

February 2004

TAX
ADMINISTRATION

Comparison of the
Reported Tax
Liabilities of Foreign-
and U.S.-Controlled
Corporations,
1996-2000



G A O

Accountability * Integrity * Reliability



Highlights of [GAO-04-358](#), a report to congressional requesters

Why GAO Did This Study

In prior reports, GAO found differences in the percentages of foreign-controlled corporations (FCC) and U.S.-controlled corporations (USCC) reporting no tax liability. Based on concerns that FCCs could be avoiding taxes by improperly shifting income to lower tax countries, GAO was asked to compare, for the years 1996 through 2000, (1) FCCs and USCCs, based on the tax liabilities they reported on their U.S. income tax returns—including the percentages reporting zero liabilities—and (2) the differences in FCCs and USCCs in terms of age and industry concentration and the extent to which these differences might explain tax reporting patterns. The report provides information separately for large corporations—those with at least \$250 million in assets or \$50 million in gross receipts—because, while they account for only 1 percent of all corporations, they own over 93 percent of all assets reported on corporate returns.

www.gao.gov/cgi-bin/getrpt?GAO-04-358.

To view the full product, including the scope and methodology, click on the link above. For more information, contact Jim White at (202) 512-9110 or whitej@gao.gov.

TAX ADMINISTRATION

Comparison of the Reported Tax Liabilities of Foreign- and U.S.-Controlled Corporations, 1996-2000

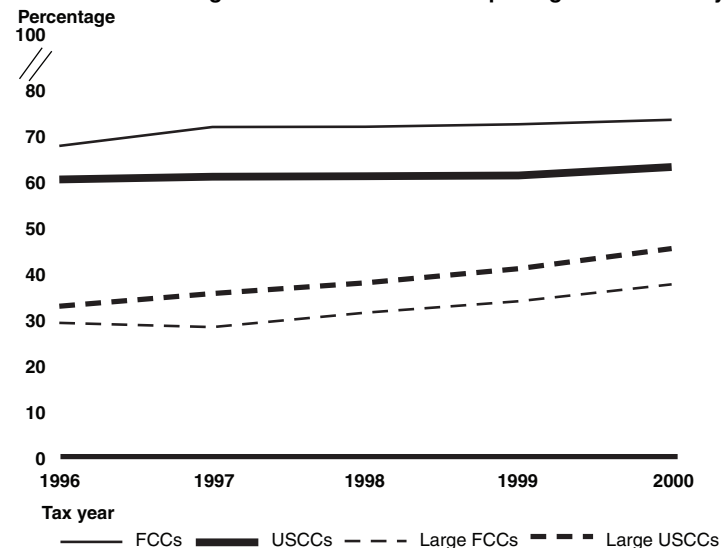
What GAO Found

Comparisons of the tax liabilities of FCCs and USCCs from 1996 to 2000 varied depending on the measure.

- A majority of all corporations reported no tax liabilities during these years, with a higher percentage of FCCs doing so than USCCs. However, the results were reversed for large corporations.
- A higher percentage of USCCs than FCCs reported tax liabilities of less than 5 percent of their total income, with similar results for large corporations.
- FCCs reported a lower amount of tax liability per \$1,000 in gross receipts than USCCs. The relationship was similar for large corporations.

FCCs and USCCs differ with respect to their age and industry concentrations. A greater percentage of FCCs than USCCs were new—incorporated for less than 3 years. FCCs were more concentrated in wholesale trade and financial services while USCC were more concentrated in nonfinancial services. Large FCCs and USCCs also differed in their age and industry concentrations. Age and industry concentration have been cited as possible explanations for the differences in tax liabilities reported by FCCs and USCCs. However, after controlling for age and industry concentration using a simple statistical model, the differences in taxes reported by FCCs and USCCs were not fully explained by these factors.

Estimated Percentages of FCCs and USCCs Reporting No Tax Liability, Tax Years 1996-2000



Source: GAO analysis of Internal Revenue Service data.

Contents

Letter

Results in Brief	1
Background	2
Scope and Methodology	3
Comparisons of the Tax Liabilities of FCCs and USCCs Depend on the Measure Used	4
Age and Industry Concentration May Explain Some Differences in FCCs and USCCs Reporting No or Little Tax Liability	5
Agency Comments	9
	14

Appendixes

Appendix I: Additional Tables	15
Appendix II: Statistical Analysis Using Logistic Regression	27
Appendix III: GAO Contacts and Staff Acknowledgments	32
GAO Contacts	32
Acknowledgments	32

Tables

Table 1: Estimated Percentage of Returns and Tax Liability Per \$1,000 in Gross Receipts for All and Large FCCs and USCCs, Tax Year 2000	9
Table 2: Estimated Percentage Distribution of FCCs and USCCs by Major Industry, Tax Year 2000	12
Table 3: Estimated Percentage Distribution of Large FCCs and USCCs by Major Industry, Tax Year 2000	13
Table 4: Estimated Number and Percentage of Returns for FCCs and USCCs Reporting No Tax Liability	15
Table 5: Estimated Percentage Distribution of FCCs and USCCs by Tax Liability as Share of Total Income, Tax Years 1996-2000	16
Table 6: Estimated Percentage Distribution of Large FCCs and USCCs by Tax Liability as Share of Total Income, Tax Years 1996-2000	17
Table 7: Estimated Average Tax Liability Per \$1,000 of Gross Receipts for All and Large FCCs and USCCs, Tax Years 1996-2000	18
Table 8: Profile of FCCs and USCCs by Estimated Amount of Income Tax Liability, Tax Year 2000	18
Table 9: Profile of Large FCCs and USCCs by Estimated Amount of Income Tax Liability, Tax Year 2000	19

Table 10: Estimated FCCs and USCCs Reporting No Tax Liability That Are Large and Small as a Percentage of All FCCs and USCCs, Tax Years 1996-2000	20
Table 11: Estimated Percentages of FCCs and USCCs That Were New, Tax Years 1996-2000	21
Table 12: Estimated Percentages of Large FCCs and USCCs That Were New, Tax Years 1996-2000	21
Table 13: Estimated Percentage Distribution of FCCs and USCCs by Major Industry, Tax Years 1996-2000	22
Table 14: Estimated Percentage Distribution of FCCs and USCCs Reporting No Tax Liability by Major Industry, Tax Years 1996-2000	23
Table 15: Estimated Percentage Distribution of Large FCCs and USCCs by Major Industry, Tax Years 1996-2000	23
Table 16: Estimated Percentage Distribution of Large FCCs and USCCs Reporting No Tax Liability by Major Industry, Tax Years 1996-2000	24
Table 17: Estimated Percentage of FCCs and USCCs That Reported No Tax Liability in Each Industry, Tax Years 1996-2000	24
Table 18: Estimated Percentage of Large FCCs and USCCs That Reported No Tax Liability in Each Industry, Tax Years 1996-2000	25
Table 19: Estimated Cost Ratios for All FCCs and USCCs by Major Industry, Tax Year 2000	25
Table 20: Estimated Cost Ratios for Large FCCs and USCCs by Major Industry, Tax Year 2000	26
Table 21: Estimated Percentages and Odds on Reporting No Tax Liability and Tax Liability of Less Than 5 Percent of Total Income, between All FCCs and USCCs and Odds Ratios Indicating the Difference between FCCs and USCCs, before and after Controlling for Age and Industry Sector, Tax Years 1996-2000	29
Table 22: Estimated Percentages and Odds on Reporting No Tax Liability and Tax Liability of Less Than 5 Percent of Total Income, between Large FCCs and USCCs and Odds Ratios Indicating the Difference between Large FCCs and USCCs, before and after Controlling for Age and Industry Sector, Tax Years 1996-2000	30

Figures

Figure 1: Estimated Percentages of FCCs and USCCs That Reported No Tax Liability, Tax Years 1996-2000	6
---	---

Figure 2: Estimated Percentages of FCCs and USCCs Reporting Less Than 5 Percent in Tax Liability Relative to Total Income, Tax Years 1996-2000	7
Figure 3: Estimated Percentages of FCCs and USCCs That Were New, Tax Years 1996-2000	10
Figure 4: Estimated Percentages of Large FCCs and USCCs That Were New, Tax Years 1996-2000	11

This is a work of the U.S. government and is not subject to copyright protection in the United States. It may be reproduced and distributed in its entirety without further permission from GAO. However, because this work may contain copyrighted images or other material, permission from the copyright holder may be necessary if you wish to reproduce this material separately.



United States General Accounting Office
Washington, D.C. 20548

February 27, 2004

The Honorable Byron Dorgan
Ranking Minority Member
Subcommittee on Competition, Foreign Commerce
and Infrastructure
Committee on Commerce, Science and Transportation
United States Senate

The Honorable Carl Levin
Ranking Minority Member
Permanent Subcommittee on Investigations
Committee on Governmental Affairs
United States Senate

In response to congressional requests, we have previously reported on the tax liabilities reported by foreign- and U.S.-controlled corporations. Most recently, in March 1999, we reported on differences in the percentages of foreign-controlled corporations (FCC) and U.S.-controlled corporations (USCC) reporting no income tax liability. We found that for each year from 1989 through 1995, FCCs were more likely to report zero tax liability than USCCs, though for large corporations the distinction was not as clear-cut. We said that transfer pricing abuses¹ and other factors such as age and industry concentration of corporations were possible explanations for the differences in the percentages of FCCs and USCCs reporting zero tax liabilities.²

You asked us to update our 1999 report. For the years 1996 through 2000 (the last year with data available), we agreed to compare (1) FCCs and USCCs based on the tax liabilities they reported on their U.S. income tax returns—including the percentages reporting zero liabilities—and (2) the differences in FCCs and USCCs in terms of age and industry concentration and the extent to which these differences might explain tax reporting patterns.

¹Transfer pricing is the pricing of intercompany transactions that affects the distribution of profits and, therefore, taxable income among related companies and sometimes across tax jurisdictions.

²U.S. General Accounting Office, *Tax Administration: Foreign- and U.S.-Controlled Corporations That Did Not Pay U.S. Income Taxes, 1989-95*, GAO/GGD-99-39 (Washington, D.C.: Mar. 23, 1999).

To meet these objectives, we analyzed data from the Internal Revenue Service's (IRS) Statistics of Income (SOI) samples of corporate tax returns for tax years 1996 through 2000. These samples were based on returns as filed and did not reflect IRS audit results or any net operating loss carrybacks from future years. The statistics in the report are estimates based on the SOI sample. Sampling errors are reported in appendix I. Caution should be used when comparing estimates because not all differences between estimates are statistically significant. We also used statistical modeling to estimate the likelihood of FCCs and USCCs reporting little or no U.S. income tax liability, holding age and industry sector constant. We report separately for large corporations—those with at least \$250 million in assets or \$50 million in gross receipts—because, while they account for only 1 percent of all corporations, they make up over 93 percent of all assets reported on corporate returns. We did not attempt to determine whether corporations were abusing transfer prices.

Results in Brief

Comparisons of the tax liabilities of FCCs and USCCs from 1996 through 2000 varied depending on the measure.

- A majority of all corporations reported no liabilities during these years with a higher percentage of FCCs doing so than USCCs, an estimated average of 71 percent and 61 percent, respectively. However, the results were reversed for large corporations with a greater percentage of large USCCs reporting no tax liability.
- A greater percentage of USCCs than FCCs reported tax liabilities of less than 5 percent of their total income, an estimated 94 percent and 89 percent, respectively, in 2000. The results were similar for large corporations. In 2000, an estimated 82 percent of large USCCs and 76 percent of large FCCs reported taxes of less than 5 percent of their total income.
- However, FCCs reported less tax liability per gross receipts than USCCs; in 2000, an estimated average of \$11.88 in tax liability per \$1,000 in gross receipts compared with an estimated \$14.75 reported by USCCs. A similar relationship held for large corporations.

Differences in age and industry concentration have been cited as possible explanations for differences in the tax liabilities reported between FCCs and USCCs. Compared with USCCs, a greater percentage of FCCs were new—incorporated for less than 3 years—for every year from 1996 through

2000. New firms may have greater expenses relative to receipts and, therefore, lower taxable income. A comparison of industry concentrations showed that FCCs were concentrated in different industries compared with USCCs. Large FCCs and USCCs also exhibited differences in age and industry concentration. Our analysis using a simple regression model showed that age and industry do not fully explain the differences between FCCs and USCCs in reporting no tax liabilities or tax liabilities less than 5 percent of total income.

Background

In prior reports, we found that a higher percentage of FCCs than USCCs reported no U.S. income tax from 1987 through 1995.³ Some of the reasons why FCCs and USCCs may not report U.S. income tax include current-year operating losses, losses carried forward from preceding tax years, sufficient tax credits available to offset tax liabilities, and improper pricing of intercompany transactions. Any company that has a related company with which it transacts business needs to establish transfer prices for those intercompany transactions. The pricing of intercompany transactions affects the distribution of profits and ultimately the taxable income of the companies. Transfer pricing abuse occurs when income and expenses are improperly allocated among interrelated companies for the purpose of reducing taxable income in a high-tax jurisdiction.

As we noted in our two earlier reports, researchers have attempted to explain why FCCs report lower tax liabilities than USCCs. Generally, the research has recognized that some of the nontax characteristics of firms, such as age and industry classification, may explain some of the differences in reported tax liabilities. At the same time, researchers have acknowledged that transfer pricing abuses may explain some of the differences, but they have not been able to determine the extent to which transfer pricing abuses explain the differences in the taxes reported by FCCs and USCCs.

For the purposes of this report, an FCC is either a foreign corporation or a U.S. corporation with 50 percent or more of its voting stock owned by a foreign person or entity. Foreign ownership or control of a U.S. corporation exists when a foreign investor gains control of an existing U.S. company or

³GAO/GGD-99-39 and U.S. General Accounting Office, *International Taxation: Transfer Pricing and Information on Nonpayment of Tax*, GAO/GGD-95-101 (Washington, D.C.: Apr. 13, 1995).

creates a new company and incorporates it in the United States. Both FCCs and USCCs are subject to U.S. income tax laws although the tax treatment of some income may differ.

Scope and Methodology

For both of our objectives, we used data from IRS's SOI files on corporate tax returns for 1996 through 2000 to make estimates for the population of FCCs and USCCs. The SOI corporation data we used for our analyses included all types of corporations except for subchapter S corporations,⁴ which are treated similarly to partnerships for federal income tax purposes. The SOI data in this report are based on SOI's probability sample of corporate tax returns and thus are subject to some imprecision owing to sampling variability. Using SOI's sampling weights, we estimated sampling errors for our estimates, which are reported in appendix I. Caution should be used when comparing estimates because not all differences between estimates are statistically significant. Differences between all FCCs and USCCs, between FCCs and USCCs reporting no tax liability, between large FCCs and USCCs, and between large FCCs and USCCs reporting no tax liability are statistically significant unless noted at the bottom of each figure or table. To ensure that the data were comparable across years, we converted all dollar-based data to 2000 dollars. These data included tax liabilities, total income, gross receipts, assets, cost of goods sold, interest, and purchases reported.

SOI is a data set widely used for research purposes. IRS performs a number quality control steps to verify the internal consistency of SOI sample data. For example, it performs computerized tests to verify the relationships between values on the returns selected as part of the SOI sample, and manually edits data items to correct for problems, such as missing items. We conducted several reliability tests to ensure that the data excerpts we used for this report were complete and accurate. For example, we electronically tested the data and used published data as a comparison to ensure that the data set was complete. To ensure accuracy, we reviewed related documentation and electronically tested for obvious errors. We

⁴Consistent with our 1999 report, we included the following types of corporate tax returns in our analyses: 1120, U.S. Corporation Income Tax Return; 1120A, U.S. Corporations Short-Form Income Tax Return; 1120L, U.S. Life Insurance Company Income Tax Return; 1120PC, U.S. Property and Casualty Insurance Company Income Tax Return; 1120REIT, U.S. Income Tax Return for Real Estate Investment Trusts; 1120-RIC, U.S. Income Tax Return for Regulated Investment Companies; and 1120F, U.S. Income Tax Return of a Foreign Corporation.

concluded that the data were sufficiently reliable for the purposes of this report.

To compare FCCs and USCCs based on the tax liabilities they reported on their U.S. income tax returns, we made estimates for a variety of measures of tax liability.

We also used SOI data to analyze differences in FCCs and USCCs by age and industry sector, the same factors we used in the 1999 report. We defined new corporations as those for which income tax returns showed incorporation dates within 3 years of the tax year date; all others were considered old corporations. For example, for tax year 2000, new corporations are those with incorporation dates no earlier than 1998. Next, we used a simple logistic regression model to estimate the likelihood of FCCs and USCCs reporting no tax liability or less than 5 percent in tax liability relative to total income, after controlling for age and industry sector. We also used the model to compare large FCCs and USCCs—corporations with at least \$250 million in assets or \$50 million in gross receipts. The simple model allowed us to compare FCCs and USCCs while holding age and industry constant. Our simple model did not control for other possible influences. For a further explanation of the regression model, see appendix II.

We requested comments on a draft of this report from the Commissioner of Internal Revenue. We conducted our review from July 2003 through February 2004 in accordance with generally accepted government auditing standards.

Comparisons of the Tax Liabilities of FCCs and USCCs Depend on the Measure Used

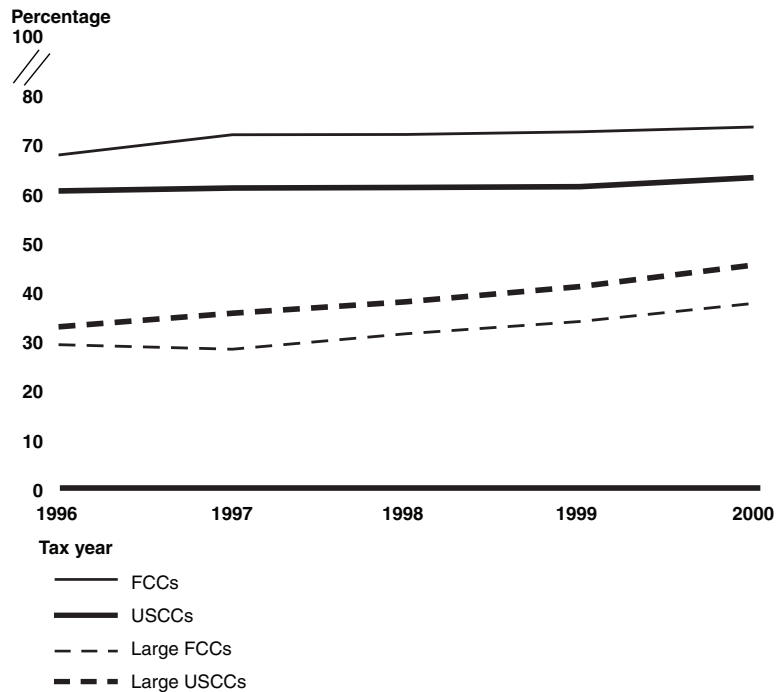
Comparisons of the tax liabilities of FCCs and USCCs vary and depend upon the measure used. Our comparisons highlight three measures: (1) the percentage of corporations reporting no tax liability, (2) the percentage of corporations reporting tax liabilities less than 5 percent of their total income, and (3) reported tax liabilities per \$1,000 of gross receipts. The first and third measures were highlighted in our 1999 report. We added the second measure to provide more information about corporations reporting little or no tax liability.

A Higher Percentage of FCCs Than USCCs Reported No Tax Liabilities

Similar to our 1999 report, a majority of corporations, both FCCs and USCCs, reported no tax liability from 1996 through 2000. During this time, there was a higher percentage of FCCs compared with USCCs that reported no tax liability. Overall, an estimated average of 71 percent of FCCs and 61 percent of USCCs reported no tax liability during this period. (See fig. 1 and table 4 in app. I.)

However, among large corporations, which owned a majority of assets reported by all corporations, the results were reversed. A higher percentage of large USCCs compared to large FCCs reported no tax liability during the same period. (See fig. 1 and table 6 in app. I.)

Figure 1: Estimated Percentages of FCCs and USCCs That Reported No Tax Liability, Tax Years 1996-2000

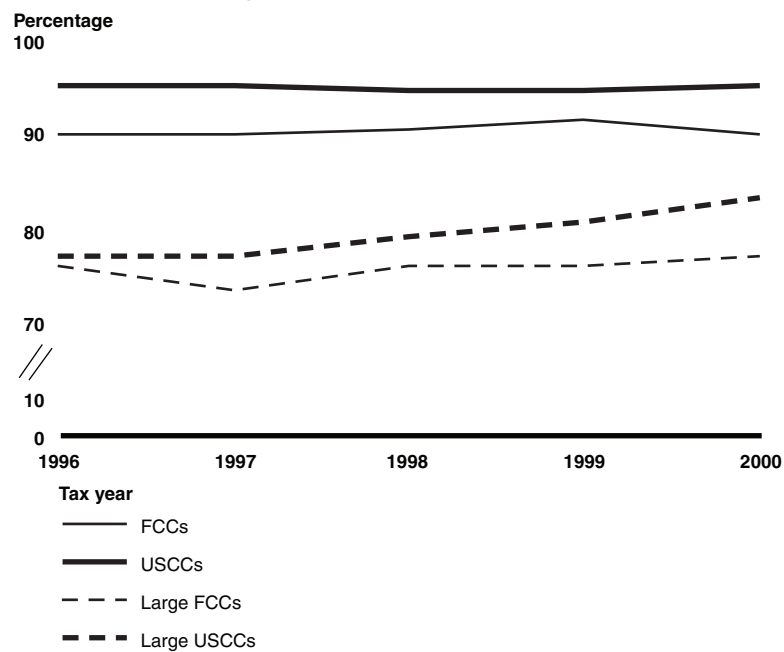


Source: GAO analysis of IRS data.

A Larger Percentage of USCCs Than FCCs Reported Tax Liabilities of Less Than 5 Percent of Total Income

For each year from 1996 through 2000, a higher percentage of USCCs than FCCs reported tax liability of less than 5 percent of their total income.⁵ For example, in 2000, an estimated 94 percent of USCCs and 89 percent of FCCs reported less than 5 percent in tax liability. The relationship was the same for large corporations. In 2000, an estimated 82 percent of large USCCs and 76 percent of large FCCs reported tax liability of less than 5 percent of their income. (See fig. 2 and tables 5 and 6 in app. I.)

Figure 2: Estimated Percentages of FCCs and USCCs Reporting Less Than 5 Percent in Tax Liability Relative to Total Income, Tax Years 1996-2000



Source: GAO analysis of IRS data.

Note: Differences between large FCCs and large USCCs are not statistically significant in 1996.

⁵Total income is income prior to subtracting deductions for allowable expenses.

FCCs Reported Less Tax Liability Relative to Gross Receipts Than USCCs

FCCs reported less tax liability as a percentage of gross receipts⁶ than USCCs. Overall, in 2000, FCCs reported an estimated \$11.88 in tax liability per \$1,000 in gross receipts compared with an estimated \$14.75 reported by USCCs. (See table 1.) Among large corporations, FCCs also reported less tax liability relative to gross receipts than USCCs. These data were consistent across all years in the reporting period for both all corporations and for large corporations. (See table 7 in app. I.) Another way of comparing tax liabilities is by the percentage of corporations reporting a tax liability below an arbitrary amount. For example, in 2000, an estimated 92 percent of all FCCs and an estimated 98 percent of all USCCs reported less than \$100,000 in tax liability. The percentages were not as high for large corporations: an estimated 46 percent of large FCCs and 53 percent of large USCCs reported less than \$100,000 in tax liability. (See tables 8 and 9 in app. I.)

⁶Gross receipts is one measure of income, but does not include subtracting cost of goods sold or adding other types of income, such as dividends or interest income.

Table 1: Estimated Percentage of Returns and Tax Liability Per \$1,000 in Gross Receipts for All and Large FCCs and USCCs, Tax Year 2000

Distribution by income tax liability	Percentage of returns (all)	Percentage of returns (large)	Tax liability/\$1,000 receipts (all)	Tax liability/\$1,000 receipts (large)
FCCs				
No tax liability	73.3	37.5	^a	^a
\$1 or more but less than \$100,000	18.2	8.7	\$2.70	\$0.29 ^b
\$100,000 or more but less than \$1 million	6.1	18.9	7.18	1.75
\$1 million or more	2.4	34.9	20.25	19.39
Total	100.0	100.0	\$11.88	\$11.52
USCCs				
No tax liability	63.0	45.3	^a	^a
\$1 or more but less than \$100,000	35.0	8.0	\$4.11	\$0.29 ^b
\$100,000 or more but less than \$1 million	1.6	17.1	12.16	2.95
\$1 million or more	0.3	29.5	21.96	21.50
Total	99.9	99.9	\$14.75	\$16.65

Source: GAO analysis of IRS data.

Note: Columns may not sum to 100 because of rounding.

^aNot applicable.

^bDifferences between large FCCs and large USCCs are not statistically significant.

Age and Industry Concentration May Explain Some Differences in FCCs and USCCs Reporting No or Little Tax Liability

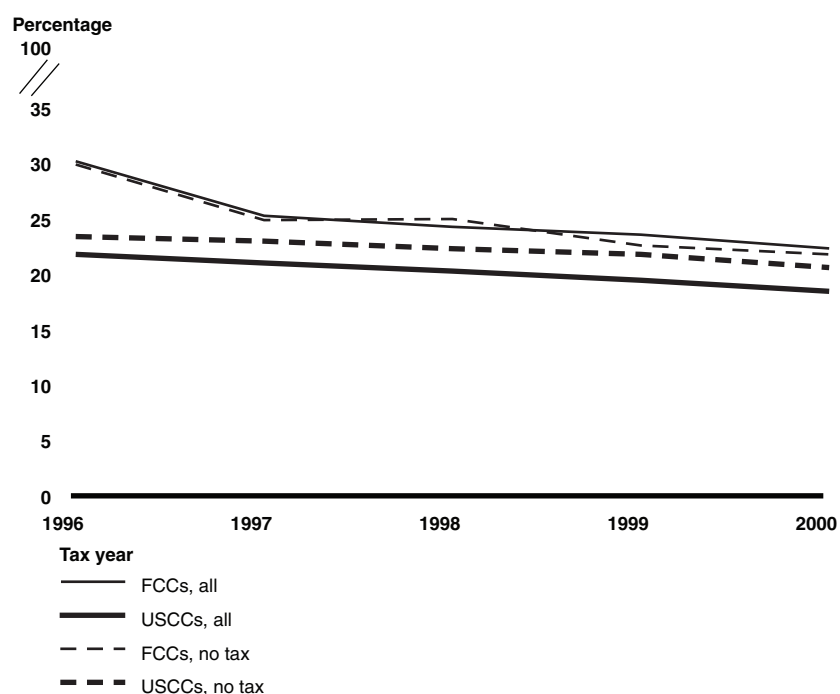
FCCs and USCCs differ in terms of age and industry concentration. These factors could possibly explain some of the differences in the tax liabilities reported by FCCs and USCCs. However, when we used a simple statistical model to control for age and industry sector, differences remained in the percentages of FCCs and USCCs reporting no or little tax liability.

A Larger Percentage of FCCs Were New Compared to USCCs

For every year from 1996 through 2000, a greater estimated percentage of FCCs compared to USCCs were new (incorporated for 3 years or less). New firms may have greater expenses relative to receipts and, therefore, lower taxable income. Among corporations reporting no tax liability, the

differences in age between FCCs and USCCs were not always statistically significant. (See fig. 3 and table 11 in app. I.)

Figure 3: Estimated Percentages of FCCs and USCCs That Were New, Tax Years 1996-2000

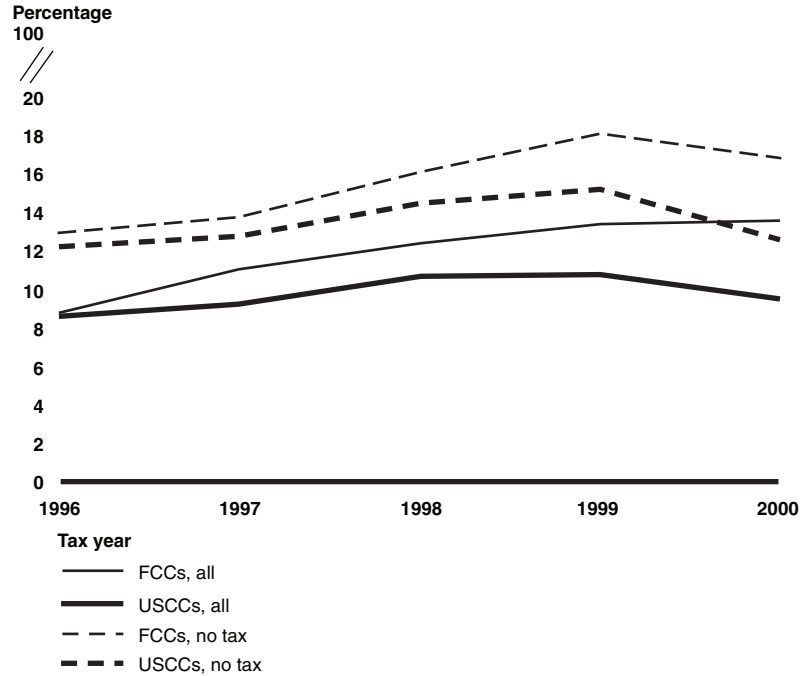


Source: GAO analysis of IRS data.

Notes: "New" includes FCCs and USCCs incorporated within 3 years. Differences between FCCs and USCCs that reported no tax liability were not statistically significant in 1997, 1998, 1999, and 2000.

When comparing large corporations, the percentage that was new was also higher for large FCCs than USCCs. Among large corporations reporting no tax liability, a larger percentage of FCCs were new compared with USCCs. However, not all the differences were statistically significant. (See fig. 4 and table 12 in app. I.)

Figure 4: Estimated Percentages of Large FCCs and USCCs That Were New, Tax Years 1996-2000



Source: GAO analysis of IRS data.

Notes: Differences between all large FCCs and all large USCCs are not statistically significant in 1996. Differences between large FCCs and large USCCs reporting no tax liability are not statistically significant in 1996 and 1997.

FCCs and USCCs Were Concentrated in Different Industries

FCCs and USCCs differed in their concentration among industries. In 2000, FCCs were more concentrated in the wholesale trade and financial services industries while USCCs were more concentrated in the nonfinancial services industry. Industry concentration did not change much when looking at only corporations reporting no tax liability. (See table 2.)

Table 2: Estimated Percentage Distribution of FCCs and USCCs by Major Industry, Tax Year 2000

Industry	FCCs, all	FCCs, no tax	USCCs, all	USCCs, no tax
Manufacturing	10.6	7.5 ^a	6.7	6.6 ^a
Wholesale trade	22.2	20.5	8.2	7.4
Financial services	31.8	34.6	15.2	14.3
Nonfinancial services	18.5	18.5	37.5	40.5
Retail	4.8	4.9	12.2	11.5
Other ^b	12.1	14.0	20.2	19.7
Total	100.0	100.0	100.0	100.0

Source: GAO analysis of IRS data.

Note: Columns may not sum to 100 because of rounding.

^aDifferences between FCCs and USCCs reporting no tax liability are not statistically significant.

^bOther includes transportation and public utilities; mining; construction; agriculture, forestry, and fishing; and other trades.

The concentration across industries did not vary much from year to year during the reporting period. (See tables 13 and 14 in app. I for year-to-year comparison.)

In 2000, all large FCCs and large FCCs reporting no tax liability were concentrated in the wholesale trade and manufacturing sector. In contrast, large USCCs were concentrated in the financial services industry. (See table 3.) The distribution of large FCCs and USCCs among industry sectors across the years 1996 through 1999 reflects that of 2000. (See tables 15 and 16 in app. I.)

Table 3: Estimated Percentage Distribution of Large FCCs and USCCs by Major Industry, Tax Year 2000

Industry	FCCs, all	FCCs, no tax	USCCs, all	USCCs, no tax
Manufacturing	38.5	38.9	19.5	14.6
Wholesale trade	26.4	21.2	11.1	6.3
Financial services	14.1	15.5	37.2	51.8
Nonfinancial services	9.0	11.1 ^a	11.4	12.0 ^a
Retail	3.6	3.6	10.6	7.0
Other ^b	8.4	9.7	10.3	8.2
Total	100.0	100.0	100.1	99.9

Source: GAO analysis of IRS data.

Note: Columns may not sum to 100 because of rounding.

^aDifferences between large FCCs and large USCCs reporting no tax liability are not statistically significant.

^bOther includes transportation and public utilities; mining; construction; agriculture, forestry, and fishing; and other trades.

Differences in cost ratios across industries are possible explanations for why industry concentration might affect the reported tax liabilities of FCCs and USCCs. Cost differences could affect profits and thus tax liabilities. For example, higher cost of goods sold relative to receipts could contribute to lower taxable income relative to receipts and, consequently, to lower tax liability relative to receipts. Tables 19 and 20 in appendix I show several types of cost ratios by major industry groups for 2000.

After Controlling for Age and Industry, Differences Remained in FCCs and USCCs

After controlling for age and industry concentration, we estimate that all FCCs remained more likely than all USCCs to have reported no tax liability from 1996 through 2000. However, consistent with our earlier comparisons, all FCCs were significantly less likely than all USCCs to have reported tax liabilities of less than 5 percent of their total incomes, after controlling for the same factors. For an explanation of the simple statistical model used to control for age and industry concentration or for details of the regression results, see appendix II.

For large corporations, estimated differences in tax liabilities between FCCs and USCCs after controlling for age and industry were generally smaller than the comparisons without controlling for these two factors. These results imply that age and industry may explain some of the

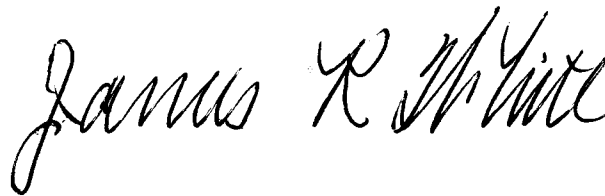
differences between large FCCs and large USCCs in reporting no tax liability or less than 5 percent of tax liability relative to total income. As reported in the earlier in this report, large FCCs were in all years less likely than large USCCs to report no tax liability or less than 5 percent in tax liability. After controlling for age and industry concentration, there are less systematic differences between FCCs and USCCs in their likelihood of reporting either no tax liability or tax liability of less than 5 percent.

Agency Comments

We provided a draft of this report to the IRS for its comments. On February 18, IRS provided comments via e-mail on technical issues, which we incorporated into this report where appropriate.

As arranged with your offices, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days after its date. At that time, we will then send copies to the Commissioner of Internal Revenue and other interested parties. We will also make copies available to others on request. In addition, this report will be available at no charge on GAO's Web site at <http://www.gao.gov>.

If you have any questions concerning this report, please contact me at (202) 512-9110 or at whitej@gao.gov or Ralph Block at (415) 904-2150. Key contributors to this report are listed in appendix III.



James R. White
Director, Tax Issues

Additional Tables

The tables in this statistical appendix supplement those in the letter. All the data were obtained from Internal Revenue Service's (IRS) Statistics of Income (SOI) corporate data samples for tax years 1996 through 2000. The tables in this appendix provide population estimates. After each table, notes indicate the sampling errors. We are confident the true estimates would be within these percentage points in 95 out of every 100 samples. Finally, we conducted tests to determine if there were significant differences between all FCCs and USCCs, between FCCs and USCCs reporting no tax liability, between large FCCs and USCCs, and between large FCCs and USCCs reporting no tax liability. The comparisons that were not statistically significant are noted in each table.

Table 4: Estimated Number and Percentage of Returns for FCCs and USCCs Reporting No Tax Liability

Tax year	FCC returns		USCC returns	
	Number	Percentage	Number	Percentage
1996	46,791	67.6	1,360,566	60.3
1997	50,625	71.7	1,331,638	60.9
1998	50,671	71.8	1,335,000	61.0
1999	50,149	72.3	1,310,280	61.2
2000	50,688	73.3	1,332,239	63.0
Total	248,924	71.3	6,669,723	61.3

Source: GAO analysis of IRS data.

Notes: The number of returns consists of population estimates based on IRS's sample of corporate tax returns. Percentages are the ratio of FCCs and USCCs reporting no tax liability to all (those reporting positive and no tax liability) FCCs and USCCs, respectively. Percentage estimates for FCCs have sampling errors of less than (+/-) 4 percentage points; percentage estimates of USCCs have sampling errors of less than (+/-) 1 percentage points.

**Appendix I
Additional Tables**

Table 5: Estimated Percentage Distribution of FCCs and USCCs by Tax Liability as Share of Total Income, Tax Years 1996-2000

	1996	1997	1998	1999	2000
FCCs					
No tax liability	67.6	71.7	71.8	72.3	73.3
Greater than 0% but lower than 5%	21.0	16.8	17.4	18.0	15.2
5% or more but less than 10%	5.0	5.0 ^a	4.5 ^a	4.4 ^a	4.2 ^a
10% or more but less than 15%	3.0	3.6	3.3	2.5 ^a	3.4
15% or more but less than 30%	2.9	2.6	2.2	2.5	3.0
30% or more	0.6	0.3	0.8	0.4	0.8
Total	100.1	100.0	100.0	100.1	99.9
USCCs					
No tax liability	60.3	60.9	61.0	61.2	63.0
Greater than 0% but lower than 5%	33.7	32.7	32.4	32.2	30.9
5% or more but less than 10%	3.5	3.8 ^a	3.9 ^a	3.7 ^a	3.4 ^a
10% or more but less than 15%	1.7	1.8	1.8	2.1 ^a	1.8
15% or more but less than 30%	0.6	0.7	0.8	0.7	0.7
30% or more	0.1	0.1	0.1	0.1	0.1
Total	99.9	100.0	100.0	100.0	99.9

Source: GAO analysis of IRS data.

Notes: Columns may not sum to 100 because of rounding. All percentage estimates have sampling errors of less than (+/-) 4 percentage points.

^aDifferences between FCCs and USCCs are not statistically significant.

**Appendix I
Additional Tables**

Table 6: Estimated Percentage Distribution of Large FCCs and USCCs by Tax Liability as Share of Total Income, Tax Years 1996-2000

	1996	1997	1998	1999	2000
Large FCCs					
No tax liability	29.1	28.2	31.3	33.8	37.5
Greater than 0% but lower than 5%	45.5	43.9	43.3	40.7	38.1
5% or more but less than 10%	15.6	16.3	15.5	14.7	13.9
10% or more but less than 15%	5.6	7.7	5.9	6.0	5.8
15% or more but less than 30%	3.7	3.8	3.6	4.4	4.2
30% or more	0.3	0.2	0.4	0.4	0.5
Total	99.8	100.1	100.0	100.0	100.0
Large USCCs					
No tax liability	32.7	35.5	37.8	40.9	45.3
Greater than 0% but lower than 5%	42.9	40.0	39.9	38.4	36.7
5% or more but less than 10%	17.7	17.8	16.5	15.4	13.1
10% or more but less than 15%	4.8	4.9	4.1	3.6	3.2
15% or more but less than 30%	1.8	1.7	1.5	1.4	1.4
30% or more	0.2	0.2	0.2	0.3	0.3
Total	100.1	100.1	100.0	100.0	100.0

Source: GAO analysis of IRS data.

Notes: "Large" FCCs or USCCs are those with assets of at least \$250 million or gross receipts of at least \$50 million in constant 2000 dollars. Columns may not sum to 100 because of rounding. All percentage estimates have sampling errors of less than (+/-) 2 percentage points.

Table 7: Estimated Average Tax Liability Per \$1,000 of Gross Receipts for All and Large FCCs and USCCs, Tax Years 1996-2000

Tax year	FCCs, all	USCCs, all	FCCs, large	USCCs, large
1996	\$10.62	\$16.11	\$10.06	\$18.82
1997	12.23	16.28	11.79	18.76
1998	10.77	15.67	10.24	17.91
1999	12.49	15.02	12.09	16.99
2000	11.88	14.75	11.52	16.65

Source: GAO analysis of IRS data.

Notes: Estimates in the first, third, and fourth columns have sampling errors of less than (+/-) \$0.30; estimates in the second column have sampling errors of less than (+/-) \$0.20.

Table 8: Profile of FCCs and USCCs by Estimated Amount of Income Tax Liability, Tax Year 2000

Distribution by income tax liability	Number of returns	Percentage of returns	Average gross receipts (dollars in millions)	Average income tax liability (dollars in millions)
FCCs				
No tax liability	50,688	73.3	\$15	^a
\$1 or more but less than \$100,000	12,577	18.2	6	\$0.02
\$100,000 or more but less than \$1 million	4,193	6.1	48 ^b	0.35
\$1 million or more	1,681	2.4	741 ^b	15.01 ^c
Total	69,139	100	\$33	\$0.39
USCCs				
No tax liability	1,332,239	63.0	\$2	^a
\$1 or more but less than \$100,000	740,639	35.0	2	\$0.01
\$100,000 or more but less than \$1 million	33,423	1.6	24	0.29
\$1 million or more	7,387	0.3	980 ^b	21.53 ^c
Total	2,113,689	99.9	\$6	\$0.08

Source: GAO analysis of IRS data.

Notes: Columns may not sum to 100 because of rounding. Estimates in the second column have sampling errors of less than (+/-) 2 percentage points; estimates in the third column have sampling errors of less than (+/-) \$3 million dollars except where noted; estimates in the fourth column have sampling errors of less than (+/-) \$.03 million dollars except where noted.

^aData not applicable.

^bSampling errors may be as high as (+/-) \$13 million dollars.

^cSampling errors may be as high as (+/-) \$0.2 million dollars.

Appendix I
Additional Tables

Table 9: Profile of Large FCCs and USCCs by Estimated Amount of Income Tax Liability, Tax Year 2000

Distribution by income tax liability	Number of returns	Percentage of returns	Average gross receipts (dollars in millions)	Average income tax liability (dollars in millions)
Large FCCs				
No tax liability	1,251	37.5	\$532	^a
\$1 or more but less than \$100,000	289	8.7	143 ^b	\$0.04
\$100,000 or more but less than \$1 million	630	18.9	260	0.45
\$1 million or more	1,165	34.9	1,061	20.57
Total	3,335	100.0	632	7.28
Large USCCs				
No tax liability	8,335	45.3	\$182	^a
\$1 or more but less than \$100,000	1,476	8.0	132 ^b	\$0.04
\$100,000 or more but less than \$1 million	3,152	17.1	149	0.44
\$1 million or more	5,427	29.5	1,328	28.54
Total	18,390	99.9	\$511	\$8.50

Source: GAO analysis of IRS data.

Notes: Columns may not sum to 100 because of rounding. Estimates in the second column have sampling errors of less than (+/-) 1 percentage point; estimates in the third column have sampling errors of less than (+/-) \$17 million dollars except where noted; estimates in the fourth column have sampling errors of less than (+/-) \$0.3 million dollars except where noted.

^aData not applicable.

^bDifferences between large FCCs and large USCCs are not statistically significant.

Table 10: Estimated FCCs and USCCs Reporting No Tax Liability That Are Large and Small as a Percentage of All FCCs and USCCs, Tax Years 1996-2000

Tax year	Number	Percentage	Number	Percentage
	Large FCCs		Large USCCs	
1996	841	1.8	5,520	0.4
1997	818	1.6	6,247	0.5
1998	944	1.9	6,674	0.5
1999	1,060	2.1	7,435	0.6
2000	1,251	2.5	8,335	0.6
Total	4,913	2.0	34,210	0.5
	Small FCCs		Small USCCs	
1996	45,951	98.2	1,355,046	99.6
1997	49,807	98.4	1,325,390	99.5
1998	49,727	98.1	1,328,327	99.5
1999	49,089	97.9	1,302,845	99.4
2000	49,437	97.5	1,323,904	99.4
Total	24,401	98.0	6,635,513	99.5

Source: GAO analysis of IRS data.

Notes: "Small" FCCs or USCCs are those with assets of less than \$250 million or gross receipts of less than \$50 million in constant 2000 dollars. Percentages are the ratio of large FCCs and large USCCs reporting no tax liability to all (large and small) FCCs and USCCs, respectively, and of small FCCs and small USCCs reporting no tax liability to all FCCs and USCCs, respectively. Percentage estimates for FCCs have sampling errors of less than (+/-) .5 percentage points; percentages estimates for USCCs have sampling errors of less than (+/-) .05 percentage points.

Table 11: Estimated Percentages of FCCs and USCCs That Were New, Tax Years 1996-2000

Tax year	FCCs, all	USCCs, all	FCCs, no tax	USCCs, no tax
1996	30.2	21.8	29.9	23.4
1997	25.3	21.0	24.9 ^a	23.0 ^a
1998	24.3	20.3	25.0 ^a	22.3 ^a
1999	23.6	19.5	22.6 ^a	21.8 ^a
2000	22.3	18.5	21.8 ^a	20.6 ^a

Source: GAO analysis of IRS data.

Notes: "New" includes FCCs and USCCs incorporated within 3 years. Estimates in the second column have sampling errors of less than (+/-) 1 percentage point; estimates in the fourth column have sampling errors of less than (+/-) 2 percentage points; estimates in the first and third columns have sampling errors of less than (+/-) 6 percentage points.

^aDifferences between FCCs and USCCs reporting no tax liability are not statistically significant.

Table 12: Estimated Percentages of Large FCCs and USCCs That Were New, Tax Years 1996-2000

Tax year	FCCs, all	USCCs, all	FCCs, no tax	USCCs, no tax
1996	8.8 ^a	8.6 ^a	12.9 ^a	12.2 ^a
1997	11.0	9.2	13.8 ^a	12.8 ^a
1998	12.4	10.7	16.1	14.5
1999	13.4	10.8	18.1	15.2
2000	13.6	9.5	16.8	12.6

Source: GAO analysis of IRS data.

Note: Estimates have sampling errors in the third column of less than (+/-) 2 percentage points; the first, second, and fourth columns have sampling errors of less than (+/-) 1 percentage point.

^aDifferences between FCCs and USCCs reporting no tax liability are not statistically significant.

**Appendix I
Additional Tables**

Table 13: Estimated Percentage Distribution of FCCs and USCCs by Major Industry, Tax Years 1996-2000

Industry	1996		1997		1998		1999		2000	
	FCCs	USCCs	FCCs	USCCs	FCCs	USCCs	FCCs	USCCs	FCCs	USCCs
Manufacturing	9.2 ^a	7.9 ^a	10.3	7.5	9.9	7.5	9.7	7.2	10.6	6.7
Wholesale trade	24.8	8.8	22.3	8.7	21.6	8.0	22.5	8.1	22.2	8.2
Financial services	36.4	15.1	37.0	15.4	34.7	15.1	33.7	15.3	31.8	15.2
Nonfinancial services	16.3	32.4	16.9	32.9	17.0	36.9	16.2	36.9	18.5	37.5
Retail	4.8	16.1	6.1	16.1	5.7	12.5	4.7	12.2	4.8	12.2
Other ^b	8.5	19.7	7.4	19.3	11.1	19.9	13.3	20.4	12.1	20.2
Total	100.0	100.0	100.0	99.9	100.0	99.9	100.1	100.1	100.0	100.0

Source: GAO analysis of IRS data.

Notes: Columns may not sum to 100 because of rounding. Estimates have sampling errors for FCCs of less than (+/-) 4 percentage points; estimates for USCCs have sampling errors of less than (+/-) 1 percentage point.

^aDifferences between FCCs and USCCs are not statistically significant.

^bOther includes transportation and public utilities; mining; construction; agriculture, forestry, and fishing; and other trades.

**Appendix I
Additional Tables**

Table 14: Estimated Percentage Distribution of FCCs and USCCs Reporting No Tax Liability by Major Industry, Tax Years 1996-2000

Industry	1996		1997		1998		1999		2000	
	FCCs	USCCs	FCCs	USCCs	FCCs	USCCs	FCCs	USCCs	FCCs	USCCs
Manufacturing	6.5 ^a	7.4 ^a	8.2 ^a	7.0 ^a	7.7 ^a	7.0 ^a	7.0 ^a	6.7 ^a	7.5 ^a	6.6 ^a
Wholesale trade	23.6	8.0	20.8	7.8	19.6	7.4	20.1	7.2	20.5	7.4
Financial services	40.8	14.3	40.9	14.5	37.5	14.8	37.7	14.7	34.6	14.3
Nonfinancial services	14.7	35.1	15.0	35.8	16.9	40.3	16.6	40.0	18.5	40.5
Retail	5.4	16.2	7.4	16.3	6.2	11.4	4.9	11.3	4.9	11.5
Other ^b	9.1	19.0	7.6	18.7	12.1	19.0	13.7	20.1	14.0	19.7
Total	100.1	100.0	99.9	100.1	100.0	99.9	100.0	100.0	100.0	100.0

Source: GAO analysis of IRS data.

Notes: Columns may not sum to 100 because of rounding. Estimates for FCCs have sampling errors of less than (+/-) 6 percentage points; estimates for USCCs have sampling errors of less than (+/-) 2 percentage points.

^aDifferences between FCCs and USCCs are not statistically significant.

^bOther includes transportation and public utilities; mining; construction; agriculture, forestry, and fishing; and other trades.

Table 15: Estimated Percentage Distribution of Large FCCs and USCCs by Major Industry, Tax Years 1996-2000

Industry	1996		1997		1998		1999		2000	
	FCCs	USCCs	FCCs	USCCs	FCCs	USCCs	FCCs	USCCs	FCCs	USCCs
Manufacturing	39.0	24.1	40.0	23.2	40.0	21.8	39.5	20.3	38.5	19.5
Wholesale trade	28.5	12.7	28.1	11.9	26.2	10.7	26.1	11.1	26.4	11.1
Financial services	14.1	32.5	13.7	33.9	14.4	36.0	14.4	36.9	14.1	37.2
Nonfinancial services	7.4	8.1	7.1	9.0	7.3	9.8	8.2	11.0	9.0	11.4
Retail	3.7	12.2	3.7	11.6	4.3	11.3	3.6	10.7	3.6	10.6
Other ^a	7.3	10.4	7.3	10.3	7.7	10.4	8.1	10.1	8.4	10.3
Total	100.0	100.0	99.9	99.9	99.9	100.0	99.9	100.1	100.0	100.1

Source: GAO analysis of IRS data.

Notes: Columns may not sum to 100 because of rounding. Estimates for FCCs have sampling errors of less than (+/-) 2 percent; estimates for USCCs have sampling errors of less than (+/-) 1 percent.

^aOther includes transportation and public utilities; mining; construction; agriculture, forestry, and fishing; and other trades.

**Appendix I
Additional Tables**

Table 16: Estimated Percentage Distribution of Large FCCs and USCCs Reporting No Tax Liability by Major Industry, Tax Years 1996-2000

Industry	1996		1997		1998		1999		2000	
	FCCs	USCCs	FCCs	USCCs	FCCs	USCCs	FCCs	USCCs	FCCs	USCCs
Manufacturing	34.5	15.0	35.4	14.2	35.1	14.6	37.1	13.9	38.8	14.6
Wholesale trade	27.8	7.7	26.1	7.5	24.8	5.7	22.5	5.6	21.2	6.3
Financial services	16.3	54.4	16.1	54.7	16.7	56.8	17.4	55.9	15.5	51.8
Nonfinancial services	7.5 ^a	7.1 ^a	8.6 ^a	8.7 ^a	8.3 ^a	9.0 ^a	9.2	11.6	11.1 ^a	12.0 ^a
Retail	4.5	9.1	5.0	7.7	5.9 ^a	6.1 ^a	3.5	5.5	3.6	7.0
Other ^b	9.5	6.7	8.8	7.1	9.1	7.8	10.4	7.6	9.7	8.2
Total	100.1	100.0	100.0	99.9	99.9	100.0	100.1	100.1	99.9	99.9

Source: GAO analysis of IRS data.

Notes: Columns may not sum to 100 because of rounding. Estimates for FCCs have sampling errors of less than (+/-) 3 percent; estimates for USCCs have sampling errors of less than (+/-) 2 percent.

^aDifferences between FCCs and USCCs are not statistically significant.

^bOther includes transportation and public utilities; mining; construction; agriculture, forestry, and fishing; and other trades.

Table 17: Estimated Percentage of FCCs and USCCs That Reported No Tax Liability in Each Industry, Tax Years 1996-2000

Tax year	Manufacturing		Wholesale trade		Financial services		Nonfinancial services		Retail	
	FCCs	USCCs	FCCs	USCCs	FCCs	USCCs	FCCs	USCCs	FCCs	USCCs
1996	47.4 ^{ab}	56.8 ^a	64.4	54.7	75.6	56.8	60.8 ^{ab}	65.5 ^a	76.6 ^{ac}	60.7 ^a
1997	57.3 ^a	56.8 ^a	66.9	54.4	79.2	57.4	63.8 ^{ab}	66.2 ^a	87.3 ^b	61.5
1998	56.1 ^a	57.4 ^a	65.1	56.2	77.6	59.8	71.0 ^a	66.6 ^a	78.4 ^b	55.7
1999	51.9 ^a	57.3 ^a	64.5	54.0	81.0	58.7	74.4	66.5	75.0 ^c	57.0
2000	51.4	61.7	67.7	56.8	79.8	59.3	73.6 ^a	68.2 ^a	73.8 ^{ac}	59.4 ^a

Source: GAO analysis of IRS data.

Note: All estimates have sampling errors of less than (+/-) 10 percent except where noted.

^aDifferences between FCCs and USCCs are not statistically significant.

^bSampling errors may be as high as (+/-) 14 percentage points.

^cSampling errors may be as high as (+/-) 23 percentage points.

**Appendix I
Additional Tables**

Table 18: Estimated Percentage of Large FCCs and USCCs That Reported No Tax Liability in Each Industry, Tax Years 1996-2000

Tax year	Manufacturing		Wholesale trade		Financial services		Nonfinancial services		Retail	
	FCCs	USCCs	FCCs	USCCs	FCCs	USCCs	FCCs	USCCs	FCCs	USCCs
1996	25.7	20.3	28.3	19.9	33.7	54.7	29.6 ^a	28.5 ^a	35.1	24.3
1997	24.9	21.8	26.2 ^a	22.5 ^a	32.8	57.3	34.3 ^a	34.3 ^a	38.5	23.5
1998	27.5	25.3	29.6	20.0	36.5	59.7	35.6 ^a	34.4 ^a	42.6	20.5
1999	31.7	27.9	29.2	20.5	40.6	62.0	37.6	43.3	32.7	20.9
2000	37.9	34.1	30.1	25.7	41.3	63.2	46.0 ^a	47.9 ^a	37.8	30.0

Source: GAO analysis of IRS data.

Note: All estimates have sampling errors of less than (+/-) 6 percentage points.

^aDifferences between FCCs and USCCs are not statistically significant.

Table 19: Estimated Cost Ratios for All FCCs and USCCs by Major Industry, Tax Year 2000

Industry	Cost of goods sold as a percentage of gross receipts		Purchases as a percentage of gross receipts		Interest as a percentage of gross receipts	
	No tax	All	No tax	All	No tax	All
FCCs						
Manufacturing	76.3	71.6	56.7	56.8	5.2	4.5 ^a
Wholesale trade	86.3	83.3	80.2	80.2	1.6	1.7
Financial services	43.0 ^b	49.2	3.4	1.7	118.8 ^c	74.9 ^c
Nonfinancial services	50.7	46.0	19.4	16.7	5.1	7.8
Retail trade	69.1	71.4	60.6	63.1	2.7	2.3
Other	57.0	59.7	17.7	20.0	6.5	7.2
USCCs						
Manufacturing	69.2	67.8	45.0	43.8	4.6	4.5 ^a
Wholesale trade	81.0	81.7	73.9	78.1	1.8	1.4
Financial services	56.4 ^b	53.5	1.9	1.1	19.1	41.1
Nonfinancial services	26.0	30.8	11.3	11.3	2.8	3.1
Retail trade	73.5	73.1	68.3	69.7	1.7	1.4
Other	49.8	53.4	21.1	22.2	7.3	5.3

Source: GAO analysis of IRS data.

Note: All estimates have sampling errors of less than (+/-) 3 percentage points except where noted.

^aDifferences between FCCs and USCCs are not statistically significant.

^bSampling errors may be as high as (+/-) 5 percentage points.

^cSampling errors may be as high as (+/-) 24 percentage points.

**Appendix I
Additional Tables**

Table 20: Estimated Cost Ratios for Large FCCs and USCCs by Major Industry, Tax Year 2000

Industry	Cost of goods sold as a percentage of gross receipts		Purchases as a percentage of gross receipts		Interest as a percentage of gross receipts	
	No tax	All	No tax	All	No tax	All
FCCs						
Manufacturing	76.4	71.7	56.9	57.0	5.3	4.6
Wholesale trade	87.4	83.8 ^a	81.1	80.9 ^a	1.6	1.8
Financial services	45.0 ^b	50.5	2.4	1.3	99.8 ^c	68.7 ^b
Nonfinancial services	52.8	47.3	19.2	16.8	5.4	8.7
Retail trade	70.2	71.9	60.9	63.4	2.9	2.4
Other	55.8	59.9	17.5 ^a	20.3	6.7	7.5
USCCs						
Manufacturing	70.0	68.0	45.9	44.0	5.1	4.7
Wholesale trade	84.6	84.0 ^a	77.0	81.0 ^a	2.0	1.6
Financial services	64.0 ^b	56.2	1.3	0.9	18.3	42.4
Nonfinancial services	30.7	35.4	11.0	10.9	4.9	4.6
Retail trade	71.6	72.4	65.7	69.1	2.1	1.6
Other	44.0	51.2	18.5 ^a	21.4	10.1	6.3

Source: GAO analysis of IRS data.

Note: All estimates have sampling errors of less than (+/-) 3 percentage points except where noted.

^aDifferences between large FCCs and USCCs are not statistically significant.

^bSampling errors may be as high as (+/-) 6 percentage points.

^cSampling errors may be as high as (+/-) 23 percentage points.

Statistical Analysis Using Logistic Regression

We used the SOI data from IRS's sample of corporate tax returns to estimate the differences between FCCs and USCCs in reporting no U.S. income tax liability or tax liability of less than 5 percent relative to total income. We looked at all of the corporations and separately at large corporations in each tax year from 1996 through 2000, and calculated odds ratios to estimate the difference between FCCs and USCCs.¹ We used USCCs as the reference category in our calculations, so the odds ratios indicate how much more likely (when the ratios exceed 1.0) or less likely (when they are less than 1.0) the odds were of FCCs reporting to have no tax liability or tax liability of less than 5 percent compared with USCCs. We show these odds ratios in the tables 21 and 22 both before and after adjusting them to control for the age and industry sector of each corporation. While the unadjusted odds ratios can be derived directly from the unadjusted odds shown in these tables, the adjusted odds ratios are from logistic regression models that were used in each year to estimate the difference between FCCs and USCCs after the controls for age and industry sector were introduced.² The following explains how odds ratios are calculated and elaborates on the tables in this appendix.

The odds on whether FCCs and USCCs report no tax liability or tax liability less than 5 percent are somewhat different from, but related to, the percentage of each type of corporation reporting no tax liability or tax liability of less than 5 percent. The odds of reporting no tax liability equal the percentage reporting no tax liability divided by the percentage reporting positive tax liability. For the sample of all FCCs and USCCs in 1996, for example, 67.6 percent of FCCs reported no tax liability. (See table 21.) The odds of an FCC reporting no tax liability in that year was 2.08, which equals $67.6/32.4$ ³ and implies that 2.08 of FCCs reported no tax liability for every FCC that reported some tax liability, or that 208 FCCs reported no tax liability for every 100 FCCs that reported some tax liability. Since 60.3 percent of USCCs reported no tax liability in 1996, the odds of USCCs reporting no tax liability was 1.52, which equals $60.3/39.7$. The

¹In all 5 years, 99 percent or more of all corporations were small, as we defined them. However, we reported separately on large corporations because they make up 93 percent of total assets of all corporations.

²Logistic regression is an appropriate technique to use when the dependent variable is binary, or has two categories, such as whether a corporation reported no tax liability versus positive tax liability or whether a corporation reported less than 5 percent in tax liability versus 5 percent or more in tax liability.

³Rounded values are used in this example to show how to simply calculate odds ratios.

unadjusted ratio of these odds, which is $2.08/1.52 = 1.37$, apart from rounding, implies that FCCs were more likely than USCCs to have reported no tax liability by a factor of 1.37. While odds are somewhat less familiar than percentages, the use of odds and odds ratios are unlike percentages and percentage differences, which are unaffected by whether we choose to look at the likelihood of whether an outcome does or does not occur, and by how likely or unlikely the outcome is across the subgroups we are comparing.

Table 21 shows how different all FCCs and USCCs were, using both percentage differences and odds ratios in each year, in terms of reporting no tax liability or tax liability of less than 5 percent of total income. Both before (unadjusted) and after (adjusted) controlling for age and industry sector, in every year FCCs were significantly more likely than USCCs to have reported no tax liability, with odds ratios ranging from roughly 1.37 to roughly 1.79. At the same time, FCCs were significantly less likely than USCCs to have reported tax liability of less than 5 percent in all years, with odds ratios ranging from roughly 0.49 to 0.78.

**Appendix II
Statistical Analysis Using Logistic
Regression**

Table 21: Estimated Percentages and Odds on Reporting No Tax Liability and Tax Liability of Less Than 5 Percent of Total Income, between All FCCs and USCCs and Odds Ratios Indicating the Difference between FCCs and USCCs, before and after Controlling for Age and Industry Sector, Tax Years 1996-2000

All corporations							
Tax year	Percentage reporting no tax liability		Odds on reporting no tax liability		Odds ratios		
	FCC	USCC	FCC	USCC	Unadjusted	Adjusted	
1996	67.6	60.3	2.08	1.52	1.37	1.47	
1997	71.7	60.9	2.53	1.56	1.62	1.77	
1998	71.8	61.0	2.55	1.56	1.63	1.71	
1999	72.3	61.2	2.60	1.58	1.65	1.79	
2000	73.3	63.0	2.75	1.70	1.61	1.74	
5-year average	71.3	61.3	2.49	1.58	1.57	1.69	

Tax year	Percentage reporting less than 5 percent in tax liability		Odds on reporting less than 5 percent in tax liability		Odds ratios	
	FCC	USCC	FCC	USCC	Unadjusted	Adjusted
1996	88.6	94.0	7.77	15.80	0.49	0.69
1997	88.5	93.6	7.67	14.73	0.52	0.73
1998	89.2	93.4	8.27	14.16	0.58	0.78
1999	90.2	93.4	9.24	14.24	0.65	0.86 ^a
2000	88.6	94.0	7.74	15.60	0.50	0.66
5-year average	89.0	93.7	8.10	14.88	0.54	0.74

Source: GAO analysis of IRS data.

Note: Adjustments to control for age and industry sector involved the use of dummy variables to contrast corporations that were less than 3 years old with other corporations, and to distinguish corporations in the manufacturing, wholesale, financial services, nonfinancial services, retail, and "other" sectors.

^aDenotes odds ratios in each year that did not reflect differences between FCCs and USCCs. Those not denoted can reasonably, with 95 percent confidence, be assumed to be due to something other than chance or random fluctuations. (The significance of the difference in the averaged odds ratios was not tested, since over the 5 years some corporations contributed five observations, some contributed four, some three, etc.)

Table 22 shows how different large FCCs and USCCs were in each year in terms of reporting no tax liability or less than 5 percent of tax liability relative to income. The unadjusted odds ratios reveal that before controlling for age and industry sector, large FCCs were in every year significantly less likely than large USCCs to have reported no tax, and in all years except for 1996, they were significantly less likely to report less than 5 percent in tax liability. After adjusting for age and industry, however, differences between large FCCs' and USCCs' likelihood of reporting no tax liability or less than 5 percent in tax liability were smaller except for one

**Appendix II
Statistical Analysis Using Logistic
Regression**

year (1996). Large FCCs were more likely than large USCCs to report no tax liability in 2 of the 5 years (1996 and 1998), less likely than large USCCs to report no tax liability in 1 year (2000), and no different than large USCCs in the other 2 years (1997 and 1999). With respect to reporting tax liabilities of less than 5 percent, large FCCs were significantly more likely than USCCs to have reported less than 5 percent in tax liability, after adjusting for age and industry sector, in 1 year (1996), significantly less likely in 2 years (1999 and 2000), and no different than USCCs in the other 2 years (1997 and 1998). Most of the statistically significant differences between large FCCs and USCCs were quite modest, and the odds ratios indicate that the former were not very different from the latter in terms of reporting no tax liability or of reporting tax liability less than 5 percent of total income.

Table 22: Estimated Percentages and Odds on Reporting No Tax Liability and Tax Liability of Less Than 5 Percent of Total Income, between Large FCCs and USCCs and Odds Ratios Indicating the Difference between Large FCCs and USCCs, before and after Controlling for Age and Industry Sector, Tax Years 1996-2000

Tax year	Large corporations					
	Percentage reporting no tax liability		Odds on reporting no tax liability		Odds ratios	
	FCC	USCC	FCC	USCC	Unadjusted	Adjusted
1996	29.1	32.7	0.41	0.49	0.85	1.15
1997	28.2	35.5	0.39	0.55	0.71	0.97 ^a
1998	31.3	37.8	0.46	0.61	0.75	1.04
1999	33.8	40.9	0.51	0.69	0.74	1.02 ^a
2000	37.5	45.3	0.60	0.83	0.72	0.95
5-year average	32.2	38.6	0.47	0.63	0.76	1.02
Tax year	Percentage reporting less than 5 percent in tax liability		Odds on reporting less than 5 percent in tax liability		Odds ratios	
	FCC	USCC	FCC	USCC	Unadjusted	Adjusted
	FCC	USCC	FCC	USCC	Unadjusted	Adjusted
1996	74.7	75.6	2.95	3.10	0.95 ^a	1.14 ^a
1997	72.0	75.5	2.57	3.08	0.84	1.00 ^a
1998	74.6	77.7	2.94	3.48	0.84	1.00 ^a
1999	74.5	79.3	2.92	3.84	0.76	0.92
2000	75.6	82.0	3.10	4.56	0.68	0.81
5-year average	74.3	78.1	2.90	3.56	0.81	0.97

Source: GAO analysis of IRS data.

Note: Adjustments to control for age and industry sector involved the use of dummy variables to contrast corporations that were less than 3 years old with other corporations, and to distinguish corporations in the manufacturing, wholesale, financial services, nonfinancial services, retail, and "other" sectors.

Appendix II
Statistical Analysis Using Logistic
Regression

^aDenotes odds ratios in each year that do not reflect differences between FCCs and USSCs. Those not denoted can reasonably, with 95 percent confidence, be assumed to be due to something other than chance or random fluctuations. (The significance of the difference in the averaged odds ratios was not tested, since over the 5 years some corporations contributed five observations, some contributed four, some three, etc.)

GAO Contacts and Staff Acknowledgments

GAO Contacts

James R. White, (202) 512-9110
Ralph T. Block, (415) 904-2150

Acknowledgments

In addition to the individuals above, Jeff Arkin, Susan Baker, Amy Friedheim, Shirley Jones, Don Marples, John Mingus, Amy Rosewarne, Sam Scrutchins, Doug Sloane, Wendy Turenne, Jennifer Li Wong, and Jim Wozny made key contributions to this report.

GAO's Mission

The General Accounting Office, the audit, evaluation and investigative arm of Congress, exists to support Congress in meeting its constitutional responsibilities and to help improve the performance and accountability of the federal government for the American people. GAO examines the use of public funds; evaluates federal programs and policies; and provides analyses, recommendations, and other assistance to help Congress make informed oversight, policy, and funding decisions. GAO's commitment to good government is reflected in its core values of accountability, integrity, and reliability.

Obtaining Copies of GAO Reports and Testimony

The fastest and easiest way to obtain copies of GAO documents at no cost is through the Internet. GAO's Web site (www.gao.gov) contains abstracts and full-text files of current reports and testimony and an expanding archive of older products. The Web site features a search engine to help you locate documents using key words and phrases. You can print these documents in their entirety, including charts and other graphics.

Each day, GAO issues a list of newly released reports, testimony, and correspondence. GAO posts this list, known as "Today's Reports," on its Web site daily. The list contains links to the full-text document files. To have GAO e-mail this list to you every afternoon, go to www.gao.gov and select "Subscribe to e-mail alerts" under the "Order GAO Products" heading.

Order by Mail or Phone

The first copy of each printed report is free. Additional copies are \$2 each. A check or money order should be made out to the Superintendent of Documents. GAO also accepts VISA and Mastercard. Orders for 100 or more copies mailed to a single address are discounted 25 percent. Orders should be sent to:

U.S. General Accounting Office
441 G Street NW, Room LM
Washington, D.C. 20548

To order by Phone: Voice: (202) 512-6000
 TDD: (202) 512-2537
 Fax: (202) 512-6061

To Report Fraud, Waste, and Abuse in Federal Programs

Contact:

Web site: www.gao.gov/fraudnet/fraudnet.htm

E-mail: fraudnet@gao.gov

Automated answering system: (800) 424-5454 or (202) 512-7470

Public Affairs

Jeff Nelligan, Managing Director, NelliganJ@gao.gov (202) 512-4800
U.S. General Accounting Office, 441 G Street NW, Room 7149
Washington, D.C. 20548

**United States
General Accounting Office
Washington, D.C. 20548-0001**

**Official Business
Penalty for Private Use \$300**

Address Service Requested

**Presorted Standard
Postage & Fees Paid
GAO
Permit No. GI00**

