

**Abstract**

A survey of 1,329 of the largest corporations in the United States reveals that the average annual cost of compliance with federal and subfederal corporation income taxes is approximately \$1.565 million, implying an aggregate annual compliance cost of over \$2 billion. As a fraction of revenue raised, these compliance costs are lower than estimates that have been made for the individual income tax. The cost-to-revenue ratio is higher for state corporate tax systems than it is for the federal tax system, presumably reflecting the nonuniformity of state tax systems. There is near unanimity among senior corporate tax officers that the Tax Reform Act of 1986 added complexity to the tax system, resulting in a combination of higher compliance costs and less accurate information transmission. They point to, in particular, the alternative minimum tax, inventory capitalization rules, and the taxation of foreign-source income as growing sources of complexity.


THE INCOME TAX COMPLIANCE COST OF BIG BUSINESS

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One of the costs of operating a tax system is the compliance cost imposed on the taxpayers themselves. Previous research on the individual income tax suggests that the compliance cost is many times higher than the budget of the tax administration agency; recent estimates have put the annual compliance cost of the federal and subfederal individual income taxes as high as \$35 billion, compared to a total Internal Revenue Service (IRS) budget of about \$6 billion (Slemrod and Sorum 1984; Blumenthal and Slemrod 1992).

Although compliance costs are large, reducing these costs through simplifying the tax process has seldom been an important objective of

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tax policy. One reason for its lack of prominence is that it has no natural constituency. Another possible reason is the scarcity of hard evidence about the compliance cost of alternative tax policies or about how large the total cost of complexity is. An inevitable result of the low priority given to tax simplicity is a trend toward more complexity. A notable example of this is the business tax provisions of the Tax Reform Act of 1986. Whatever else its merits, there is near unanimity that the Act represented a substantial increase in the complexity of the tax system.

This article presents evidence from a survey of large corporations in the United States concerning their cost of complying with federal and subfederal income taxes. It attempts to measure both the overall size and composition of these costs and also to investigate what about a firm and its tax situation determines its compliance cost. It also reports on the attitudes and tax reform suggestions of corporate tax officers. The goal of the project is to provide quantitative evidence about compliance costs that can form the basis for future tax policy initiatives that simplify the income tax system without compromising its other objectives.

SURVEY DESIGN AND EXECUTION

DESIGN

The first step in the process was to draft a pilot survey. In this process, we drew on the expertise of an advisory panel consisting of corporate tax officers organized by the Tax Foundation and representatives of the IRS Coordinated Examination Program. We also profited from studying the survey instruments used by Sandford, Godwin, and Hardwick (1989) in their study of the United Kingdom and that used by Pope, Fayle, and Chen (1991) in their study of Australia. Several of the advisory panel members then gave the pilot instrument a trial run within their own firms. Comments and suggestions from the pilot survey experience were incorporated into the final version of the survey.

The final survey instrument was 12 pages long and divided into five parts.¹ The first part asked about general characteristics of the com-

pany's tax affairs, sector, measures of firm size, and the extent of foreign operations. Parts 2 and 3 asked about the cost of complying with the income tax law. Costs were to be divided into several categories: whether due to federal or state and local income taxation, whether costs were incurred in-house or paid to those providing outside assistance, whether in-house costs were within or outside the tax department, whether they were personnel or nonpersonnel costs, and how they broke down by function (record keeping, planning, return filing, etc.). Part 4 included several questions evaluating the firm's interactions with the Internal Revenue Service, including ratings of each member of the audit team and of overall satisfaction. The concluding section was primarily devoted to open-ended questions about the sources of complexity in the tax code, suggestions for simplifying the tax system, and corporate strategies for coping with increased complexity.

The survey was accompanied by a cover letter from the two authors, on University of Michigan letterhead, explaining the objectives of the project and identifying the sponsors. It also promised that all individual firm information would be kept confidential and only summary results would be reported.

The cover letter emphasized that the survey questions referred only to the compliance costs of U.S. federal, state, and local income taxes and not to the costs of complying with payroll, property, excise, withholding, and other taxes. The survey did, though, cover the expenditures incurred by foreign affiliates in complying with U.S. tax laws, though not with foreign tax laws. Finally, the letter stated that the survey was trying to measure "the annual incremental cost imposed by income tax compliance, i.e., what [you] could save over the long run if these taxes were eliminated."

EXECUTION

Between June 9 and 15, 1992, the survey was mailed to the chief corporate tax officer at the 1,672 firms in the Coordinated Examination Program (CEP) of the Internal Revenue Service; these addresses had been supplied to us by the CEP.² Follow-up postcards were sent on July 20, 1992, and again on August 31, 1992. Finally, on September

25, 1992, a letter from the president of the Tax Executives Institute was sent to the tax officers, expressing support for the compliance cost project and urging that the questionnaires be filled out and returned.

By the end of the process, 365 completed surveys were received. To calculate an accurate response rate, it is important to note that many firms are in the CEP because past years' tax filings have not been fully resolved, even though the firms were no longer active entities in 1992, having either been liquidated or acquired by or merged into another firm. Considering that, of the 1,672 firms on their mailing list, 1,329 were active entities in 1992, the 365 completed returns represent a response rate of 27.5%.

HOW REPRESENTATIVE IS THE SAMPLE?

How representative of big business are the 365 companies that responded to the survey? The answer to this question rests on two factors: (a) how representative of CEP companies are those that responded to the survey and (b) how representative of big business are companies in the CEP program. We next discuss each of these questions in turn.

To address how representative of the CEP population are the companies that responded to the survey, we compare the characteristics of the respondent population to the characteristics of the overall CEP population. The CEP population was described in an April 1992 publication of the U.S. General Accounting Office (GAO) titled *IRS' Efforts to Improve Corporate Compliance*. This report analyzes the corporate tax returns of all the CEP companies to which the Statistics of Income Division of the IRS could match a 1988 tax return. Of the 1,672 companies in the CEP program as of May 1991, there were 1,329 matches. The predominant explanation for the 343 unmatched companies was that these companies had, due to takeover or bankruptcy, ceased to exist as independent entities but had been retained in the CEP database because past tax years' cases had not yet been closed.

The distribution of survey respondents by both principal industry and size of U.S. assets matches up very closely to the distribution of

the firms in the GAO study; the principal exception is that only 10.3% of the survey respondents, compared to 14% in the GAO study, report U.S. assets over \$10 billion.³ Note, however, that there are some reasons not to expect an exact correspondence. First of all, the GAO study refers to tax year 1988, whereas the survey was distributed in 1992. Second, the applicable corporate entity is not consistently measured. The survey responses probably, but not definitely, apply to the group of companies—whether consolidated or not for tax purposes and regardless of the number of corporate entities—for which the central tax department handles the tax affairs. In contrast, the GAO study was based on the key single corporation of the corporate group and thus in general refers to a smaller unit than does the survey. In some cases the difference will be insignificant; in other cases in which the corporate structure is divided among several separate significantly sized corporations, it will refer to a substantially smaller unit than the survey.

For these reasons, it is impossible to be certain that the respondent firms are a representative sample of the CEP population. Nevertheless, the similarity of the industry and asset size distribution make us reasonably confident that this is in fact the case.⁴ This leaves open the question of whether we can generalize about big business as a whole. The answer to that question depends on how typical of big business the CEP firms are. Companies are selected for the CEP based on a number of criteria. First, companies are assigned points based on the size of their worldwide assets, the size of their worldwide gross receipts, the number of different significant entities with tax consequences, and the number of different significant separate industries with tax consequences within the corporate entity. In addition, points are assigned based on the expected number of staff days of revenue agents and specialists required for the examination. All companies whose point total exceeds a certain cutoff are included in the program; a separate cutoff is assigned to financial corporations and utilities. A firm not meeting the point criteria may be included in the CEP if “it is of sufficient complexity to warrant inclusion and would benefit from examination using the team examination approach.”⁵

Clearly the two dominating criteria for inclusion in the CEP are sheer size and the expected resource costs of examining the tax return.

Thus, to the extent that these criteria and compliance costs are correlated, a reasonable expectation is that the active CEP companies have among the highest compliance costs of any companies operating in the United States. For that reason, it cannot be assumed that, for any size grouping, companies in the CEP are typical companies; instead, they probably have relatively more complex returns and therefore relatively higher compliance costs. The one possible exception to this statement is the set of the very largest companies, which are nearly all in the CEP and are therefore not a subsample of the whole population.

To further investigate the question of exactly what universe the respondent population represents, we calculated the distribution of the respondent firms' rankings, by employment and by sales,⁶ according to the *Dun's Business Rankings* (Dunn & Bradstreet Corp. 1992) ranking of the top 5,000 firms in the United States. This information is presented in Table 1. Note that *Dun's* lists each corporate entity separately, so again there is not an exact correspondence between these rankings and the corporate group referred to in the surveys. In constructing Table 1, the parent company of the corporate group was chosen.

It is clear from Table 1 that the set of responding companies cannot be considered to be a representative sample of, say, the 1,000 largest companies in the United States; more than two thirds of the sample do not make the top 1,000 ranked by either employees or sales. Although the great majority of responding firms are in the top 5,000 in either employment or sales, the respondents are not representative of the top 5,000 because they are not evenly distributed throughout the size categories, there being proportionately more in the larger categories.

The bottom line of our investigation into the generalizability of the survey population is as follows. We believe that the sample can be used to make statements about the CEP companies. However, although large firms dominate the sample, it does not represent the top 500, 1,000, or 5,000 companies in the United States.

To create a sample of firms that is representative of some important segment of big business, in what follows we analyze both the respondent sample and also a subset of the respondent firms that are in the 1992 Fortune 500, the largest industrial firms in the United States. There are 98 firms from the Fortune 500 in our sample. Because these 98 firms in the top 500 are clustered toward the top of the Fortune 500

TABLE 1: Distribution of Survey Respondents' Dun's Ranking, by Employment and Sales

<i>Dun's Ranking of Parent Company</i>	<i>Employees</i>		<i>Sales</i>	
	<i>Employee Range</i>	<i>Number of Survey Respondents</i>	<i>Sales Range (\$ millions)</i>	<i>Number of Survey Respondents</i>
1-500	21,920-761,400	65	2,977-124,705	69
501-1,000	12,000-21,800	46	1,518-2,971	51
1,001-1,500	8,068-12,000	39	1,000-1,512	38
1,501-2,000	6,001-8,053	17	738-1,000	22
2,001-2,500	5,000-6,000	26	571-736	24
2,501-3,000	4,100-5,000	21	471-570	14
3,001-3,500	3,500-4,100	13	400-471	10
3,501-4,000	3,022-3,500	8	349-400	6
4,001-4,500	2,800-3,017	11	300-349	8
4,501-5,000	2,500-2,800	12	268-300	5
>5,000	< 2,500	64	< 268	24
Total ranked		322		271
Not ranked		43 ^a		94 ^b

SOURCE: *Dun's Business Rankings* (Dun & Bradstreet Corp. 1992).

a. Includes firms too small to make the top 5,000, and three firms for which the lack of an identification number precluded matching.

b. Also includes financial firms, which were not ranked on the basis of sales by *Dun's*.

list, we reweight the sample so that it is representative of all 500. The reweighting procedure divides the Fortune 500 into groups of 50 and computes a weighting factor for each of these groups so that in the reweighted sample each group has equal representation.⁷ Note that this procedure does not ensure that each sector is represented in the reweighted sample in the same proportion as in the Fortune 500.

THE MAGNITUDE AND NATURE OF TAX COMPLIANCE COSTS

CAVEATS ABOUT SURVEY-BASED MEASURES OF COMPLIANCE COST

Although our measure of total compliance cost of taxation is a useful indicator of how complex the corporate tax system is, it is not ideal. First of all, note that this index does not distinguish on the taxpayer side between involuntary costs, which must be expended to

comply with the law, and discretionary costs, which are incurred in an effort to reduce tax liability; nevertheless, both are costs of operating the tax system and should be considered in an assessment of how simply it operates. Nor does it include the cost incurred by the Internal Revenue Service to administer and enforce the tax system—the administrative cost of collection. Finally, this measure refers to the social rather than the private cost of collection. Because monetary costs of compliance are deductible, the private cost is less than the social cost.

Because the response rate to the survey was fairly low, a natural concern is respondent bias. Although in the Fortune 500 sample, the responses are weighted to reflect observable differences in asset size, there remain questions about whether the compliance costs of the nonrespondents within a size group are different from the respondents because of differing attitudes or behavioral patterns. We cannot correct for any such bias,⁸ nor can we assess any biases that arise from the subjective nature of responses.

THE MAGNITUDE OF TAX COMPLIANCE COSTS

Table 2 presents the survey results concerning the average cost of compliance.⁹ The total cost averages \$1.57 million for the survey respondents as a whole and \$2.11 million for the Fortune 500 subsample. Based on 1,329 active firms in the CEP program, these averages correspond to a total compliance cost of \$2.080 billion for CEP firms and \$1.055 billion for the Fortune 500.¹⁰

Table 3 shows how the total costs break down into several categories. About 55% of the cost goes for within-firm personnel, about 30% to within-firm nonpersonnel costs, and approximately 15% for outside assistance. About 70% of the cost is due to the federal tax system, with the remainder for state and local.¹¹ Of the within-firm costs, about 70% are incurred within the tax department and 30% in non-tax departments. These percentages vary slightly, but not significantly, depending on which sample is used.

One way to put these costs into perspective is to consider them as a proportion of tax revenue. In the most recent year for which the data is available, 1989, the CEP firms reported a total federal tax liability of \$54.4 billion. The total compliance costs, for federal tax purposes

TABLE 2: Average Compliance Cost (\$ thousands)

Function	All Responding Firms						Fortune 500 Only					
	Federal			State and Local			Federal			State and Local		
	Tax Dept.	Other Depts.	Total	Tax Dept.	Other Depts.	Total	Tax Dept.	Other Depts.	Total	Tax Dept.	Other Depts.	Total
Within-firm personnel	476.8	130.6	217.8	70.3	895.5	615.3	160.9	291.3	82.0	1149.5		
Within-firm nonpersonnel	163.9	123.2	76.6	58.5	422.2	236.0	183.8	103.8	94.6	618.2		
Outside firm		190.1	57.3		247.4		269.7		73.0	342.7		
Total		1,084.6	480.5		1,565.1		1,465.7		644.7	2,110.4		

TABLE 3: Composition of Compliance Costs (% of total)

Function	All Responding Firms						Fortune 500 Only					
	Federal			State and Local			Federal			State and Local		
	Tax Dept.	Other Depts.	Total	Tax Dept.	Other Depts.	Total	Tax Dept.	Other Depts.	Total	Tax Dept.	Other Depts.	Total
within-firm personnel	30.5	8.3	13.9	4.5	4.5	57.2	29.2	7.6	13.8	3.9	54.5	
within-firm nonpersonnel	10.5	7.9	4.9	3.7	3.7	26.9	11.2	8.7	4.9	4.5	29.3	
outside firm	12.1			3.7		15.9	12.8			3.5	16.2	
Total	69.3			30.7		100.0	69.5		30.5		100.0	

(OTE: Categories may not sum to 100 due to rounding error.)

only, for this group is estimated in this study as \$1.440 billion (\$1.085 million per firm for 1,329 firms). Thus the cost to revenue ratio is 2.6%. To get an estimate of this ratio for all levels of government, we apply the ratio of total corporate tax revenues to federal corporate tax revenues for 1989, 1.21, to the \$54.4 billion figure, yielding \$65.8 billion. The ratio of the estimated total compliance cost of \$2.085 billion to \$65.8 billion of tax revenue is 3.2%. The ratio for state costs by themselves is 5.6%; the higher ratio reflects the nonuniformity of state rules, an issue discussed later in this report.

Table 4 breaks down the total personnel costs by function. For the tax department, filing returns is the largest category of expense, but it comprises only slightly above 30% of the personnel costs. Audits, planning, and research¹² each make up over 10% of the total within-tax-department personnel cost, with record keeping just under 10%. However, record keeping is the predominant role of other departments in the tax process, making up nearly 50% of these personnel costs for all firms and nearly 40% for Fortune 500 firms. The second most important role taken on by the nontax departments is preparing information for financial statements, comprising about 15% of the total.

Table 5 makes clear that, on average, there is a clear division of labor between the internal and external tax-related activities. More than half of litigation and appeals work is done externally; a large percentage, but less than half, of research, planning, and audit work is done externally. As is apparent in Table 4, within the firm there is also a division of labor, with departments outside the tax department playing a major role only for record keeping and preparing information for financial statements.

EFFECTS OF SIZE, SECTOR, AND MULTINATIONALITY

On average, large firms experience higher compliance costs. Table 6 breaks firms into six categories based on their total U.S. employment and shows a generally positive relationship of all categories of compliance cost to firm size, but one in which compliance costs rise less than proportionately with firm size, so that average costs per unit of size, are lower for larger firms. This same pattern occurs if size is measured by assets or sales and whether worldwide rather than U.S.

TABLE 4: Within-Firm Personnel Costs by Function (% of total personnel costs)

<i>Function</i>	<i>All Survey Respondents</i>		<i>Fortune 500 Only</i>	
	<i>Within Tax Dept.</i>	<i>Other Depts.</i>	<i>Within Tax Dept.</i>	<i>Other Depts.</i>
Record keeping	9.5	49.1	7.0	39.2
Research	10.7	3.8	9.0	2.6
Planning	12.4	5.5	14.7	6.3
Dealing with other personnel	7.6	6.2	7.2	10.0
Filing returns	30.3	8.7	31.8	11.6
Audit	12.9	7.4	13.1	10.4
Appeals	3.6	1.6	3.7	1.6
Litigation	2.1	0.6	2.7	0.3
Preparing information for financial statements	6.1	13.8	5.3	14.5
Monitoring tax process	5.0	3.3	5.6	3.7

NOTE: Column totals may not sum to 100 because of rounding error.

measures are used as size indicators.¹³ Statistical analysis suggests that, on average, a 10% increase in size is associated with an increase in compliance costs of between 4.1% and 6.1%, depending on which of the six measures of size is used.¹⁴ The finding of economies of scale in tax compliance costs is common in studies across countries and across types of tax.

One must be careful about quantifying the relationship between compliance cost and sector because of the confounding effect of size. Simply examining average costs by sector is potentially misleading because of the differences in average size by sector. Nevertheless, it is true that, holding size constant, some sectors have higher compliance costs than others. Multiple regression analysis suggests that, even within size categories, firms in retail or wholesale trade have significantly lower than average compliance costs, and firms in oil and gas or the mining sector have significantly higher than average compliance costs.

One survey question asked what fraction of the compliance cost of federal taxes was due to the presence of foreign-source income. Based on these responses, we can estimate the contribution of foreign-source income to total compliance cost. For all responding firms, the mean cost due to foreign-source income was \$424,000, or 39.1% of the total

TABLE 5: Average Functional Expenditures by Location of Activity

Function	All Responding Firms						Fortune 500 Only					
	Within the Firm			Outside			Within the Firm			Outside		
	Tax Dept.	Other Depts.	% of Total Costs	Assistance	Total	% of Total Costs	Tax Dept.	Other Depts.	% of Total Costs	Assistance	Total	% of Total Costs
Record keeping	69.5	115.7	15.9	4.2	189.4	15.9	78.8	136.1	1.4	216.3	13.7	
Research	75.4	8.3	10.6	42.7	126.4	10.6	101.8	11.8	64.6	178.2	11.3	
Planning	88.1	12.6	12.6	49.6	150.3	12.6	124.3	17.3	84.0	225.6	14.3	
Dealing with other personnel	52.8	14.7	6.4	8.4	75.9	6.4	64.9	25.1	10.7	100.7	6.4	
Filing returns	215.1	20.1	21.3	17.7	252.9	21.3	283.8	37.2	17.1	338.1	21.4	
Audits	89.5	17.3	11.5	29.7	136.5	11.5	121.0	29.1	31.4	181.5	11.5	
Appeals	25.4	3.7	5.0	30.8	59.9	5.0	32.0	4.5	35.7	72.2	4.6	
Litigation	14.0	2.0	5.4	48.0	64.0	5.4	19.6	2.8	69.4	91.8	5.8	
Preparing information for financial statements	41.2	32.8	6.7	6.0	80.0	6.7	48.8	38.6	7.5	94.9	6.0	
Monitoring tax process	36.1	7.5	4.2	6.0	49.6	4.2	51.3	11.2	12.1	74.6	4.7	
Other	0.0	0.0	0.3	3.8	3.8	0.3	0.0	0.0	3.0	3.0	0.2	
Total	707.0	234.6	100	246.8	1,188.7	100	926.2	313.7	336.8	1,576.7	100	

NOTE: These figures do not include within-firm nonpersonnel costs. All figures, except for those in the % of Total Costs columns, are in thousands of dollars.

TABLE 6: Average Compliance Costs by Number of U.S. Employees (all responding firms)

Employee Size Category (thousands)	Personnel Expenditures		Nonpersonnel Expenditures			Total Cost	Cost Per Employee
	Tax Dept.	Other Depts.	Tax Dept.	Other Depts.	Outside Assistance		
<1.0	243.0	97.2	103.9	88.2	164.2	696.5	1,203.4
1.0-2.75	278.3	88.1	85.7	52.1	111.4	615.5	326.0
2.75-6.0	424.7	105.4	155.9	65.8	142.3	894.1	210.7
3.0-15.0	609.6	161.9	183.5	129.3	223.1	1,307.5	135.9
15.0-40.0	1,455.1	330.8	545.9	212.6	526.5	3,070.8	120.2
>40.0	1,833.8	732.0	783.6	1,217.9	613.8	5,180.9	63.6
Overall means	694.6	201.0	246.4	181.4	245.2	1,568.5	125.0

NOTE: All dollar figures, except the last column, are in thousands.

mean cost due to federal taxes. The fraction was significantly higher for the Fortune 500 firms: 45.5%, or \$667,000 out of an overall mean cost of federal taxes of \$1,465,700. A more extensive analysis of the relationship between foreign operations and compliance cost is contained in Blumenthal and Slemrod (1995).¹⁵

THE DETERMINANTS OF COMPLIANCE COST

Common sense suggests that firms will experience higher compliance costs as the complexity of the tax code increases and that, at a point in time, the highest compliance costs will be borne by firms with the most complex tax situations. To investigate the latter hypothesis, we must first operationalize the concept of complexity. One characteristic of firms that immediately suggests complexity is size. We expect the coordination of activities and personnel necessary in large firms to dominate that of smaller firms, increasing the volume and scope of record keeping, of communications within and without the firm, and of planning. On the other hand, there are some significant fixed costs associated with tax compliance. Examples would include the purchase and installation of data processing equipment and human capital investments in learning about and keeping up with the tax code. Large firms might be expected to benefit, relative to small firms, from these scale economies.¹⁶ A second characteristic that can signal complexity is the firm's primary industry. The nature of production in some sectors may require more tax-intensive record keeping or may involve more sections of the tax code about which there are interpretive difficulties or controversies. For example, the tax executives advising this research who work in the oil and gas industry predicted at the outset that their compliance costs would be relatively high. Another characteristic, closely related to size, is the breadth of activities a firm engages in. A corporate tax department filing for two or three active entities might be expected to have very different compliance costs than one that files for 40 active entities; a similar argument may be made if tax liabilities are spread across many states. Yet another characteristic, suggested to us by several tax executives, is whether a firm is subject to state income taxation in either California or New York. One

feature of the tax code that is widely viewed as complex is the alternative minimum tax (AMT). This suggests that firms subject to the AMT might then have larger compliance costs. And finally, firms currently appealing or litigating a tax decision could be seen as having obviously more complex tax situations and could be expected to experience higher compliance costs.

Table 7 presents the results of a series of multiple regressions that seek to explain cross-firm differences in compliance costs. The dependent variable in each equation is the logarithm of personnel expenditures, summed across the tax department and all other departments within the firm and across expenditures for external tax advice, for both federal and state/local income taxation.¹⁷ The first three equations regress the logarithm of compliance costs against alternative measures of firm size: the logarithm of the number of worldwide employees, of worldwide assets, and of worldwide sales.¹⁸ In each case, the coefficient on the size variable is significantly greater than 0 and less than 1 in magnitude, confirming earlier empirical findings that although compliance costs do rise with firm size, they do so less than proportionately. In the fourth equation, size is measured by the logarithm of worldwide employment and the other complexity indicators are added. Previous analysis of this data set suggested that compliance costs are above average in the oil and gas and mining sectors and below average in wholesale and retail trade. The positive, significant coefficient on *Nat* and the negative, significant coefficient on *Trade* confirm this. Holding all else constant, firms in the mining or oil and gas sectors are associated with almost 72% higher compliance costs, whereas those in wholesale or retail trade are associated with 61% lower costs, relative to firms not in these sectors. The coefficient on *Active*, also statistically significant, implies that adding one more active entity to a corporation is associated with raising its compliance costs by 0.52%. Firms that are subject to the AMT (*Altsub*) do seem to have significantly higher compliance costs, on the order of 18% additional expenditures. Complying with the California (CA), but not New York (NY), business income tax is significantly associated with higher costs, the differential being about 38% for California. Having an ongoing appeal does not appear to be significantly associated with costs (*Appeals*), whereas the relationship is statistically significant for ongoing litigation (*Litgtn*):

TABLE 7: Determinants of Compliance Cost

	<i>Dependent Variable</i>				
	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
	<i>Logcc</i>	<i>Logcc</i>	<i>Logcc</i>	<i>Logcc</i>	<i>Logcc</i>
Independent variable					
Constant	5.736 (0.107)	2.157 (0.312)	2.552 (0.371)	5.296 (0.155)	5.196 (0.160)
LogtotE	0.413 (0.044)			0.353 (0.048)	0.354 (0.048)
LogtotA		0.608 (0.042)			
LogtotS			0.549 (0.050)		
Nat				0.718 (0.245)	1.011 (0.258)
Trade				-0.611 (0.202)	-0.592 (0.212)
Active				0.524 (0.138)	
Strets					0.048 (0.028)
Altsub				0.183 (0.110)	0.266 (0.115)
CA				0.384 (0.166)	0.368 (0.175)
NY				-0.114 (0.149)	-0.033 (0.160)
Appeals				0.113 (0.110)	0.170 (0.117)
Litgtn				0.272 (0.132)	0.279 (0.141)
R^2	0.32	0.59	0.46	0.55	0.51
N	184	147	144	172	173

NOTE: 365-firm unweighted sample. Personnel costs within plus outside firm costs. Standard errors are in parentheses. logcc = ln(within-firm personnel costs plus external costs); logtotE = ln(worldwide employment); logtotA = ln(worldwide assets); logtotS = ln(worldwide sales); nat = dummy variable, where 1 if in mining or oil and gas sector, 0 otherwise; trade = dummy variable, where 1 if in wholesale or retail trade, 0 otherwise; active = number of active entities, in 100s; strets = number of state income tax returns filed, in 100s; altsub = dummy variable, where 1 if subject to the AMT, 0 otherwise; CA = dummy variable, where 1 if firm files in California, 0 otherwise; NY = dummy variable, where 1 if firm files in New York, 0 otherwise; Appeals = dummy variable, where 1 if firm currently has tax years before appeals, 0 otherwise; litgtn = dummy variable, where 1 if firm currently has tax years under litigation, 0 otherwise.

litigating firms appear to have compliance costs that are 27% higher than nonlitigating firms. In the fifth equation, the number of state returns (Strets) is substituted in the set of explanatory variables for the number of active entities, with similar results.

RESPONDENTS' ATTITUDES AND SUGGESTIONS FOR REFORM

Part 5 of the survey featured open-ended questions about the causes of complexity, how the Tax Reform Act of 1986 affected complexity, how corporations have coped with increased complexity, and suggestions for reform of the tax law and process.

CAUSES OF COMPLEXITY OF FEDERAL INCOME TAXES

The tax officers were asked what aspect of the current federal tax code was most responsible for the cost of complying with the tax system. Of the 365 respondents, 315 gave some response to this question. More than 75 different aspects were mentioned on at least one survey. The two aspects most often cited were depreciation (118 mentions) and the AMT (115 mentions).¹⁹ Many of those surveyed tied the two issues together, citing the cost of having to simultaneously maintain as many as five separate depreciation accounts for fixed assets. Many of those that singled out the AMT pointed in particular to the adjusted current earnings portion of the definition of alternative minimum taxable income. It is interesting to compare the 115 mentions of the AMT to the number of firms that claimed to be currently subject to the AMT, 167. However, of the companies not currently subject to AMT, all but 14 of them said they calculated the AMT base anyway, presumably either to determine their potential AMT liability or to calculate their Superfund liability. The third most cited source of complexity was the set of uniform capitalization rules (Section 263A) introduced by the Tax Reform Act of 1986; it was listed on 85 surveys.

International tax issues were also widely cited. It is somewhat problematic to evaluate the breadth of the concern, because many respondents (44, to be exact) merely mentioned "international" or

“foreign” as the aspect causing complexity, without citing a specific section code. Many others did cite particular code sections, specifically the foreign tax credit (37), controlled foreign corporations reporting on Form 5471 (21), transfer pricing (16), and expense allocation rules (12); in all, 93 respondents mentioned at least one foreign-related area. These numbers should be evaluated in light of the fact that of the 365 respondents, only 253 had some foreign operations, defined as having either a majority or a minority interest in a foreign affiliate or having a foreign branch, and only 174 had foreign employment or assets.

A significant number of respondents replied to this question not by citing specific code sections but instead by reporting generic problems with the tax code. The two such problems most often mentioned were the frequency of changes in the tax law (22 mentions) and the lack of conformity between book and taxable income (21 mentions).

The survey also asked about what features of the Tax Reform Act of 1986 (TRA86) most contributed to increasing the complexity of the tax system. Again, for this question there was a great variety of answers (over 50). However, for this question a clear-cut favorite (villain?) emerged—the AMT. Of the 311 firms responding to this question, 189 mentioned it. The uniform capitalization rules were cited by 138, and depreciation was cited by 59 (many mentioning the midquarter convention of the modified accelerated cost recovery system). Many (29) remarked generally about changes in the foreign area, with 60 more respondents singling out the foreign tax credit and 11 mentioning the change in the Section 861 allocation rules; in all, 98 companies mentioned one or more foreign-related areas.

There was also a question about what features of TRA86 reduced complexity. Of the 210 who entered any response, 112 wrote “none.” Adding to this figure the 9 who wrote “?” the 5 who wrote “N/A,” and the 8 who wrote either “hah!” or “you must be kidding” brings the total to 134 respondents, or 64% of those who wrote anything at all for this answer, who believe that there were no significant areas of corporate tax simplification embodied in the 1986 Act. This figure of 134 does not include the indeterminable number of respondents whose lack of answer was meant to indicate that there were not any complexity-reducing aspects to TRA86. Some respondents did,

though, point to simplification. Thirty-nine cited the elimination of the investment tax credit, and 10 mentioned the elimination of the preferential tax treatment of capital gains.

CAUSES OF COMPLEXITY IN STATE AND LOCAL INCOME TAXES

The survey also inquired about the primary causes of complexity with state and local income taxes. Recall that, on average, the costs of complying with state and local taxes comprise 30% of total compliance cost.

The most commonly cited source of complexity was the lack of uniformity among the states, mentioned by 76 of the 269 respondents who gave some answer to this question. There were 28 mentions of a particular kind of nonuniformity, that of apportionment formulas, and 34 mentions of the lack of uniformity of depreciation rules.

On 47 surveys, there was a reference to the lack of consistency between the federal government on the one hand and the states on the other. Clearly the interstate inconsistency and the federal-state inconsistency are two dimensions of having to deal with different tax jurisdictions, requiring separate procedures to determine tax liability.

After uniformity issues, the next most cited aspect of complexity was the apportionment formula used to calculate state taxable income. In addition to the 28 surveys mentioning nonuniform apportionment formulas, 42 surveys cited this area as a source of complexity. Close behind was the unitary/water's edge issue, also cited by 42 respondents.

SUGGESTIONS FOR REFORM

One survey question solicited suggestions for simplifying compliance at either the federal or state level. When interpreting these answers, note that it is arguable that respondents took into consideration the political prospects for effecting particular changes and the implications (other than simplification) of the tax provisions.

The reform most often suggested was to require more uniformity between the state corporate income tax systems and the federal system and between the state systems. Of the 256 surveys that included an answer to the question, 75 mentioned this type of reform. Nineteen

respondents went further to recommend an extreme version of federal-state uniformity—a piggyback system in which the federal government defines taxable income, the states specify a tax rate, and the federal government collects and enforces the law, and remits the revenues collected to the states according to some formula. Twenty-seven more responses specified requiring uniformity of the states' apportionment formulas.

Aside from uniformity, the most popular general suggestion was to move toward more conformity between taxable income and the measure of income used for financial accounting purposes. Forty-two surveys suggested this change. Several tax officers recommended that the tax calculation begin with book income and then proceed by making a small number of modifications, a reconciliation similar to the one now required on Form M-1.

The current tax provision drawing most criticism was the AMT. Thirty-eight recommended that it be completely eliminated; 11 recommended only that it be simplified, and 13 more surveys advocated a particular change—eliminating the adjusted current earnings provision. Seventeen respondents recommended eliminating the uniform capitalization rules, with 2 more suggesting that they be simplified; 13 surveys advised that the foreign tax credit provisions be simplified, and various other international provisions were singled out for simplification.

Twenty-one respondents suggested that, because the underlying problem with the tax code was its instability, the required solution was some kind of moratorium on tax changes, perhaps limiting major tax bills to once every 3 or 4 years.

PUTTING COMPLIANCE COSTS IN PERSPECTIVE

Any tax system is costly to operate and entails both administrative and compliance costs. Different systems place different relative burdens on the taxpayer and the tax enforcement agency. They also score differently on the other important criteria by which we evaluate taxation—the fairness of the tax burden and how supportive it is of economic growth. There is often, but not always, a tradeoff that must

be made between these other goals and simplicity. The simplest tax system is not necessarily the best, but neither is all of the complexity in the current system necessarily serving a useful purpose.

It is difficult to dismiss a \$1 billion annual compliance cost for the Fortune 500 alone. These costs represent resources that, under other circumstances, could have been used to add to the productive capacity of the country. But are these costs cause for alarm, and do they lead directly to policy conclusions? To answer these questions, one needs to put these cost estimates into some kind of perspective. This section provides some useful perspectives.

OTHER COUNTRIES

Although there have been excellent studies of the tax compliance cost of business done in other countries, none of these studies has focused on the largest companies, making a meaningful cross-country comparison impossible. For example, the business sample in the United Kingdom used by Sandford, Godwin, and Hardwick (1989) contained only two companies with more than 500 employees and only six with more than 100 employees. In their study of Australia, Pope, Fayle, and Chen (1991) report having 67 firms with over 1,000 employees and 77 with annual turnover exceeding \$100 million. For the latter group of companies, they estimate annual mean compliance costs to be A\$56,896, compared to mean tax payable of A\$1,760,000; this amounts to 3.2% of tax revenue. Any comparison of these numbers to the U.S. case should note the much smaller average size of the Australian sample.

OTHER TAXES

How do the compliance costs per dollar raised through the corporate income tax compare to other taxes? Earlier work in Slemrod and Sorum (1984) and Blumenthal and Slemrod (1992) suggests that the compliance cost of individual income taxes is between 5% and 7% of revenue raised. This figure is about double what we have tentatively estimated for income taxes on big business. Note, though, that corporations also incur some costs in administering the individual income

tax, via withholding; these costs have not been included in any of the studies. Note also that, because of the clear economics of scale in tax compliance, the cost-to-revenue ratio for the corporate income tax is undoubtedly higher for corporations that are smaller than the group studied in this project. Thus the cost-to-revenue ratio for the corporate sector as a whole, or the business sector as a whole, is undoubtedly higher than what is calculated in this study.

PREVIOUS YEARS' COMPLIANCE COSTS

Arlinghaus and Anderson (1986) report on the results of two mail surveys on compliance costs sent to all Fortune 500 firms, one conducted in 1983 and the other in late 1985 and early 1986. Their response rates were 46.2% and 46.4%, respectively.

Table 8 presents their results in comparison with those of this work. For several reasons, however, these studies are not strictly comparable. First, Arlinghaus and Anderson define tax personnel as managers, supervisors, and technical specialists employed to do tax work for the corporation at corporate headquarters. Secretarial and data processing employees are explicitly excluded. In contrast, the current study includes not only clerks and data processors but employees who do tax work outside the corporate headquarters. Second, Arlinghaus and Anderson lump franchise, property, sales, and use tax compliance with income tax work at the state and local levels. The current study is devoted to compliance with the taxation of income only. Third, the categories of nonpersonnel compliance expenditures differ, notably in the exclusion of computers and data processing and record storage and retrieval by Arlinghaus and Anderson. Finally, Arlinghaus and Anderson did not reweight their data to correct for any potential systematic bias in which firms responded to the survey.

Even with these caveats in mind, a comparison of the Arlinghaus-Anderson 1986 figures with the 1992 numbers from this study is instructive. First, note that the comparison should be made in inflation-adjusted dollars and that the Consumer Price Index rose by 28.0% between 1986 and 1992. Using this adjustment factor, the average within-firm cost rose slightly, although the personnel component of the cost actually declined. Most striking is the 86% increase in the real

TABLE 8: Comparison of Arlinghaus-Anderson Mean Compliance Costs Results for 1983 and 1986 to the Results of This Report (Fortune 500 only)

	<i>Arlinghaus-Anderson</i>		<i>Slemrod-Blumenthal 1992 Study</i>
	<i>1983 Study</i>	<i>1986 Study</i>	
Personnel	758	999	1,145
Total within firm	1,004	1,319	1,777
Outside tax advisors	126	146	348
Total	1,130	1,465	2,125

NOTE: All figures are in thousands of dollars.

expenditure on outside tax advisors. This apparent surge in the use of outside assistance is somewhat surprising in view of the fact that only 11% of responding firms mentioned that since 1986 they made use of more outside consulting to cope with the increased complexity of the tax process.

The Arthur D. Little, Inc. (1988) study of business compliance costs, commissioned by the IRS, estimated a total annual burden in 1985 of 3.614 billion hours but did not convert that into a dollar figure. However, their sample of 1,090 corporations included only one with assets in excess of \$250 million, and only nine with assets over \$10 million; for that reason, it does not provide a reliable measure of the tax compliance costs of big business.

THE COMPLIANCE COST OF FEASIBLE TAX ALTERNATIVES

The most meaningful perspective on compliance costs is how they stack up against what they would be under feasible alternative tax regimes. That, alas, is the most difficult kind of question to answer quantitatively. For example, although this survey can help to estimate the incremental compliance cost burden of foreign operations, it cannot reliably estimate the cost saving from an incremental simplification of, say, the foreign tax credit system. Nor can it estimate the cost saving of altering the AMT to eliminate the adjusted current earnings provision.

This, however, is the kind of information that would be most helpful to add to the policy debates about tax changes. In theory, a survey that

was focused on the potential cost savings of a set of concrete policy proposals could provide reasonable estimates of this figure. At a minimum, any evaluation of a tax policy alternative should include an estimate of whether it would increase, reduce, or leave unchanged the cost of compliance and administration.

CONCLUSIONS

This study has established that the cost to big business of complying with the income tax system is, in an absolute sense, large—over \$1 billion for the Fortune 500 companies and over \$2 billion for a group of 1,329 large companies that warrant special examination by the IRS. These compliance costs, which are ultimately borne by the customers, workers, and shareholders of the corporation, dwarf the budget cost of administering the income tax systems.

As a fraction of revenues raised, these compliance costs are lower than estimates that have been made for the individual income tax. This is not very surprising, as it is well established, and demonstrated by this survey, that there are significant economies of scale in tax collection, so that collecting revenue from large enterprises is relatively efficient. Because of these economies of scale, it is not appropriate to conclude that similar cost-to-revenue ratios would apply to the corporate tax system as a whole and not just the largest corporations; such ratios would certainly be much higher. The cost-to-revenue ratio is higher for state corporate tax systems than it is for the federal tax system, presumably reflecting the nonuniformity of state tax systems.

There is near unanimity among senior corporate tax officers that the Tax Reform Act of 1986 added complexity to the tax system, resulting in a combination of higher compliance costs and less accurate information transmission. They point to, in particular, the AMT, inventory capitalization rules, and foreign income rules as growing sources of complexity; the California state corporate tax system is apparently a large source of compliance cost in itself. One striking finding is that the corporate officers point to greater uniformity among the states' income tax systems and greater conformity of state to federal rules as the most promising simplification that could be made;

reforming or eliminating the AMT was also high on many lists of recommended simplifications. Although complexity has increased, tax department budgets have not kept pace. Corporations have responded by computerizing their operations. There has also apparently been a large increase since 1986 in expenditures on outside tax assistance. Many respondents, though, are concerned that increased complexity in the face of limited budgets leads to a lower quality of information being transmitted to the IRS.

What this survey has not, and could not, establish is whether any particular tax simplification is a good idea. That is because simplicity is but one criterion of many against which the tax system ought to be evaluated. But simplicity has been an oft-overlooked criterion, and quantitative estimates of the cost of overlooking it are a first step toward keeping it in the forefront of policy debates.

NOTES

1. The survey and cover letter are contained in Slemrod and Blumenthal (1993).

2. The rules for including firms in the Coordinated Examination Program are discussed in the following section.

3. Another apparent discrepancy is that the survey contains a lower percentage of firms in the retail sector, 1.9% compared to 7% in the General Accounting Office (GAO) study. However, this discrepancy is probably explained by the fact that, due to an oversight, the survey did not list "Retail" as one of the sectors to be checked. Those firms that did list their principal sector as retail did so by writing it as a separate category. Note that the fraction of firms describing their primary business as retail *or* services, a likely alternative categorization for a retail business, was 10.4%, compared to 12% in the GAO study.

4. Even if the asset and industry distributions of the responding companies are representative of large companies, it is still possible that those that do respond are unrepresentative if, for example, firms with especially costly tax departments are more likely to respond; this would bias the compliance cost estimates upward. See the later section on "Caveats about Survey-Based Measures of Compliance Cost."

5. *Internal Revenue Manual* (May 10, 1989), p. 4200-78.

6. The distribution by sales is for nonfinancial firms only.

7. The weights are as follows: Rank 1-50, 0.576; 51-100, 1.089; 101-150, 0.980; 151-200, 0.754; 201-250, 0.817; 251-300, 0.817; 301-350, 0.817; 351-400, 1.960; 401-450, 4.900; 451-500, 1.633.

8. In the context of mail surveys of individuals' income tax compliance costs, Tait (1988) has argued that respondent bias will cause an overstatement of true costs because respondents are more likely to be those who consider tax compliance to be a "vexatious cost," (p. 352) and because those respondents will try to influence the perception of high costs to generate policy

response to lower them. Sandford (1995) offers a counterargument to this view, observing that taxpayers who have vexatious compliance costs are likely to be those who dislike filling in forms and will therefore dislike completing complicated questionnaires about compliance costs. For large corporations, this latter argument is probably not material.

9. Data preparation issues are discussed in more detail in Appendix B to Slemrod and Blumenthal (1993). The most problematic issue is the treatment of missing values in the survey. The appendix discusses how an extreme alternative treatment could lower the estimate of cost by as much as 16%.

10. Note that, because not all Fortune 500 firms are in the CEP, the \$1.055 billion is not a component of the \$2.080 billion figure.

11. What fraction of costs is incurred because of federal taxes, as opposed to state and local taxes, is undoubtedly highly arbitrary for many firms.

12. Research comprises 9.0% of personnel costs within the tax department for Fortune 500 firms.

13. The analogous tables for assets and sales can be found in Slemrod and Blumenthal (1993).

14. These estimates are based on regression analyses of the logarithm of compliance cost, excluding nonpersonnel costs, as a function of the logarithm of each of the six size measures. The details of the regression results are presented in the first three columns of Table 7.

15. There are small differences in the average compliance cost estimates reported in Tables 2, 5, and 6. These are due to methodological differences in the construction of the tables. For example, within-firm personnel expenditures are not broken down by function in Table 2, whereas they are in Table 5; within-firm, nonpersonnel expenditures are allocated between federal and state compliance costs in Table 2 but not in Table 6. The estimates differ slightly across tables both because some respondents did not give sufficient information to break down their expenditures (missing values) and because of rounding errors.

16. There is empirical support for this proposition in the literature. See Pope, Fayle, and Chen (1991) and Sandford, Godwin, and Hardwick (1989).

17. Nonpersonnel, within-firm compliance costs were excluded from this analysis to avoid a substantial reduction in sample size, necessitated by the number of missing values for these variables.

18. Financial and insurance firms were excluded from the sample in the second and third equations because the meanings of both sales and assets are so different for them as compared with firms in any other sector.

19. Many respondents listed more than one aspect of the tax code, so that the total number of aspects mentioned exceeds the number of surveys for which an answer to this question was given.

REFERENCES

- Arlinghaus, Barry P., and Donald T. Anderson. 1986. The organization and operation of the tax function of large corporations: A 1986 update. *The Tax Executive* 38:273-92.
- Arthur D. Little, Inc. 1988. *Development of methodology for estimating taxpayer paperwork burden*. Final report to the Department of Treasury, Washington, DC.
- Blumenthal, Marsha, and Joel Slemrod. 1992. The compliance cost of the U.S. individual income tax system: A second look after tax reform. *National Tax Journal* 45 (June): 185-202.

- . 1995. The compliance cost of taxing foreign-source income: Its magnitude, determinants, and policy implications. *International Tax and Public Finance* 2 (May): 37-53.
- Dun & Bradstreet Corporation. 1992. *Dun's business rankings*. Parsippany, NJ: Dun & Bradstreet Corporation.
- Pope, Jeff, Richard Fayle, and Dong-Ling Chen. 1991. *The compliance costs of public companies' income taxation in Australia, 1986/87*. Sydney, Australia: Australian Tax Research Foundation.
- Sandford, Cedric (ed.). 1995. *Tax compliance costs: Measurement and policy*. Bath, UK: Fiscal Publications.
- Sandford, Cedric, Michael Godwin, and Peter Hardwick. 1989. *Administrative and compliance costs of taxation*. Bath, UK: Fiscal Publications.
- Slemrod, Joel, and Marsha Blumenthal. 1993. The income tax compliance cost of big business. Office of Tax Policy Research Working Paper No. 93-11.
- Slemrod, Joel, and Nikki Sorum. 1984. The compliance cost of the U.S. individual income tax system. *National Tax Journal* 37 (March): 461-74.
- Tait, Alan A. 1988. *Value-added tax: International practice and problems*. Washington, DC: International Monetary Fund.
- U.S. General Accounting Office. 1992. *IRS' efforts to improve corporate compliance*. GAO/ GGD-92-81BR, April 17, 1992.

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