered in Morris Plains, New Jersey with extensive overseas operations in Australia, Europe, the Middle East, and Asia. The company employed an average of 42,500 employees and recorded $18.9 billion in revenue during 1998-1999. In addition, the company reported it claimed R&D credits in both 1998 and 1999.

Small Firms

Akorn, Incorporated, headquartered in Buffalo Grove, Illinois, manufactures and markets diagnostic and therapeutic pharmaceuticals in specialty areas, such as ophthalmology, rheumatology, anesthesia, and antidotes. During 1998-2000, the company had an average

workforce of 370 employees and $62 million in sales. The company has no international operations.

Hi-Tech Pharmacal Company, Incorporated, headquartered in Amityville, New York, manufactures and sells prescription, over-the-counter generic drugs and nutritional products. The company sells both generic and branded pharmaceutical products. The generic pharmaceuticals are marketed under the Hi-Tech name, while the company's branded products are marketed to people with diabetes. During 1998-2000, the company had an average workforce of 142 employees and $25 million in revenue. The company has no international operations.

Medicis Pharmaceutical Corporation is headquartered in Scottsdale, Arizona. The company's principal activities are to develop and market drugs for the treatment of dermatological, pediatric, and podiatric conditions. During 1998-2000, the company had an average employment size of 165 employees and $141 million in revenue. Medicis sole foreign operation is in Canada where it has a wholly-owned subsidiary.

Wired Telecommunications Industry (NAICS Code 51331)

Large Firms

Bell South Corporation is a local exchange telephone company created from the 1984 AT&T divestiture. Headquartered in Atlanta, Georgia Bell South employed over 90,000 employees in each of the three years we examined. The company is divided into three operating segments: domestic wireless services, international operations, and wireline communications (its largest segment). Bell South is the largest telephone service provider in the southeastern United States. The company's average revenues during fiscal year end 1998-2000 were $21,583 million.

SBC Communications Incorporated (SBC) is a member of the "Baby Bells" also created from the 1984 AT&T divestiture. Headquartered in San Antonio, Texas, SBC is divided into two operating segments: wireless and wireline services. The wireline division is the largest operating segment, providing local telephone service to thirteen states, located on West and East Coasts and in the Midwest. In 2000, the FCC allowed SBC to offer long-distance service. In 1999, the company acquired a fellow Baby Bell, Ameritech. SBC employed an average of 183,146 employees and reported an average of $4.3 billion in annual sales during 1998-2000.

Alltel Corporation, headquartered in Little Rock, Arkansas, provides wireline and wireless services. The wireline division provides local telephone service throughout the southeastern United States. From 1998-2000, Alltel employed an average of 24,400 employees and reported an average of $6.2 billion in annual sales.

Small Firms

Hector Communications Corporation (Hector) is organized into two operating segments: telephone and cable services. The telephone division is the largest business segment, providing local telephone services to residents in Minnesota, Wisconsin, North and South Dakota, and Iowa. Hector employed an average of 142 employees and reported an average of $35 million in revenue from 1998-2000.

New Ulm Telecommunications Incorporated is headquartered in New Ulm, Minnesota. New Ulm's principal line of business is the operation of three independent local exchange telephone companies in Minnesota. New Ulm employed an average of 48 employees and reported average revenues of $12 million.

Warwick Valley Telephone Company, headquartered in Warwick, New York, is organized into two operating segments: telephone and internet services. The company's principal line of business is the operation of local exchange telephone companies in New York and New Jersey. The company employed an average of 164 employees and reported an average of $24 million in revenues from 1998-2000.

Computer Systems Design Services Industry (NAICS 541512)

Large Firms

Computer Sciences Corporation (CSC) provides management and information technology (IT) consulting, as well as systems integration and outsourcing services. Founded in 1959, CSC has become one of the world leaders in the IT services industry with an average of $7.88 billion in sales between 1998 and 2000 and operations in North America, Europe, and Asia. CSC is headquartered in El Segundo, California and employed an average of 51,000 employees between 1998 and 2000.[53]

Unisys Corporation operates in two business segments: services and technology. The services division entails systems integration, outsourcing, network management and technical support. Unisys' clients include firms in a variety of industries, such as financial services, communications, transportation, publishing, and government entities. The technology division centers on the development of servers and other related products for large volume data storage needs. Unisys Corp is headquartered in Blue Bell, Pennsylvania and employed an average of 35,000 employees with annual average revenue of $7.2 billion.[54]

MICROS Systems Incorporated designs, manufactures and markets computer systems for the hotel and restaurant industries. Micros' hotel information services division develops hotel management software to expedite the recordkeeping of reservation systems and customer information data. Micros' clients include large hotel chains, such as Marriott International,

[53] See 10-K filings for Computer Sciences Corporation, 1998, 1999, 2000.
[54] See 10-K filings for Unisys Corporation, 1998, 1999, 2000.

Hilton, Hyatt and the Ritz-Carlton. Micros' restaurant information services division designs specialized software for "point-of-sale" and operational applications that assist clients' inventory tracking and financial recordkeeping. In addition, the company provides general software and network support. Micros Systems is headquartered in Columbia, Maryland and employed an average of 2,100 employees during 1998, 1999, and 2000 and recorded an average of $325 million in revenue during the same three-year period.[55]

Small Firms

Integral Systems, Incorporated develops computer satellite ground systems for government agencies, commercial satellite operators, and aerospace systems integrators. The company develops the necessary computer systems for over 120 different satellite missions in the United States and abroad. Integral systems employed an average of 207 employees and $36 million in revenue between 1998 and 2000. Although Integral's annual revenues exceed the SBA size requirement for the company to be classified as a small business, we found it necessary to include at least one relatively small publicly held company that reported both T & E expenses and a profit in two of the three years we examined.

Comtrex Systems Corporation develops transaction-processing software for the retail industry that includes point-of-sale (POS) terminals, computers, and peripheral devices to a wide range of retail businesses in the United States and through a network of authorized dealers in Canada, Australia, and Europe. Comtrex employed an average of 37 employees and recorded an average of $8 million in revenue between 1998 and 2000.

Cellular Technical Services Company, Incorporated develops advanced technological computer systems designed to detect and prevent fraudulent activities in the wireless communications industry. The company specializes in the design of "pre-call" verification software that detects unauthorized or stolen wireless phone numbers before a call is connected to a carrier's analog wireless communications network. Cellular Technical Services employed an average of 48 employees and recorded an average of $16 million in revenues between 1998 and 2000.

[55] See 10-K filings for Micros Corporation, 1998, 1999, 2000.

Appendix C
Methodology for Computing Effective Tax Rates and Impacts of Tax Expenditure Programs

Calculations Performed in Chapter III

This appendix provides more detail on how we computed effective tax rates and the impact on the effective tax rate of each tax expenditure program by firms in each size category for each of the 18 NAICS industry sectors for which we had complete data as discussed in Chapter III. A firm's effective tax rate (ETR) is the percentage of actual income tax paid (t) divided by taxable income (i).

$$ETR = t / i$$

Due to a lack of available data pertaining to specific assets, we were unable to compute effective tax rates for the two tax expenditure programs related to depreciation. As a result, we provided an alternative measure of the effect of these programs by showing the percentage of sales these two depreciation programs represented. Depreciation is a deductible expense for tax purposes and thus the amount that such depreciation reduces revenue has a direct relationship to the impact on taxable income. Therefore depreciation expressed as a percentage of revenue gives an idea of the magnitude of this impact.

The seven tax expenditure programs for which we had complete data to analyze take the form of an exemption, a deduction, or a credit. For each program analyzed in Chapter III, the current income subject to tax (i) and current income taxes paid after all credits (t) for each size category across industry sectors for tax years' 1998, 1999, and 2000 were taken from *U.S. Treasury (IRS, 2001, 2002, 2003)* The specific methodology and any assumptions that were necessary for this impact analysis depended on the nature of the tax expenditure program (exemption, deduction, or credit).

Foreign Tax Credit (FTC)

The impact of the foreign tax credit is measured as the difference in effective tax rates between crediting and deducting foreign taxes. The effective tax rate for crediting foreign taxes (i.e. claiming the FTC) under current tax law is the amount of total taxes paid after all credits (t) divided by taxable income or income subject to tax (i). The effect of a tax credit, such as the foreign tax credit, is a dollar for dollar reduction in the amount of taxes paid. Thus, the amount of taxes paid is reduced by the amount of the FTC (c). The amount of FTC claimed for each size category across industry sectors for tax years' 1998, 1999, and 2000 were taken from *U.S. Treasury (IRS, 2001, 2002, 2003)*. The step-by-step formulae to calculate the effective tax rate for crediting foreign taxes is:

Effective Tax Rate Methodology Under Current Tax Law for FTC

1.) Taxes paid after all credits = t
2.) Income subject to tax = i
3.) Amount of FTC = c = Tax Benefit of FTC
4.) Effective Tax Rate under current tax law (ETR_c) = t/i

If, however, the FTC were allowed as a deduction rather than a credit, the amount of taxes paid that could be reduced by such a deduction would initially increase by the amount of the FTC (c + t). Each dollar of tax credit would therefore be deducted for a value of r, so that each dollar of credit has a reduced tax benefit of only c*(1-r), where c is the amount of the FTC and r is the tax rate. Under this scenario, the new tax paid would equal the difference between the amount of taxes paid if the FTC were eliminated (c + t) and the tax benefit of deducting foreign taxes (x). The effective tax rate under this scenario is therefore the new tax paid (t') divided by the taxable income (i). The formulae for calculating the effective tax rate if the FTC were allowed as a deduction rather than a credit is:

Effective Tax Rate Methodology if FTC WERE Allowed as a Deduction

1.) Taxes paid after all credits= t
2.) Income subject to tax = i
3.) Amount of FTC = c
4.) Taxes paid IF FTC were eliminated = c + t
5.) New Tax Benefit if FTC is deductible = c*(1-r) = x; where r = tax rate
6.) New Tax Paid = (c +t) - x = t'
7.) New Effective Tax Rate = t' / I = ETR_w
8.) Impact of FTC = ETR_c -ERT_w

U.S. Possessions, Low-Income Housing, & Research Activities Credits

The impact of these three credits is measured separately as the difference between the effective tax rate without the specific tax expenditure program (ETR_w) and the effective tax rate under current tax law (ETR_c); $ETR_w – ETR_c$. For this impact analysis, it is assumed that only the tax expenditure in question is eliminated and that all other aspects of the tax law remain the same. The effective tax rate under present law is equal to the amount of total taxes paid after all credits (t) divided by taxable income or income subject to tax (i); ETR_c = t/i. The Corporation Statistics Branch of the Internal Revenue Service's Statistics of Income Division provided us with the total amount claimed for each of these three credits in each size category across industry sectors for tax years' 1998, 1999, and 2000.

The effect of a tax credit, such as the U.S. Possessions, Low-Income Housing, and Research Activities credits, is a dollar for dollar reduction in the amount of taxes paid. Therefore, if one of these three credits were excluded, the new amount of taxes paid would increase by the amount of the credit that was claimed under current tax law to equal (c + t), where c is the amount of the excluded credit claimed that otherwise would be claimed. The new

effective tax rate is therefore the amount of taxes paid excluding the specific credit divided by the income subject to tax.

The formulae for calculating the impact of either the U.S. Possessions, Low-Income Housing, or Research Activities credit is:

1.) Taxes paid after all credits = t
2.) Income subject to tax = i
3.) Effective Tax Rate under current tax law = t/i = ETR_c
4.) Amount of specific credit claimed = c
5.) New taxes paid excluding the credit in formula 4 = (c + t) = t'
6.) Effective Tax Rate excluding specific credit = t' / i = ETR_w
7.) Impact of specific credit = $ETR_w - ETR_c$

Accelerated Depreciation & Section 179 Deduction

Calculation of Total Accelerated Depreciation Deductions Claimed

The Corporation Statistics Branch of the Internal Revenue Service's Statistics of Income (SoI) division provided us with the total amount of non-accelerated depreciation deductions claimed, as well as the total amount of Section 179 deductions claimed for tax years' 1998, 1999 and 2000. The total amount of accelerated depreciation deductions claimed were calculated by subtracting the total amount of non-accelerated depreciation deductions claimed from the total amount of depreciation (accelerated and non-accelerated) deductions claimed across industry sectors that are published annually in the Internal Revenue Service, *Statistics of Income Corporation Income Tax Returns, Publication 16*, Washington, DC.

Accelerated Depreciation Methodology

The ratio of accelerated depreciation as a percentage of total sales revenue is simply the total amount of accelerated depreciation deductions claimed divided by the total sales revenue for each of the three size categories across industry sectors. The total sales revenue data are also published annually the SoI's annual report entitled *Corporation Income Tax Returns, Publication 16*.

Section 179 Deduction Methodology

The ratio of section 179 deductions as a percentage of total sales revenue is calculated in the same way as the accelerated depreciation ratio, where the total amount of Section 179 deductions is divided by the total sales revenue. In addition to this ratio, we determined the percentage of accelerated depreciation attributable to Section 179 deductions by dividing the Section 179 deduction ratio by the accelerated depreciation ratio.

Partial Deduction for Travel and Entertainment (T&E) Expenses

Impact of 50 Percent Deductibility of T&E Expenses

The impact of the 50 percent deductibility of T&E expenses is measured as the difference between the effective tax rate without the ability to deduct any T&E expenses (ETR_w) and the effective tax rate under current tax law (ETR_c); $ETR_w - ETR_c$. For this impact analysis, it is assumed that only this tax program is eliminated and that all other aspects of the tax law remain the same. The effective tax rate under current tax law is equal to the amount of total taxes paid after all credits (t) divided by taxable income or income subject to tax (i); $ETR_c = t/i$. The Corporation Statistics Branch of the Internal Revenue Service's Statistics of Income (SoI) division provided us with the amount of T&E expenses across industry sectors that could not be deducted during the current tax year. Due to the 50 percent deductibility rule, we assumed the amount of T&E expenses not deducted were equal to the amount of T&E expenses that were deducted.

The effect of a deduction, such as the ability to deduct 50 percent of T&E expenses, is a reduction in taxable income and subsequently a reduction in the amount of taxes paid. Therefore without the ability to deduct any T&E expenses, the income subject to tax (i) is increased by the amount of T&E expenses deducted (d) under current law. The additional tax paid that results when T&E expenses are no longer deductible is equal to the tax rate (r) multiplied by the amount of T&E expenses that are deducted under current law (d). This additional tax paid is added to the amount of taxes paid under current law (t) to reflect the increase in taxes paid when no deduction for T&E expenses is permitted. The effective tax rate with no deduction for T&E expenses is therefore the new taxes paid divided by the new income subject to tax, both of which are larger with no deduction permitted. The formulae for calculating the impact of the 50 percent deductibility of T&E expenses is:

1.) Taxes paid after all credits = t
2.) Income subject to tax = i
3.) Effective Tax Rate under current law = $t/i = ETR_c$
4.) Amount of T&E Expenses deducted = 50 % of Total T&E Expenses = d
5.) New Income subject to tax if T&E expenses not deductible = (i+d) = i'
6.) Additional Taxes Paid if T&E expenses are not deductible = (r*d); where r = tax rate
7.) New Taxes Paid if T&E expenses are not deductible = (r*d) + t = t'
8.) Effective Tax Rate excluding specific credit = t' / i' = ETR_w
9.) Impact of 50 percent deductibility of T&E expenses = $ETR_w - ETR_c$

Impact of Increasing Deductibility of T&E Expenses to 100%

The methodology to estimate the impact of increasing the deductibility of T&E expenses to 100 percent is similar to the above formulae but with formulas 5, 7, and 9 reversed to take into account the reduced income subject to tax and taxes paid of increased deductibility. The formulae for calculating the impact of increasing the deductibility of T&E expenses to 100 percent is:

1.) Taxes paid after all credits = t
2.) Income subject to tax = i
3.) Effective Tax Rate under current law = t/i = ETR_c
4.) Amount of T&E Expenses deducted = 50 % of Total T&E Expenses = d
5.) New Income subject to tax if T&E expenses not deductible = **(i-d) =i'**
6.) Additional Taxes Paid if T&E expenses are not deductible = (r*d); where r = tax rate
7.) New Taxes Paid if T&E expenses are not deductible = **(r*d) - t = t'**
8.) Effective Tax Rate excluding specific credit = t' / i' = ETR_w
9.) Impact of 50 percent deductibility of T&E expenses = **ETR_c – ETR_w**

Tax-Exempt Interest on State and Local Government Debt

The impact of measuring this tax expenditure is measured as the difference between the effective tax rate if these tax-exempt bonds were taxable (ETR_w) and the effective tax rate under current tax law that permits such an exemption (ETR_c); ETR_w – ETR_c. For this impact analysis, it is assumed that only that the interest income earned on state and local government debt becomes taxable and that all other aspects of the tax law remain the same. The effective tax rate under present law is equal to the amount of total taxes paid after all credits (t) divided by taxable income (i); ETR_c = t/i. The Corporation Statistics Branch of the Internal Revenue Service's Statistics of Income (SoI) division provided us with the amount of tax-exempt interest on state and local government debt for each size category across all industry sectors for tax years 1998, 1999, and 2000.

The effect of an exemption is the same as a deduction, which results in a reduction in taxable income and subsequently a reduction in the amount of taxes paid. Therefore without the ability to exempt any earned interest on state and local government debt, the income subject to tax (i) is increased by the amount of exempt interest income (e) under current law. The additional tax paid that results when interest income is no longer exempt is equal to the tax rate (r) multiplied by the amount of interest income exempt under current law (e). This additional tax paid is added to the amount of taxes paid under current law (t) to reflect the increase in taxes paid if tax-exempt interest income becomes taxable. The effective tax rate if the exemption for interest income earned from state and local government debt is no longer permitted is equal to the new taxes paid divided by the new income subject to tax, both of which are larger with no exemption permitted. The formulae for calculating the impact of tax-exempt interest on state and local government debt is:

1. Taxes paid after all credits = t
2. Income subject to tax = i
3. Effective Tax Rate under current law = t/i = ETR_c
4. Amount of tax-exempt interest income = e
5. New Income subject to tax if interest income is no longer exempt = (i+e) = i'
6. Additional Taxes Paid if interest income is no longer exempt = (r*e);
   where r = tax rate

7. New Taxes Paid if interest income is no longer exempt = (r*e) + t = t'
8. Effective Tax Rate excluding specific credit = t' / i' = ETR_w
9. Impact of 50 percent deductibility of T&E expenses = $ETR_w - ETR_c$

Calculations Performed in Chapter IV

In order to measure the impact of any reported tax expenditure programs in 10-K filings, it is necessary to first calculate a firm's reported federal effective tax rate. It is important to note that a majority of the data contained in 10-K filings is based on financial accounting with only scattered notes in these statements that briefly mention the consequences of federal taxes. Depending on a company's fiscal year-end date, we collected 10-K filings from fiscal year end 1998 to 2001.[56]

We calculated a company's effective tax rate under present law as current federal taxes payable divided by the reported income subject to tax. This computation leads to a different "effective tax rate" than is reported in the company's own 10-K report. This difference is primarily due to the fact that public companies in their 10-K filings include among other things the effect of deferred taxes as well as state and local taxes in its computation of an effective tax rate. This adjusted effective tax rate calculation allowed us to measure the impact of any reported tax expenditure programs a firm may have enjoyed during the year.

Pharmaceutical Preparations Industry

The computational procedure used to analyze any reported U.S. Possessions credits, Foreign Tax credits, and Research credits was the same as that used in Chapter II and outlined in this appendix. The impact of the deferral of foreign source income is measured as if the deferred taxes will never be paid, and thus for this analysis we assume the deferral in effect becomes an exemption. The methodology for measuring the impact of this program is the same as that used in measuring the impact of tax-exempt interest income from state and local government debt in Chapter II.

The impact of expensing research and development (R&D) expenditures is measured as the difference between the effective tax rate without the ability to deduct 100 percent of R&D expenses (ETR_w) and the effective tax rate under current tax law (ETR_c); $ETR_w - ETR_c$. The effective tax rate under present law is equal to the percentage of total taxes paid after all credits (t) divided by taxable income or income subject to tax (i); $ETR_c = t/i$.

We made several important assumptions for this analysis. First, we assumed firms utilized this program by expensing 100 percent of reported R&D expenditures. As a basis of comparison, we assumed a firm would deduct its R&D expenditures on a straight-line basis over at least a 60-month period if this program were not permitted. If, however, a firm reported any

[56] We collected data contained in 10-K filings from fiscal year-end 1998 to 2000 for firms whose fiscal year-end occurs in the month of December and from fiscal-year end 1999 to 2001 for firms whose fiscal year-end occurs in the month of June.

R&D credits, we computed the proper adjustment by reducing the amount a firm could expense by the amount of R&D credits claimed.

Expensing R&D costs permits firms to take a deduction which results in a reduction in taxable income and a reduction in the amount of taxes paid. The conceptual procedure used to analyze this program is similar to that used for the 50 percent deductibility of T&E expenses in Chapter II. However, the amount of R&D expenditures that could be expensed if this program were eliminated was reduced to 1/5 of a firm's reported R&D expenditures. This reduction subsequently increases a firm's taxable income by 80 percent instead of 100. The second adjustment is the reduction of 1/5 of a reported firm's R&D expenditures by the amount of any R&D credits claimed. The formulae for calculating the impact of R&D expensing is:

1.) Current federal income taxes payable = t
2.) Income subject to tax = i
3.) Effective Tax Rate under current law = t/i = ETR_c
4.) Amount of R&D Expenses deducted if 100 % Expensing Provision Eliminated = ((e*1/5) – c)) = e'; where e = total R&D expenses and
    c = research credits claimed
5.) New Income Subject to tax if R&D expenses are only 20 % deductible = (e' + i)
6.) Additional Taxes Paid if R&D expenses are not deductible = ((r* (e-e')) = t';
    where r = tax rate
7.) New Taxes Paid if R&D expenses are not deductible = t' + t = p
8.) Effective Tax Rate excluding 100 % R&D Expensing = p / i' = ETR_w
9.) Impact of R&D Expensing = $ETR_w – ETR_c$

Wired Telecommunications Industry

Certain individual company 10-K filings provided enough information in the notes to their financial statements to permit calculation of the tax savings attributable to accelerated depreciation. This allows an estimate of this tax expenditure program's impact as a reduction in a firm's effective tax rate. The tax benefit of accelerated depreciation is often reported as a tax liability in 10-K filings. The current year tax benefit of accelerated depreciation is calculated as the absolute difference in reported accelerated depreciation from the previous year to the current year. This tax savings attributable to accelerated depreciation is then added to a firm's current federal taxes payable to equal the amount of taxes a firm would have paid if there were no accelerated depreciation rules. The effective tax rate under this scenario is equal to the new tax paid divided by taxable income. The formulae for calculating the impact of accelerated depreciation as a reduction in a firm's effective tax rate is:

1.) Current federal income taxes payable = t
2.) Income subject to tax = i
3.) Effective Tax Rate under current law = t/i = ETR_c
4.) Current year tax benefit due to accelerated depreciation = $(D – D_1) = D'$, where
    D = amount of tax savings due to D in the current year and
    D_1 = amount of tax savings due to D in the previous year
5.) Taxes Paid if Accelerated Depreciation rules eliminated = (D' +t) = t'

6.) Effective Tax Rate excluding Accelerated Depreciation = t' / i = ETR_w
7.) Impact of Accelerated Depreciation = $ETR_w - ETR_c$

Computer Systems Design Services Industry

Firms often do not disclose their travel and entertainment deductions as a separate expense category in their financial statements, and therefore, we utilized a proxy for a company's T&E expenses to estimate the impact of this program. We computed a separate proxy value to estimate the amount of T&E expenses for small and large firms. For the two small companies that did not explicitly report T&E expenses, Comtrex Systems and Cellular Technical, we used a proxy based on three small firms that disclosed their T&E expenses.[57] The average annual reported T&E expenses as a percentage of revenues for the three small firms that reported T&E expenses served as the proxy for the two small companies that did not disclose T&E expenses in their 10-K filings. Using data provided by the SoI, we computed a similar proxy for the three large companies that did not disclose T&E expenses. We computed this proxy by calculating the ratio of total T&E expenses the professional, scientific, and technical services sector (NAICS Code 54) deducted as a percentage of total revenue for 1998, 1999, and 2000.[58] These proxy values were multiplied by each firm's annual revenue to estimate the amount of T&E expenses. The estimated T&E expenses were divided by 50 percent to determine the amount of deductible T&E expenses under current tax law. We assumed that firms would deduct the full 50 percent of their T&E expenses for this analysis. The conceptual procedure for measuring the impact of both 50 percent and 100 percent deductibility for T&E expenses in this case study was the same as that used in Chapter II with the exception of the adjusted T&E expense estimates.

The methodology and formulae used to analyze the impact of accelerated depreciation for each of the companies we examined in this industry was the same as that in the wired telecommunications industry.

[57] The three small companies that reported T&E expenses were: Integral Systems, Pamet, and Kinetiks. Both Pamet and Kinetiks reported less than $21 million in annual revenues but the companies also reported an operating loss in each of the three years we examined. Therefore, these two small companies could not be used in our analysis.
[58] The computer systems design services industry is included in the professional, scientific, and technical services sector.

Appendix D
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