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Aggregate Estimates of Small Business Taxpayer Compliance Burden

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In 2002, IRS Headquarters Office of Research began the development of the Small Business Burden Model (SBBM) to assist IRS in measuring and monitoring the costs borne by small businesses in complying with the Federal tax system. IRS worked with IBM's Survey Research Center to conduct a large-scale data collection effort of Small Business (SB) taxpayer compliance costs. Data collection was accomplished in two major surveys: IRS Income Tax and IRS Employment Tax. Preliminary results were reported at the 2005 IRS Research Conference, documenting average burden for the small business population.[1] This paper presents an estimate of overall baseline burden estimates for the small business population and describes data imputation approaches for missing survey responses on the Income Tax survey.

The survey produced an overall response rate of 38 percent for the income tax study. Despite this relatively high response rate for a survey of small businesses and no indication of nonresponse bias, a variety of missing data issues still arise. To replace missing data and estimate aggregate burden across the population, a series of survey data imputations were developed. These include both deterministic survey rules and a nearest neighbor statistical match to replace missing variables.

In formulating rules and imputations, a variety of tax domain characteristics issues were considered. One of these issues is substitution effects between survey variables, such as the predominance of substitution between taxpayer time and money costs among the small business population.

Many of our key findings meet our prior expectations regarding the pattern of burden for these taxpayers: an overwhelming proportion of the time burden is spent on recordkeeping; most money burden is spent on securing the help of paid professionals; preparation method generally follows our hypothesis that businesses paying a professional to prepare their taxes are substituting monetary expenditures for spending time on tax compliance; some industry groups have higher tax compliance burden because of the na-

[1] Deluca, Donald; Arnie Greenland; John Guyton; Sean Hennessey; and Audrey Kindlon (2006), "Measuring the Tax Compliance Burden of Small Businesses," *The 2005 IRS Research Bulletin*, pp. 75-115. Available at http://www.irs.gov/pub/irs-soi/05deluca.pdf.

ture of those businesses (e.g., transaction-oriented retail businesses have the highest time burden, while equipment heavy manufacturing businesses have the highest money burden); both time and money tax compliance burden generally shows a monotonically increasing relationship with business size measured several ways, consistent with an explanation of some initial fixed compliance burden costs coupled with decreasing marginal burden as size increases.

Overview of Burden Research

The U.S. Federal tax system has been estimated to impose 3.5 billion hours of compliance burden time plus an additional 140 billion dollars in out-of-pocket and business compliance burden costs.[2] These are costs of administering the tax system above and beyond the revenue collected by the Federal Government.[3] By way of comparison, the Federal tax system collected about 2.2 trillion dollars in Fiscal Year 2006.[4] Previous studies have examined the burden incurred by individual taxpayers, as well as by large and medium size businesses.[5] Moody (2002) has attempted to extrapolate from the quite dated Arthur D. Little (ADL) study to estimate the burden of the small business population.[6, 7] Evans (2003) reviews the international compliance burden literature.[8] The present study presents new preliminary estimates of 1.7-1.8 billion hours and 15-16 billion dollars in small business income tax compliance burden for Calendar Year 2004.[9]

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[2] President's Advisory Panel on Federal Tax Reform—Final Report, November 1, 2005, page 2.

[3] One might reasonably add the IRS budget of $10.6 billion in FY 2006 to the total compliance burden of the system.

[4] *Internal Revenue Service Data Book*, 2006, page 3, Table 1.

[5] See, for example, Slemrod, J. and V. Venkatesh (2004), "The Income Tax Compliance Cost of Large and Mid-Size Businesses," Discussion Paper Number 2004-4, Office of Tax Policy Research, University of Michigan. Also see Stavrianos and Greenland (2002), Arena et al. (2002), and Guyton et al. (2003).

[6] Moody, J. Scott (2002), "The Cost of Complying with the Federal Income Tax," Special Report, Number 114, Tax Foundation, Washington, DC.

[7] Arthur D. Little, Inc., "Development of Methodology for Estimating the Taxpayer Paperwork Burden," Final Report to Department of the Treasury, Internal Revenue Service, Washington, DC, June 1988.

[8] Evans, Chris, "Studying the Studies: An Overview of Recent Research into Taxation Operating Costs," The eJournal of Tax Research 1, 1(2003), pp. 64-92.

[9] This study is described in further detail in DeLuca et al. (2003), Guyton, et al. (2004), and DeLuca et al. (2005).

Small Business Survey Research Design and Outcomes

In order to understand associated taxpayer characteristics and compliance burden, we conducted a large-scale survey of small business taxpayers. Data collection was accomplished in two major surveys: IRS Income Tax and IRS Employment Tax. In conjunction with the qualitative data and analysis, data from both small business surveys served as direct inputs for model estimation and production. This paper focuses on the survey research design and outcomes of the income tax survey.

Sample Design

The population universe for the survey was the IRS definition of a small business: a business with assets totaling no more than $10 million that is organized as a C corporation, S corporation, or partnership. The large-scale survey we administered asked taxpayers about their experiences complying with their Federal income tax obligations, and focused on the burden experienced during the prefiling and filing time periods.

The sampling frame was developed using Processing Year 2003 Midwest Automated Compliance System (MACS) data. MACS is an IRS administrative data source containing tax return information. The majority of the records in this file were from Tax Year 2002.

We segmented tax returns into strata based on the following variables:

- ***Primary Form Filed:*** Forms 1065, 1120, 1120S, 1120A, and several of the 1120 Specials including 1120F, 1120FSC, 1120H, 1120POL, and Other
- ***Asset Class:*** Negative Assets, Zero Assets, $1–$99,999, $100,000–$249,999, $250,000–$499,999, $500,000–$999,999, $1,000,000–$4,999,999, and $5,000,000–$10,000,000
- ***Tax Preparation Method:*** Paid Professional or Self-Prepared
- ***Employees:*** Has Employees or Does Not Have Employees
- ***Industry:*** Real Estate or Nonreal Estate (as defined by the NAICS codes)

We used the field for Salaries and Wages as a proxy for having employees. If this value was greater than zero, we concluded that the firm had employees. Using these variables and collapsing cells together, we created 27 individual strata. The next step was to select a sample of 70,000 small business taxpayers based on the 27 strata. Each stratum was assigned a different probability of selection. The sample was selected by assigning each taxpayer a random number generated by transforming the taxpayer's Taxpayer Identification Number (TIN). The final sample frame was reduced to 69,980 after we removed 20 duplicate records.

The last step with the income tax sample frame was to append phone numbers to each small business observation. Approximately 60 percent of the income tax sample frame had phone numbers. Initially, 14,000 small business taxpayers were selected from the income tax sample frame to begin data collection. Of these 14,000, only those with phone numbers were included in the telephone sample; the remaining observations were placed in the mail sample. During the data collection process, additional smaller samples were selected as needed in order to meet the target number of 7,000 completed interviews within a reasonable time frame without unnecessarily deflating the survey's response rate.

Questionnaire Design

The questionnaire design phase of this project was informed by leveraging prior experience developing and administering questionnaires for the W&I and SE populations. From this experience, valuable insights were gained into the effective way to structure the questionnaire, the optimal questionnaire length, words and phrases that serve as effective prompts, and the appropriate way to word questions.

In addition, insights gained from qualitative research helped frame the questions. During the qualitative research, we spoke with more than 100 small businesses to understand the activities in which they engage to comply with their tax obligations. These sessions provided valuable information about the components of compliance burden, as well as the ways that taxpayers think about these issues.

One of the biggest challenges in developing the questionnaires for the small business taxpayer population was how to address joint costs. Joint costs refer to the fact that many activities in which businesses engage are done for general business reasons as well as tax purposes. We confronted this challenging issue by instructing taxpayers on the questionnaire to consider which activities are part of our definition of Federal tax compliance and which activities are not part of Federal tax compliance and are therefore

out of scope. By carefully instructing taxpayers in this way, we believe that a good measure of Federal income tax compliance costs was obtained that effectively excluded time and money associated with normal business/managerial processes. This view was reinforced in our qualitative research. In the indepth interviews with taxpayers, we discussed taxpayers' ability to isolate Federal tax compliance costs from costs associated with State or local tax, or normal business functions and found that, with carefully worded questions, this was possible. One caveat to this general conclusion surrounds the reporting of tax-related software costs. The amounts reported in this area appear to closely match the pricing for business tax software with bookkeeping bundled in. Further research and analysis seemed warranted before making a final determination as to the degree to which this burden is purely tax-related. In contrast, taxpayers seemed much more capable of separating tax-related professional fees from more general bookkeeping, business advisory, and legal fees.

After the draft questionnaire was developed, it was vetted through day-long workshops with the IRS and the project's interagency working group. It was pretested on a small sample of taxpayers to determine the length of the questionnaire and identify areas where questions needed to be dropped or modified. The final income tax questionnaire is divided into 11 sections, each focusing on one of the major compliance activity categories that we devised (e.g., recordkeeping, working with a paid professional, etc.) and takes approximately 20 minutes to complete. Skip patterns are used so that taxpayers avoid spending time on sections not applicable to their situations.

Data Collection

The income tax survey was conducted using a mixed-mode telephone and mail protocol. We believe this methodology, which was used in our earlier studies, is the most effective way to maximize response rate, given the target goals and timeframe.

Telephone Survey Protocol: The telephone interviews were conducted using the IBM Computer Assisted Telephone Interviewing (CATI) Center. Once a taxpayer was reached over the telephone, he or she was asked several screening questions to ensure that the proper individual within the small business would be interviewed. These questions included the following:

- Did the small business meet the IRS's definition of a small business (i.e., filed the correct forms and had 10 million dollars or less in assets)?
- Did the company pay income or employment taxes during the most recent 12 months?

- Who was the person most knowledgeable about the businesses' tax compliance work?

All potential respondents were mailed two letters (in one envelope): one from IBM that informed them of the study, and another from IRS Commissioner Mark Everson describing the importance of the study. Also included in this mail packet was a good faith gesture (and "attention getter") of a 1-dollar bill. Sometimes, this mail package was sent/received before the respondent was identified over the telephone. Other times, the mail package immediately followed the initial telephone call.

In addition, the CATI center utilized other methods to increase response rate, including the following:

- Making multiple callbacks that were scheduled on different days of the week and at various times of day to increase the likelihood of reaching potential respondents.
- Employing refusal conversion techniques to complete interviews with those taxpayers offering initial soft refusals.
- Leaving voicemails for the small businesses to contact the CATI Center at their own convenience via a toll-free number.

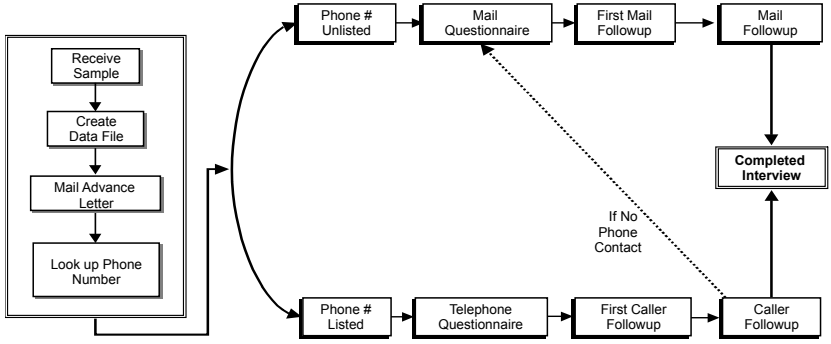
However, we were unable to reach some taxpayers despite multiple attempts. These observations were transferred to the mail sample. Toward the end of the data collection timeframe, mail questionnaires were sent to all respondents that were unresolved in the telephone sample. We continued to contact these participants via the CATI Center protocol in conjunction with the established mail protocol which is described in the next section. This combined effort was a final attempt to obtain completes from prospective telephone respondents by encouraging them to complete the questionnaire using either survey mode.

Mail Survey Protocol: A mail questionnaire was also developed to contact those without a telephone number. The initial mail sample included only those income or employment taxpayers without a phone number. The mail protocol developed included multiple mailing and reminder postcards. Taxpayers were sent an initial mailing that contained the survey questionnaire, a letter from the IRS Commissioner, a letter from IBM, a postage-paid envelope, and a 1-dollar bill as a good faith gesture. One week after the first mailing, sampled taxpayers received a postcard reminding them of the study. Three weeks after receiving the initial package, prospective respondents received the same package minus the 1-dollar bill, but with a slightly modified IBM letter. Finally, 7 weeks after the initial mailing, taxpayers received a fi-

nal package, identical to the second package with the exception of a slightly modified IBM letter. Taxpayers who completed the survey at any point in this process did not receive the subsequent mailings.

The mixed-mode methodology enhances response rates in three ways. First, it relies initially and primarily on telephone interviews, which typically achieve a higher response rate than do self-administered mail questionnaires. Second, it provides a means to contact taxpayers for whom no phone numbers are available. Third, it offers an avenue for followup beyond repeated telephone calls. Taxpayers who are called and request a mail version can be accommodated. Taxpayers who cannot be contacted by telephone will be sent a mail questionnaire, resulting in additional responses. In fact, some respondents who refused over the telephone completed a mail questionnaire when it was sent to their addresses unsolicited.

The figure below illustrates the mixed-mode methodology.



Survey Nonresponse

The preliminary overall response rate was 38 percent for the income tax survey. After examining the income survey responses and comparing the populations who completed an interview with the populations who did not on critical demographic variables available (i.e., number of employees, preparation method, return form type, asset size), no substantial differences are found between the two groups. Importantly, when we compare respondents with nonrespondents on complexity attributes, we find no meaningful difference. The lack of difference between business taxpayers who responded to the survey and those who did not shows that tax complexity is not substantially different between the two groups. This is the most compelling evidence to suggest that survey nonresponse is not likely to be correlated with compliance burden as measured in this study.

Table 1. Completed versus Noncompleted Interviews, by Attribute Count (Income Tax)

Attribute category	Completed	Noncompleted	Total
Sum of instruction sttributes	970.16	936.35	1,906.51
% of total attribute count	51%	49%	
Sum of publication attributes	1,415.51	1,345.11	2,760.62
% of total attribute count	51%	49%	
Sum of K1 attributes	500.91	482.81	983.72
% of total attribute count	51%	49%	
Total number of observations	6,740	11,192	

Item nonresponse is very low for an overwhelming majority of the survey questions. The item nonresponse observed is primarily due to skip-pattern-instructions on the mail questionnaire not being followed properly. Most of the questions that generated relatively high item nonresponse were difficult and somewhat obscure tax-related questions (e.g., the highest being a question about "accrual and hybrid accounting") and not questions about compliance burden (i.e., time and money).

Since only respondent/nonrespondent differences that can be shown to be biased relative to the dependent variable in this study (i.e., compliance burden) are important to understand and mitigate, we therefore conclude that there is no evidence to suggest nonresponse bias. To help control for response rate differences, the survey responses were weighted, by strata, to account not only for the probability of selection but also for survey nonresponse.

Nearest Neighbor Imputation Methodology

Even though item nonresponse is low for the questions covering compliance burden, careful treatment is taken to produce accurate and unbiased population estimates. Typically, there are two general ways to handle item nonresponse in surveys. The first is to exclude the response through deletion. This can either be through listwise deletion, the exclusion of all records with any missing information, or pairwise deletion, the exclusion of the missing response for only the one question used in current analysis. The alternative to record exclusion is record imputation, assigning a value or set of values to replace the nonresponse.

We have chosen imputation rather than deletion for several reasons. Removing records through listwise deletion is unsatisfying since burden is measured independently through 10 questions covering the separate tax compliance activities. Nonresponse for one particular activity may not imply that the estimates for another activity are not accurate. Correcting for nonresponse through pairwise deletion assumes that the missing responses are missing completely at random and are exactly similar to those individuals who do respond. Assuming that the nonrespondents to any particular question closely resemble the question's respondents could lead to biased estimates. Therefore, an imputation approach that attempts to control for differences between the respondent and nonrespondent populations will minimize the potential for this bias.

In the next section of the paper, we will begin with discussion of nonresponse and outline an implemented methodology for imputation.

Responses To Impute

Prior to developing imputations for particular survey responses, we first determined which responses should be imputed for each question. This categorization of the responses designates which responses will be imputed, which will be kept, and which will be used to impute values to other records.

Responses are classified into four categories: Positive Responses, Zero Responses, Implicit Zeros, and Missing Responses. Each of these four categories receives a different treatment. The four categories are defined in general terms below, with suggested treatment.

- ***Positive Responses:*** This category includes all nonzero and nonmissing responses. Positive Response values will be left as reported without alteration.
- ***Zero Responses:*** Zero Responses result when taxpayer respondents reported a value of zero or checked a box indicating "none." Zero responses will be left as reported and used in final burden totals.
- ***Implicit Zeros:*** The survey included skip-pattern logic enforced on the telephone survey to skip taxpayers out of particular questions based on an earlier response. By definition, skip patterns are designed to eliminate the need to ask a taxpayer a question when the answer is strongly expected to be irrelevant and result in an answer that is "not applicable" (NA). These responses will be treated as implicit zero responses rather than missing values.

- ***Missing Values:*** This category includes all Don't Know (DK) and Refusal (RF) responses and mail survey blanks where a positive response is expected. Further, one of our treatments explores the sensitivity of our results to extremal values by setting values five standard deviations above the mean to missing. All missing responses will be imputed.

In summary, rules determine Implicit Zeros that are not applicable to the taxpayer's situation. For respondent's responses that are applicable, Zero and Positive responses are used to impute responses for Missing Values. Now that we have identified the responses eligible for imputation, the next section will discuss the imputation methodology.

Imputation Approach

We rely on a nearest neighbor algorithm to replace missing values of relevant survey variables. Nearest neighbor methods replace a missing value for a particular question with the valid response obtained from a record that closely resembles the respondent who reported the missing value. When a survey respondent reports more than one missing value, then all the valid data from the nearest neighbor are used in the imputation.

Researchers measure "closeness" in different ways when determining the nearest neighbor. In our imputations, described in more detail below, we first partition the survey into mutually-exclusive and exhaustive categories (i.e., cells) and enforce matches only between records in each cell. These cell definitions are chosen so that only records which are similar across important dimensions are contained in each cell. The variables that are chosen to define a partition are usually called "blocking variables." Once each record is assigned to a particular cell, its nearest neighbor is defined as the record that has the minimum distance with respect to some metric.

Implementation

We assign each survey response to one of 32 separate cells based on five criteria: (1) entity type; (2) whether the business has employees; (3) whether the business incurs any income tax liability; (4) primary preparation method; and (5) whether the business claimed a deduction for depreciation. Our preliminary analysis of the survey data indicates that these variables are highly correlated with the income tax burden of small businesses.

In order to maintain a minimum cell size of about 50, not every survey respondent was assigned to a unique cell defined by all five criteria, and some cells were collapsed. For example, because more than 85 percent of respondents used a paid professional to complete their taxes, there are relatively few records in the other preparation method categories to support additional assignment. Similarly, because partnerships and S corporations generally do not themselves incur any income tax liability (i.e., they are passthroughs), this category is only relevant for C corporations. Our final partition, along with weighted and unweighted counts, is shown in Table 2.

With the partition in place, a collection of potential donors for each record is identified, and we determine the nearest neighbor for each record according to a normalized, weighted Euclidean distance function:

$$d_{ij} = [\Sigma_k ((X_{ik} - X_{jk}) / \sigma_k)^2]^{½}$$

Here, d_{ij} is the distance between records *i* and *j* within a particular cell, the X's represent business-related measures from the administrative data, and σ is the standard deviation of each of the X variables within each cell. The X variables selected are:

- Total Assets—Total Assets are reported on the front of the main Income Tax Return.
- Total Receipts—Calculated as the sum of Gross Receipts, Rental Real Estate Income, Interest Income, Dividend Income, Royalties Income, and Other Income.
- Capital Gain Income
- Total Income
- Depreciation Deduction
- Interest Deduction
- Number of Employees
- Total Tax
- Alternative Minimum Tax
- Partner Capital Accounts

Table 2. Nearest Neighbor Match, Partitions

						Unweighted		Weighted	
Partition	Entity type	Employee type	Tax type	Preparation method	Depreciation type	Number	Percentage	Number	Percentage
1	C corporation	No employees	No tax liability	Paid professional	No depreciation	247	3.6%	233,416	3.2%
2	C corporation	No employees	No tax liability	Paid professional	Has depreciation	254	3.7%	267,546	3.7%
3	C corporation	No employees	No tax liability	Self-preparer—no software	N/A	139	2.1%	48,872	0.7%
4	C corporation	No employees	No tax liability	Self-preparer—with software	N/A	128	1.9%	45,827	0.6%
5	C corporation	No employees	Has tax liability	Paid professional	No depreciation	79	1.2%	83,249	1.1%
6	C corporation	No employees	Has tax liability	Paid professional	Has depreciation	155	2.3%	141,155	1.9%
7	C corporation	No employees	Has tax liability	Self-preparer—no software	N/A	58	0.9%	18,266	0.3%
8	C corporation	No employees	Has tax liability	Self-preparer—with software	N/A	60	0.9%	15,371	0.2%
9	C corporation	Has employees	No tax liability	Paid professional	No depreciation	88	1.3%	78,472	1.1%
10	C corporation	Has employees	No tax liability	Paid professional	Has depreciation	555	8.2%	531,881	7.3%
11	C corporation	Has employees	No tax liability	Self-preparer—no software	N/A	82	1.2%	26,207	0.4%
12	C corporation	Has employees	No tax liability	Self-preparer—with software	N/A	117	1.7%	42,330	0.6%
13	C corporation	Has employees	Has tax liability	Paid professional	No depreciation	47	0.7%	46,642	0.6%
14	C corporation	Has employees	Has tax liability	Paid professional	Has depreciation	324	4.8%	293,308	4.0%
15	C corporation	Has employees	Has tax liability	Self-preparer—no software	N/A	50	0.7%	17,050	0.2%
16	C corporation	Has employees	Has tax liability	Self-preparer—with software	N/A	74	1.1%	19,697	0.3%

Table 2. Nearest Neighbor Match, Partitions—Continued

						Unweighted		Weighted	
Partition	Entity type	Employee type	Tax type	Preparation method	Depreciation type	Number	Percentage	Number	Percentage
17	S corporation	No employees	No tax liability	Paid professional	No depreciation	352	5.2%	624,152	8.6%
18	S corporation	No employees	No tax liability	Paid professional	Has depreciation	294	4.3%	566,815	7.8%
19	S corporation	No employees	No tax liability	Self-preparer—no software	N/A	197	2.9%	79,164	1.1%
20	S corporation	No employees	No tax liability	Self-preparer—With software	N/A	286	4.2%	104,406	1.4%
21	S corporation	Has employees	No tax liability	Paid professional	No depreciation	169	2.5%	318,384	4.4%
22	S corporation	Has employees	No tax liability	Paid professional	Has depreciation	623	9.2%	1,283,919	17.7%
23	S corporation	Has employees	No tax liability	Self-preparer—no software	N/A	123	1.8%	62,748	0.9%
24	S corporation	Has employees	No tax liability	Self-preparer—with software	N/A	245	3.6%	102,196	1.4%
25	Partnership	No employees	No tax liability	Paid professional	No depreciation	735	10.8%	1,256,838	17.4%
26	Partnership	No employees	No tax liability	Paid professional	Has depreciation	199	2.9%	253,050	3.5%
27	Partnership	No employees	No tax liability	Self-preparer—no software	N/A	167	2.5%	148,990	2.1%
28	Partnership	No employees	No tax liability	Self-preparer—with software	N/A	220	3.2%	206,184	2.8%
29	Partnership	Has employees	No tax liability	Paid professional	No depreciation	118	1.7%	81,590	1.1%
30	Partnership	Has employees	No tax liability	Paid professional	Has depreciation	402	5.9%	212,630	2.9%
31	Partnership	Has employees	No tax liability	Self-preparer—no software	N/A	59	0.9%	6,985	0.1%
32	Partnership	Has employees	No tax liability	Self-preparer—with software	N/A	134	2.0%	25,356	0.4%
Total						6,780	100.0%	7,242,697	100.0%

Once the nearest neighbor for each record is determined, our imputation algorithm proceeds according to a two-step process. First, we identify the missing data for each record in a sequential or variable-by-variable manner. Next, for each variable where an imputation is required, we obtain a valid response from the nearest eligible donor. Here, eligibility means having a nonmissing response for the variable. This approach is equivalent to simultaneous replacement of missing values (in a nearest-neighbor framework) if eligible donor records are restricted to complete response observations.

Nearest neighbor imputation of missing data is conceptually similar to statistical matching, but there are some notable differences:

1. In a classic statistical matching setup, we combine data from two files. Here, we are matching one file onto itself.
2. A desirable property of a statistical matching is that the resulting, matched data file resembles both input files. In nearest neighbor imputation, we usually want the final file to be different, at least across some dimensions.
3. When missing data are present in both host and donor records, there is no unique nearest neighbor for a single target record.

Results

In this section, we provide a preliminary analysis at total burden results and share insights into the total compliance burdens experienced by the small business population. With item nonresponse corrections, we provide aggregate estimates for the total Small Business population using sample weights.

The IRS Taxpayer Burden Model Working Group and model review committee are currently investigating and validating the preferred method for handling extreme (outlier) values. Since the choice of methodology for handling the highest reported responses will impact both total and average estimates, we are reporting ranges of results to control for the variability

in the outcome of this process. Once this process is complete, final estimates can be provided. Independent of the final averages, there are still key patterns in the data and results of considerable interest to the Service. Therefore, for all tables, ranges in the burden estimates will be reported to account for any potential bias due to response errors for the high reporting cases. The low end of the range reflects treating outlier values as missing and imputing responses. The high end of the range reflects an approach that caps the extreme values at five standard deviations above the mean for the responses.

Who are Small Businesses?

The Small Business taxpayer population, which the IRS defines as businesses having assets of $10 million or less, includes a wide range of taxpayers with diverse characteristics. While noting characteristics common to the majority of SB taxpayers, we also wanted to faithfully capture and represent the more uncommon and uniquely situated members. Table 3 presented below gives a quick view of the distribution of returns relative to the number of employees, asset size, and entity type, three categorizations we used to examine the population's compliance burden.

The reporting small businesses are well-represented across the three main entity classifications, Partnerships, S corporations, and C corporations, with approximately 30 percent as partnerships, 44 percent filing as S corporations, and 26 percent as C corporations. While 56 percent of small businesses do not report having employees and 48 percent have assets less than $50,000, 11 percent of the population also has assets over $1 million. Additionally, while C corporations and S corporations tend to have higher number of employees as asset size increases, partnerships have a relatively more stable distribution of employees across the asset sizes.

With a brief understanding of the business characteristics of the reporting population, we will now focus in the next few sections on the resulting tax compliance burden.

Table 3. Small Business Taxpayers, by Entity Type, Asset Size, and Number of Employees

[Thousands of taxpayers]

Type of taxpayer	Number of employees	Size of assets						
		Zero or negative	Less than $50,000	$50,000 to < $100,000	$100,000 to < $500,000	$500,000 to < $1 million	$1 million and over	Total
Partnerships	No employees	668	213	102	375	167	340	1,865
	1 to 5	40	48	26	47	9	22	192
	6 to 10	5	19	8	16	6	9	61
	11 to 15	2	3	4	7	3	4	22
	16 to 25	1	2	1	7	2	6	19
	26 to 50	(*)	(*)	(*)	5	2	9	16
	More than 50	1	1	2	3	2	7	16
	All	717	286	142	459	191	397	2,192
S corporations	No employees	328	542	140	249	57	58	1,375
	1 to 5	144	483	179	201	22	14	1,044
	6 to 10	10	53	67	129	29	21	308
	11 to 15	5	27	23	70	11	18	154
	16 to 25	0	13	5	31	24	18	91
	26 to 50	(*)	2	9	34	13	46	104
	More than 50	2	(*)	(*)	8	13	43	104
	All	491	1,120	423	721	170	218	3,142
C corporations	No employees	150	350	82	164	62	46	854
	1 to 5	29	226	79	159	19	25	538

Table 3. Small Business Taxpayers, by Entity Type, Asset Size, and Number of Employees—Continued

[Thousands of taxpayers]

Type of taxpayer	Number of employees	Size of assets						
		Zero or negative	Less than $50,000	$50,000 to < $100,000	$100,000 to < $500,000	$500,000 to < $1 million	$1 million and over	Total
	6 to 10	3	40	28	85	23	19	199
	11 to 15	1	17	13	33	13	15	93
	16 to 25	2	9	7	37	20	42	117
	26 to 50	(*)	5	3	22	10	32	71
	More than 50	1	1	1	5	7	22	39
	All	187	648	214	505	154	202	1,909
All small businesses	No employees	1,147	1,104	325	787	286	443	4,093
	1 to 5	214	758	284	406	50	62	1,773
	6 to 10	18	112	102	229	57	50	567
	11 to 15	8	46	40	110	27	37	269
	16 to 25	3	24	13	74	46	66	227
	26 to 50	(*)	7	12	61	24	86	191
	More than 50	4	2	3	16	23	73	122
	All	1,394	2,054	780	1,684	515	816	7,243

Note: Details may not add to totals due to rounding.

(*) Less than 1,000 Taxpayers

Compliance Costs by Activity

In the survey, we asked businesses to report income tax compliance burden at the activity category level. We collected information about time spent on the following distinct activities: working with a paid professional, tax planning, keeping records, completing forms, submitting forms, making estimated tax payments, and working with the IRS and/or utilizing prefiling and filing services. This allows us to understand which aspects of the tax compliance process impose the largest compliance costs for different groups of small business taxpayers.

Our survey found that the overwhelming majority of time burden is spent in recordkeeping activities. Additionally, total money burden is almost entirely Paid Professional Fees. To compensate for the fact that not all individuals incur each activity, there are two sets of means provided. The first mean provides a population mean that includes values of 0 for individuals who did not participate in a particular activity. The second mean provides the mean burden for only those individuals who incurred burden or were the affected population. For categories with relatively few numbers of taxpayers

Table 4. Burden Summary, by Burden Category, for Taxpayers Reporting Burden

	Small business income tax compliance burden					
	Amount (millions of hours)		Population average (hours)		Affected average (hours)	
All time categories	**Low**	**High**	**Low**	**High**	**Low**	**High**
Paid professional	123.7	137.8	17	19	20	23
Recordkeeping time	1,451.8	1,559.6	200	215	238	255
Form completion time	18.4	19.6	3	3	20	21
Form submission time	12.4	15.1	2	2	5	6
Making estimate tax payments	8.0	8.2	1	1	14	15
Tax planning time	63.1	70.2	9	10	12	13
IRS time	31.6	33.8	4	5	10	10
Total time	1,709.0	1,844.2	236	255	236	255
	Amount (millions of dollars)		Population average (dollars)		Affected average (dollars)	
All money categories	**Low**	**High**	**Low**	**High**	**Low**	**High**
Paid preparer money	$13,989.6	$15,186.2	$1,932	$2,097	$2,522	$2,738
Software money	$867.3	$1,079.4	$120	$149	$945	$1,177
Other money	$119.6	$145.5	$17	$20	$56	$68
Total money	$14,976.5	$16,411.1	$2,068	$2,266	$2,068	$2,266

Note: Details may not add to totals due to rounding.

incurring any burden, the second may provide a more accurate level of burden for those who actually undertake that activity. For example, reporting average money burden for software purchases while including individuals who do not purchase software as zero is potentially misleading. For estimating the compliance burden by burden category across the entire taxpaying population, the first average is more appropriate.

Firm Structure

Another demographic factor impacting compliance burden is firm structure/taxpayer entity type. The small businesses in our sample are structured as Partnerships, S corporations, and C corporations. Each of these business structures has unique tax characteristics which influence their tax situations and, presumably, the level of compliance burden. For example, both Partnerships and S corporations are passthrough entities, and all tax liability is passed through to the individual owners. In addition, each of these firm structures has different recordkeeping requirements, files different primary tax forms, deals with different sections of the Tax Code, and produces different types of information returns.

Table 5. Burden Summary, by Entity Type

	Taxpayers (thousands)		Time burden				Money burden			
			Amount (millions of hours)		Average (hours)		Amount (millions of dollars)		Average (dollars)	
	N	Percentage	Low	High	Low	High	Low	High	Low	High
All businesses	7,243	100.0%	1,709.0	1,844.2	236	255	$14,976.5	$16,411.1	$2,068	$2,266
Type of taxpayer										
Partnership	2,192	30.3%	476.6	540.0	217	246	$4,611.5	$5,209.3	$2,104	$2,377
S corporation	3,142	43.4%	752.0	805.2	239	256	$6,444.2	$7,045.3	$2,051	$2,242
C corporation	1,909	26.4%	480.3	499.1	252	261	$3,920.7	$4,156.4	$2,054	$2,177

Note: Details may not add to totals due to rounding.

Table 6. Burden Summary, by Preparation Method

	Taxpayers (thousands)		Time burden				Money burden			
			Amount (millions of hours)		Average (hours)		Amount (millions of dollars)		Average (dollars)	
	N	Percentage	Low	High	Low	High	Low	High	Low	High
All businesses	7,243	100.0%	1,709.0	1,844.2	236	255	$14,976.5	$16,411.1	$2,068	$2,266
Type of taxpayer										
Paid professional	6,273	86.6%	1,511.6	1,616.4	241	258	$14,311.9	$15,531.8	$2,281	$2,476
Self-preparer—no software	408	5.6%	65.9	66.9	161	164	$20.2	$20.7	$49	$51
Self-preparer—with software	561	7.7%	131.4	160.9	234	287	$644.3	$858.6	$1,148	$1,529

Note: Details may not add to totals due to rounding.

Preparation Method

Another crucial characteristic which influences the compliance burden level and type is the preparation method chosen. During the survey, we asked taxpayers to tell us how they completed their tax returns: using a paid professional (paid preparers); inhouse using tax software (software preparers); or completing the return inhouse without tax software (self-preparers). Our findings from the small business study, as well as from the individual taxpayer studies, tell us that preparation method is one of the most, if not the most, important variable in explaining the level and composition of total compliance burden. A priori, we expected that small businesses that elect to use a paid professional are substituting monetary expenditures for time spent on tax compliance and will therefore have higher levels of total money burden and lower levels of time burden. We also expect that those businesses that complete their taxes inhouse without tax software will have relatively less complex tax situations and will therefore spend smaller amounts of time on tax compliance. In addition, monetary burden outlays of self-preparers might be expected to be relatively minimal, as such businesses incur costs only in form submission (e.g., photocopies, postage, and transportation). We expect that software preparers will have significant expenses associated with tax software. Software can often serve as a proxy variable for a more complex tax situation driving higher time compliance burden.

Table 6 presents our findings by preparation method. Ignoring the impact of firm size and looking at all firms in the sample, taxpayers who use a paid preparer have the highest average money burden. Self-preparers have both the lowest average time and money burden. Paid professional users and software-prepared taxpayers have very similar average time burden figures. Money burden increases some with the presence of software users and more with the use of a paid professional. It is also important to note that 86 percent of small businesses use a paid professional for tax preparation and is, therefore, the population that is driving the aggregate results.

Industry

The next demographic characteristic we reviewed is how Industry affects compliance burden. The industry can be a controlling indicator for the types of business and tax compliance activities a business encounters. Construction businesses may not have many transactions on a daily basis but do face particular income accounting requirements for projects that overlap with accounting periods. Retail businesses, however, may have many transactions on a daily basis and must handle a much higher volume of receipts as well

Table 7. Burden Summary, by Industry

	Taxpayers (thousands)		Time burden				Money burden			
			Amount (millions of hours)		Average (hours)		Amount (millions of dollars)		Average (dollars)	
	N	Percentage	Low	High	Low	High	Low	High	Low	High
All businesses	7,243	100.0%	1,709.0	1,844.2	236	255	$14,976.5	$16,411.1	$2,068	$2,266
Industry										
Agriculture, forestry, and fisheries	314	4.3%	56.6	57.8	180	184	$467.2	$498.9	$1,489	$1,590
Mining and utilities	53	0.7%	10.5	11.2	196	210	$80.3	$80.5	$1,503	$1,506
Construction	644	8.9%	200.2	201.0	311	312	$1,418.7	$1,647.9	$2,202	$2,558
Manufacturing	323	4.5%	98.1	100.2	304	310	$884.9	$908.4	$2,740	$2,813
Wholesale trade	334	4.6%	93.1	104.1	279	312	$769.6	$883.1	$2,306	$2,647
Retail trade	734	10.1%	238.5	243.0	325	331	$1,491.8	$1,619.8	$2,033	$2,208
Transportation and warehousing	163	2.3%	37.9	46.1	233	284	$385.7	$401.0	$2,371	$2,465
Professional and scientific	1,357	18.7%	271.3	280.2	200	206	$2,948.3	$3,015.2	$2,172	$2,222
Finance, insurance and real estate	1,946	26.9%	382.1	426.1	196	219	$4,227.3	$4,827.7	$2,172	$2,480
Education and health	394	5.4%	85.5	86.9	217	220	$839.2	$877.5	$2,128	$2,225
Arts and entertainment	798	11.0%	202.4	206.7	254	259	$1,160.1	$1,346.4	$1,453	$1,686
Industry n.e.c.	182	2.5%	32.8	80.8	180	444	$303.3	$304.7	$1,666	$1,674

Note: Details may not add to totals due to rounding.

as returns. As industry is an indication of business activities, we now look at what influences the time and money spent on compliance activities.

The largest single industry represented by Finance, Insurance, and Real Estate accounts for almost 27 percent of the small business population and, in general terms, has relatively low time burden and average money. Retail Trade incurs the largest average time burden; Manufacturing, the largest average money burden. Agriculture, Forestry, and Fisheries incurred the smallest average time and second smallest average money burden.

Size of Business

Business size is itself a general term and can be measured through several metrics. Defining the size of a business through one metric can be misleading depending on the particulars of a business. As an example, a real estate partnership with two partners may have millions of dollars of assets but not have daily business and recordkeeping activities. This partnership may be very different from a law partnership with low number of assets but has fifty employees. These two businesses can each be large relative to the metric that is selected. Because of this distinction, the results of this section are displayed across three such metrics.

The number of employees is the first measure of business size used for this analysis. The number of employees is identified by matching Form 941 and Form 943 employment tax returns to the responses. In our population, 56 percent of businesses did not report having an employee. The next single largest category had between one and five employees. Generally, both average time and average money burden increase monotonically with the number of employees. Businesses with more than 50 employees experienced the highest average time and money burden.

Table 8. Burden Summary, by Number of Employees

	Taxpayers (thousands)		Time burden				Money burden			
			Amount (millions of hours)		Average (hours)		Amount (millions of dollars)		Average (dollars)	
	N	Percentage	Low	High	Low	High	Low	High	Low	High
All businesses	7,243	100.0%	1,709.0	1,844.2	236	255	$14,976.5	$16,411.1	$2,068	$2,266
Number of employees										
No employees	4,093	56.5%	813.4	895.9	199	219	$7,328.2	$8,187.6	$1,790	$2,000
1 to 5	1,773	24.5%	395.2	427.2	223	241	$2,987.6	$3,214.1	$1,685	$1,813
6 to 10	567	7.8%	168.5	183.2	297	323	$1,551.9	$1,700.2	$2,735	$2,997
11 to 15	269	3.7%	86.2	87.0	321	324	$866.5	$928.6	$3,223	$3,454
16 to 25	227	3.1%	89.0	89.5	392	394	$798.0	$866.6	$3,514	$3,816
26 to 50	191	2.6%	90.0	90.8	471	475	$795.0	$852.9	$4,157	$4,460
More than 50	122	1.7%	66.7	70.5	549	580	$649.3	$661.1	$5,341	$5,438

Note: Details may not add to totals due to rounding.

As a second measure of business size, the population was categorized by size of total receipts. In an attempt to accurately categorize businesses with size of income, total receipts are a calculated field summing several items available from the IRS administrative data. As reported in the previous section, 27 percent of the population reports values on the low end. Approximately 12 percent of taxpayers report zero or fewer. Excluding zero reporting cases, both average time and average money burden generally increase monotonically with total receipts. Businesses with more than $1 million in total receipts experienced the highest average time and money burden.

As a third measure of business size, the population was categorized by size of total assets as reported on the front of the primary income tax return. Due to IRS reporting requirements, partnerships are not required to report assets if total receipts are less than $250,000, total assets are less than $600,000, and the partnership files all K-1's to all partners on time. In total, 19 percent of small businesses report zero or no assets, a number inflated by the reporting requirement. Average time and average money increase with size of total assets, excluding the zero and negative asset category. Businesses with more than $1 million in assets experienced the highest average time and money burden.

Across all three measure of business size, total time and money burden are highly correlated with the size of a business. Excluding special cases of reported zeros for each of these measures, both time and money generally increase linearly with the size of business. In the next section, we will take a look at how Time and Money change relative to each other.

Table 9. Burden Summary, by Size of Total Receipts

	Taxpayers (thousands)		Time burden				Money burden			
			Amount (millions of hours)		Average (hours)		Amount (millions of dollars)		Average (dollars)	
	N	Percentage	Low	High	Low	High	Low	High	Low	High
All businesses	7,243	100.0%	1,709.0	1,844.2	236	255	$14,976.5	$16,411.1	$2,068	$2,266
Total receipts										
$0 or less	895	12.4%	159.1	205.5	178	230	$1,865.3	$2,081.9	$2,084	$2,326
Less than $10,000	815	11.3%	109.6	111.3	135	137	$1,210.9	$1,213.2	$1,486	$1,489
$10,000 to $20,000	303	4.2%	44.2	44.3	146	146	$301.9	$345.1	$998	$1,140
$20,000 to $50,000	677	9.3%	124.7	126.9	184	188	$851.0	$1,090.6	$1,257	$1,611
$50,000 to $100,000	715	9.9%	148.1	175.4	207	245	$1,174.4	$1,329.1	$1,643	$1,859
$100,000 to $500,000	2,029	28.0%	485.7	508.6	239	251	$3,568.0	$3,742.8	$1,758	$1,844
$500,000 to $1 million	705	9.7%	194.3	196.7	276	279	$1,725.4	$1,866.6	$2,447	$2,647
Over $1 million	1,104	15.2%	443.2	475.7	402	431	$4,279.6	$4,741.9	$3,878	$4,296

Note: Details may not add to totals due to rounding.

Table 10. Burden Summary, by Size of Total Assets

	Taxpayers (thousands)		Time burden				Money burden			
			Amount (millions of hours)		Average (hours)		Amount (millions of dollars)		Average (dollars)	
	N	Percentage	Low	High	Low	High	Low	High	Low	High
All businesses	7,243	100.0%	1,709.0	1,844.2	236	255	$14,976.5	$16,411.1	$2,068	$2,266
Total assets										
$0 or less	1,394	19.2%	277.4	325.2	199	233	$1,813.5	$1,992.5	$1,301	$1,430
Less than $10,000	872	12.0%	146.7	177.1	168	203	$1,155.4	$1,439.0	$1,325	$1,651
$10,000 to $20,000	399	5.5%	62.4	63.4	156	159	$676.2	$705.6	$1,694	$1,767
$20,000 to $50,000	783	10.8%	156.6	178.9	200	229	$1,342.2	$1,485.1	$1,715	$1,897
$50,000 to $100,000	780	10.8%	160.9	165.0	206	212	$1,552.0	$1,661.2	$1,991	$2,131
$100,000 to $500,000	1,684	23.3%	434.6	441.2	258	262	$3,608.2	$3,768.5	$2,142	$2,237
$500,000 to $1 million	515	7.1%	128.4	135.3	249	263	$1,542.4	$1,696.6	$2,996	$3,295
Over $1 million	816	11.3%	342.0	358.1	419	439	$3,286.6	$3,662.7	$4,025	$4,486

Note: Details may not add to totals due to rounding.

Burden Measured as Percentage or Fraction of Size of Business

This section looks at money burden (and monetized time burden) as a percentage or fraction of three size measures in an attempt to measure "effective" burden as a portion of total business receipts received, total assets, or burden per employee. In performing these calculations, we present results using two different monetization rates ($25/hour and $40/hour) to give some sense of the robustness of the underlying relationship between burden and size across different monetization assumptions. Firms must investigate whether or not a particular provision applies to their tax situations or set up general accounting procedures to record appropriate receipts, a portion of which comes as a fixed cost independent of the amount of revenue a firm generates. For this fixed portion of compliance, taxpayers with small size would have a higher burden relative to their sizes. The following three tables compare the burden per unit of size across our three firm-size measures.

Table 11. Money Burden and Total Monetized Burden per Employee

	Taxpayers (thousands)		Money burden		Time and money burden (Time monetized @$25/hr)		Time and money burden (Time monetized @$40/hr)	
			Per employee		Per employee		Per employee	
	N	Percentage	Low	High	Low	High	Low	High
All businesses	7,243	100.0%	$349	$383	$1,346	$1,458	$1,944	$2,103
Number of employees								
1 to 5	5,680	78.4%	$1,101	$1,221	$4,308	$4,746	$6,233	$6,861
6 to 10	662	9.1%	$328	$338	$1,307	$1,365	$1,894	$1,982
11 to 15	310	4.3%	$244	$285	$822	$901	$1,168	$1,271
16 to 25	261	3.6%	$184	$193	$674	$686	$968	$982
26 to 50	204	2.8%	$122	$134	$474	$488	$684	$701
More than 50	126	1.7%	$51	$52	$182	$191	$261	$274

Note: Details may not add to totals due to rounding.

Table 12. Money Burden and Total Monetized Burden as a Percentage of Total Receipts

	Taxpayers (thousands)		Money burden		Time and money burden (Time monetized @$25/hr)		Time and money burden (Time monetized @$40/hr)	
			Percentage of receipts		Percentage of receipts		Percentage of receipts	
	N	Percentage	Low	High	Low	High	Low	High
All businesses	7,243	100.0%	0.2%	0.3%	0.9%	1.0%	1.3%	1.5%
Total receipts								
$0 or less	895	12.4%	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Less than $10,000	815	11.3%	46.8%	46.9%	152.8%	154.5%	216.4%	219.0%
$10,000 to $20,000	303	4.2%	6.8%	7.8%	31.6%	32.6%	46.5%	47.5%
$20,000 to $50,000	677	9.3%	3.7%	4.7%	17.3%	18.6%	25.4%	26.9%
$50,000 to $100,000	715	9.9%	2.2%	2.5%	9.3%	10.9%	13.6%	15.9%
$100,000 to $500,000	2,029	28.0%	0.7%	0.8%	3.2%	3.3%	4.6%	4.8%
$500,000 to $1 million	705	9.7%	0.3%	0.4%	1.3%	1.4%	1.9%	1.9%
Over $1 million	1,104	15.2%	0.1%	0.1%	0.3%	0.3%	0.4%	0.5%

Note: Details may not add to totals due to rounding.

Table 13. Money Burden and Total Monetized Burden as a Percent of Total Assets, by Asset Size

	Taxpayers (thousands)		Money burden		Time and money burden (Time monetized @$25/hr)		Time and money burden (Time monetized @$40/hr)	
			Percentage of assets		Percentage of assets		Percentage of assets	
	N	Percentage	Low	High	Low	High	Low	High
All businesses	7,243	100.0%	0.4%	0.5%	1.6%	1.8%	2.4%	2.6%
Total assets								
$0 or less	1,394	19.2%	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Less than $10,000	872	12.0%	35.1%	43.7%	146.6%	178.3%	213.6%	259.1%
$10,000 to $20,000	399	5.5%	11.6%	12.1%	38.3%	39.3%	54.4%	55.6%
$20,000 to $50,000	783	10.8%	5.0%	5.5%	19.6%	22.2%	28.3%	32.2%
$50,000 to $100,000	780	10.8%	2.7%	2.9%	9.8%	10.2%	14.1%	14.5%
$100,000 to $500,000	1,684	23.3%	0.9%	0.9%	3.6%	3.7%	5.3%	5.4%
$500,000 to $1 million	515	7.1%	0.4%	0.5%	1.3%	1.4%	1.8%	1.9%
Over $1 million	816	11.3%	0.1%	0.1%	0.4%	0.5%	0.6%	0.7%

Note: Details may not add to totals due to rounding.

The results are consistent with the assumption that small businesses face significant fixed compliance costs combined with decreasing marginal costs as the business grows. It is important to note that the imprecise nature of each size measure to accurately capture a taxpayer's size of business activities may exaggerate the ratio for the smaller-sized categories. For example, a business with low total assets and high total receipts would have a very different ratio of compliance burden per unit of size depending on which classification scheme is used. The general trend, however, holds consistent across all three of our measurements of size. For the smallest businesses (those with less than $10K in total receipts), the compliance costs may rival the magnitude of business total receipts. In contrast, businesses with over $1M in total receipts typically incur compliance costs that are only barely significant (about 0.3 percent) as a contributor to business expenses. When comparing burden to the size of assets, the same assumption holds valid with the smallest businesses (those with less than $10K in total assets) incurring compliance costs that rival the magnitude of businesses assets, and the largest businesses in this population incurring nominal costs of less than 1 percent of total assets.

We also present burden per dollar of gross revenue and burden per employee stratified across to provide some comparability across these size measures.

Table 14. Money Burden and Total Monetized Burden as a Percent of Total Receipts, by Asset Size

	Taxpayers (thousands)		Money burden		Time and money burden (Time monetized @$25/hr)		Time and money burden (Time monetized @$40/hr)	
			Percentage of receipts		Percentage of receipts		Percentage of receipts	
	N	Percentage	Low	High	Low	High	Low	High
All businesses	7,243	100.0%	0.2%	0.3%	0.9%	1.0%	1.3%	1.5%
Total assets								
$0 or less	1,394	19.2%	1.2%	1.4%	6.0%	7.0%	8.9%	10.3%
Less than $10,000	872	12.0%	1.2%	1.4%	4.8%	5.9%	7.0%	8.5%
$10,000 to $20,000	399	5.5%	0.9%	1.0%	3.0%	3.1%	4.3%	4.4%
$20,000 to $50,000	783	10.8%	0.6%	0.6%	2.2%	2.5%	3.2%	3.6%
$50,000 to $100,000	780	10.8%	0.4%	0.5%	1.6%	1.6%	2.2%	2.3%
$100,000 to $500,000	1,684	23.3%	0.3%	0.3%	1.3%	1.3%	1.8%	1.9%
$500,000 to $1 million	515	7.1%	0.2%	0.3%	0.8%	0.8%	1.1%	1.1%
Over $1 million	816	11.3%	0.1%	0.1%	0.3%	0.4%	0.5%	0.5%

Note: Details may not add to totals due to rounding.

Table 15. Money Burden and Total Monetized Burden per Employee, by Asset Size

	Taxpayers (thousands)		Money burden		Time and money burden (Time monetized @$25/hr)		Time and money burden (Time monetized @$40/hr)	
			Per employee		Per employee		Per employee	
	N	Percentage	Low	High	Low	High	Low	High
All businesses	7,243	100.0%	$349	$383	$1,346	$1,458	$1,944	$2,103
Total assets								
$0 or less	1,394	19.2%	$752	$826	$3,628	$4,199	$5,354	$6,222
Less than $10,000	872	12.0%	$647	$805	$2,699	$3,282	$3,931	$4,769
$10,000 to $20,000	399	5.5%	$575	$600	$1,902	$1,948	$2,699	$2,757
$20,000 to $50,000	783	10.8%	$415	$459	$1,626	$1,843	$2,352	$2,673
$50,000 to $100,000	780	10.8%	$412	$441	$1,480	$1,537	$2,121	$2,194
$100,000 to $500,000	1,684	23.3%	$319	$333	$1,281	$1,310	$1,858	$1,895
$500,000 to $1 million	515	7.1%	$290	$320	$895	$957	$1,258	$1,339
Over $1 million	816	11.3%	$237	$264	$852	$908	$1,221	$1,295

Note: Details may not add to totals due to rounding.

Time and Money Correlation

Previously, we discussed two key facts about the relationship between time and money. First, there is an inherent tradeoff between time and money. We hypothesize that one major reason taxpayers outsource tax compliance activities to paid professionals is to minimize their own time spent, suggesting a substitution relationship between time and money. Additionally, the results from the previous section indicate that time and money both linearly increase with the size of a business, implying strong correlation between time and money through similar relationships with respect to the size of a business. The next table investigates potential tradeoffs between expenditures of time and money by showing how total money burden changes relative to the amount of total time burden. Vice versa, total time burden is also shown across varying amounts of total money burden.

The results show average time burden increases monotonically with size of total money burden (once over a minimal expenditure level), and, similarly, average money burden increases monotonically with size of total time burden. Since time and money burden are highly correlated, correctly identifying the inherent substitution effect of money and time will be a future challenge to tease out econometrically.

Summary and Considerations for Future Research

We have discussed small business taxpayer income tax compliance costs and their distribution across a variety of taxpayer characteristics. Many of our key findings meet our prior expectations regarding the pattern of burden for these taxpayers:

1. An overwhelming proportion of the time burden is spent on recordkeeping.
2. Most money burden is spent on securing the help of paid professionals.
3. Preparation method generally follows our hypothesis that businesses paying a professional to prepare their taxes are substituting monetary expenditures for spending time on tax compliance.
4. Some industry groups have higher tax compliance burden because of the nature of those businesses (e.g., transaction-oriented retail businesses have the highest time burden, while equipment heavy manufacturing businesses have the highest money burden).

Table 16. Time and Money Burden, by Size of Total Money and Total Time

	Taxpayers (thousands)		Time burden			
			Amount (millions of hours)		Average (hours)	
	N	Percentage	Low	High	Low	High
All businesses	7,243	100.0%	1,709.0	1,844.2	236	255
Size of total money						
Less than $100	1,278	17.6%	285.5	295.0	223	231
$100 to $200	410	5.7%	61.9	59.4	151	145
$200 to $300	380	5.2%	61.2	70.1	160	186
$300 to $400	373	5.1%	62.5	72.9	167	197
$400 to $500	455	6.3%	89.7	90.2	197	199
$500 to $1,000	1,340	18.5%	268.6	269.6	200	202
$1,000 to $2,000	1,181	16.3%	275.6	299.0	232	255
$2,000 to $3,000	586	8.1%	145.4	146.7	247	251
$3,000 to $4,000	314	4.3%	87.6	96.1	280	306
$4,000 to $5,000	223	3.1%	73.9	73.4	331	332
$5,000 to $10,000	423	5.8%	177.5	194.6	417	465
Over $10,000	283	3.9%	119.6	177.4	465	578
	Taxpayers (thousands)		Money burden			
			Amount (millions of dollars)		Average (dollars)	
	N	Percentage	Low	High	Low	High
All businesses	7,243	100.0%	$14,976.5	$16,411.1	$2,068	$2,266
Size of total time						
Under 10 hours	801	11.1%	$514.5	$533.6	$641	$667
10 to 20 hours	416	5.7%	$597.2	$579.6	$1,433	$1,398
20 to 50 hours	953	13.2%	$1,268.9	$1,281.5	$1,322	$1,357
50 to 75 hours	1,056	14.6%	$1,778.5	$1,830.8	$1,676	$1,742
75 to 100 hours	458	6.3%	$1,244.8	$1,267.9	$2,702	$2,788
100 to 200 hours	1,465	20.2%	$3,438.2	$3,670.3	$2,340	$2,514
200 to 500 hours	1,213	16.7%	$3,540.9	$3,964.8	$2,929	$3,261
500 to 1,000 hours	475	6.6%	$1,297.1	$1,528.2	$2,765	$3,181
Over 1,000 hours	408	5.6%	$1,296.4	$1,754.4	$3,288	$4,154

Note: Details may not add to totals due to rounding.

5. Both time and money tax compliance burden show a monotonically increasing relationship with business size measured several ways, consistent with an explanation of some initial fixed compliance burden costs coupled with decreasing marginal burden as size increases.

We would like to conclude with a suggestion on how to interpret the data presented in this paper. It is common in the public finance literature to consider compliance burden as a percentage of revenue collected for a population. We suggest that such a measure may be misleading for the small business population in that most of the taxable activity is passed through to the owners\partners\members, typically individual taxpayers. We thus suggest that it may be more informative to add small business taxpayer burden to individual taxpayer burden and then divide this sum by the sum of individual and small business taxes.

Future research will involve similar missing data imputation for small business employment tax burden and development of econometric models aiding prediction of small business compliance burden changes to be expected from changes to the tax system. This research program is discussed in further detail in Guyton et al. (2004) and is expected to complement the individual taxpayer burden simulation modeling discussed in Guyton et al. (2003), Lerman and Lee (2004), and Holztblatt (2004).

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