

**THE TURBO TAX REVOLUTION?  
EVALUATING THE ABILITY OF TECHNOLOGY  
TO SOLVE THE TAX COMPLEXITY DILEMMA**

Austan Goolsbee  
University of Chicago, G.S.B.,  
American Bar Foundation and N.B.E.R.

Current Draft: January 25, 2002

## INTRODUCTION

There is a fundamental trade-off in the tax code surrounding the issues of complexity and the costs of compliance. Over the last two decades, policy makers facing strict rules about budget expenditures have increasingly turned to the tax code to promote various types of behaviors or give money back to particular constituencies (see, for example, the overview of tax policy in the 1990s in Steuerle, 2002). Doing so, however, necessarily involves adding layers of complexity to the system that are both costly and that tends to increase people's opposition to the system.

Academics typically think of these compliance costs as additional deadweight loss from raising revenue. As such, they are important for various positive and normative theories about the size of government (for instance Slemrod and Yitzhaki, 1996; Becker, 1983; Becker and Mulligan, 2001).

If a new technology arrived on the scene, however, that could reduce the cost of complying with the tax code this could potentially eliminate the dilemma faced by the policy makers, at least in the short-run. Policy makers might be able to target the behaviors they want without having to worry about the problems raised by added complexity. I shall refer to this idea as a 'technological solution' to the policy makers' complexity dilemma. The technological solution is not as far fetched as it might sound. Indeed, some have argued that information technology in general and tax planning software such as Intuit's *Turbo Tax* or Kiplinger's *Tax Cut* in particular, may be just such a solution.<sup>1</sup>

---

<sup>1</sup> Orszag (2002) and Burman (2002), for example, discuss the potential of tax software to allow for more complexity without the typical costs.

This paper will consider the economic issues associated with the rise of tax planning software by using an extensive source of data on more than 60,000 households that includes information on whether they use such software. Specifically the paper will deal with three issues: 1) whether the use of these programs is widespread or is restricted to a narrow class of people, 2) whether consumers are actually using these programs to reduce complexity and 3) whether the gain from expanding the use of tax software such the recent Bush administration Free-Filing Initiative would be as large as pursuing other technology based solutions such as return-free filing of 1040EZ forms.

The data essentially answer all three in the negative. First, use of tax planning programs is quite small, concentrated among highly educated people (as well as people with very high incomes), and is unlikely to be widespread for many years to come. As a result, the people who would be hurt by increasing the complexity of the tax code are the ones not using the programs and that tends to be precisely the people for whom complexity is the most costly—people with little education, few resources, who frequently do not speak English.

Second, though, and more importantly, the data do not provide any evidence that people adopt tax software in order to reduce the complexity of their tax compliance (as opposed to, say, getting the services they might get from an accountant but at a cheaper price). Regression analysis of people's decision to use the software shows that, holding other things equal, a host of factors that should make the tax situation more complicated--operating a business from home, having children under six years old, having a complex state income tax, and the like--do not make people more likely to adopt. Instead, the decision seems to be driven primarily by the computer and Internet savvy of the taxpayer.

People use the programs when the costs of learning how are low not when the benefits from improved simplicity are high.

The paper then makes the point that switching some or all of the 1040EZ returns to automatic, return free electronic filings would have a bigger impact on complexity of the tax system in the near-term and would be geared toward people for whom complexity is most difficult. Even if this could only be done for childless single people and married couples with only one working spouse to reduce administrative problems, it could still eliminate compliance costs for as many as 18 million taxpayers that are on the order of \$1 to \$2 billion per year.

## **THE TAX ASSISTANCE INDUSTRY**

It isn't surprising that for something as complicated as filling out a tax return, there would be a booming business in assisting people who don't know much about the process. The traditional form of help has been the accountant. H&R Block and Jackson Hewitt are the best known national brand names but there are thousands of accountants throughout the country that do similar work.

In recent years, there has been a fairly significant rise the number of people using tax management software to help individuals fill out their returns rather than turning to an accountant. The market leader is Intuit's TurboTax but there are several others including Kiplinger's *Tax Cut*—owned by H&R Block—and many other small players. The TurboTax market share is very high. According to Mahoney (2001) and the data cited by Intuit (2002), TurboTax has approximately 70 percent of the market.

Basically, these programs allow the taxpayer to enter the information into a computer program which asks various questions about possible deductions, sources of income, and so on, and at the end, prints out a tax return and tells the payer how much they owe or are due for a refund. For people that use computer financial planning software such as Microsoft *Money* or Intuit's *Quicken*, it is possible to load data directly into the software without having to type it in. Similarly, some financial firms, such as Fidelity, have deals with Intuit to allow users to download information on capital gains distributions and realizations and on interest income directly without having to type it in.

In general, these types of programs are not geared toward the truly complex tax returns of people at the very top of the income distribution and their help with advice on things like bequest management and estate taxation are fairly limited. They are, instead geared toward most everyone else paying the personal income tax—and certainly not just itemizers.

The cost of these programs is small compared with a typical accountant. In 2001, for example, *TurboTax* for the web cost \$6.95-\$9.95 for a 1040EZ form and \$14.95-\$19.95 for a standard 1040. *TurboTax* in a box costs a bit more (about \$30 for the basic package). Completing a state income tax form involves another small charge.

It is important to note at the outset that tax management software is *not* the same thing as filing electronically. Electronic filing refers only to the method of delivery to the I.R.S. While there is much overlap among the two groups, if there is to be a technological solution to the complexity problem, it will rest with the tax planning software, not with the electronic filing. The main advantages of electronic filing include knowing right away if the return has been received/accepted and receiving a refund in a

substantially shorter amount of time. There are many brick-and-mortar accountants—H&R Block, for example—where a taxpayer can file electronically even if they have not used a computer program themselves. The filing is done by H&R Block and to the taxpayer is no different than just going to an accountant in the pre-software days with the exception that one can get a refund quicker. This is electronic filing with no reduction in complexity.

On the other side, at the conclusion of a tax management software program, the taxpayer receives a copy of their tax return and then they can decide to mail in the tax return as in a conventional filing or they can file electronically. Here, if they mail it in, they could have benefited from reduced complexity by using the program but not filed electronically. It is the software that is the key.

#### Data Sources and Basic Results

To examine the impact of tax planning software, I will rely on data from the *Technographics* program of Forrester Inc., a leading market research firm. The *Technographics 2001* benchmark sample includes detailed micro data from more than 90,000 people across the U.S. The field work was done by NFO using a mail survey to a subset of their ongoing NFO survey panel. The data are meant to be nationally representative and, in addition to extensive demographic and economic information about the individuals, the respondents answer questions about how they manage their finances and one of the things they answer is whether they use “Tax Planning Software (e.g., Turbo Tax).”<sup>2</sup> For those with access to a PC at home, the respondents answer

---

<sup>2</sup> This is the same data source used in Goolsbee (2000).

information such as how frequently they use the computer, whether they have ever bought online, whether this is their first computer, and so on.

From this information, I can construct the a profile of the users of tax management software and seek to explain who uses it and why. This is the only systematic source of micro-level information about the use of such programs in existence. In addition, it allows will allow me to match people's demographics to their tax situation in a way that would be impossible using tax return data, even if one could get individual level information since returns do not include much demographic information.

Since it will be the basis of the results, however, it is important to know whether the data are truly nationally representative as regards this type of software. Summary information is presented at the top of Table 1. Looking at the data as of January 2001, some 9.9 percent of households reported having used tax planning software, an increase of 13 percent from the level in 2000, and a percentage corresponding to between 10 and 11 million households. Intuit (2002) claims that TurboTax users totaled 7.8 million in 2001. Given the 70 percent market share, this would imply an overall market of 10.9 million so the Forrester data appears to match the national numbers fairly well.

## **WHO USES TAX SOFTWARE?**

The first step in evaluating the role of tax planning software is to understand how many people are actually using tax planning software and who they are. Using just the aggregate number (about 10 percent of households), it is quite clear that without a dramatic increase in adoption over the next several years, policy makers' technological solution will have to wait. At current growth rates, it could take decades. Further, since

---

about one third of U.S. households have no access to a computer, even with rapid growth among computer users, it may take a long time for software usage to become comprehensive. In the near term, in all likelihood, the most that could be hoped for would be penetration rates to rise as high as other related activities such as financial planning software or having bought a product online. The shares for each of these in 2001 is listed in table 1. They are significantly larger, though still not at all comprehensive.

The limited use of the tax software means that making the code more complex while relying on the software to simplify it has the potential to make the costs of compliance worse for the 90 percent of people who do not use the software. It is highly relevant, then, who the users and non-users are. The work on tagging and heterogeneity of Akerlof (1978) and Kopczuk (2001) has shown that an optimal tax system might involve allowing special ways for certain groups to avoid taxes so long as the social welfare function says those groups should receive more weight. The problem with applying that argument here is that it potentially gives a special reduction in complexity to highly skilled people (i.e., computer software users). The people suffering from the higher complexity might very well be people unprepared to deal with it--people with worse educations and lower incomes.

To gauge the relevance of this point in reality, Table 2 presents the demographic and economic characteristics of such users compared to non-users in 2001. It is clear that the two differ quite a lot. In particular, the tax software users have average incomes almost 40 percent higher than non-users, are substantially more likely to have assets such as retirement accounts and brokerage accounts, and have a great deal more education. The

share of software users with a high school degree or less, for example, is only 15.4 percent versus almost 40 percent for non-users. The software users also tend to be slightly younger, slightly more white, slightly more Republican, and slightly more likely to have children but these are much smaller differences than the income, asset and education differences.

Though on a separate issue than the prevalence of tax software, it is worth considering the ways that software usage may differ from the use of paid tax preparers. There is no information in the Forrester data on the subject but I can compare it to the zip-code level data from I.R.S. (2003a) that (among other things) provides average AGI and share of returns prepared by a paid preparer. The files are released by state. For simplicity, I use information from the top seven states, together accounting for about 40 percent of the U.S. population.<sup>3</sup> There are more than 17,000 zipcodes included in those data. I restrict the sample to zipcodes with at least 10 respondents in the Forrester data and then rank them by average AGI.

The share of returns signed by a paid taxpreparer is 55.8 percent and the share of respondents in the Forrester data reporting that they use tax software is about 13.0 percent. Among the zipcodes with average AGI in the bottom quartile (with average AGI less than \$36,000), almost 56.7 percent of returns are signed by a paid tax preparer but only 9.8 percent of Forrester respondents report using tax software. Among zipcodes in the highest quartile (with average AGI greater than \$59,700), the share of returns signed by a paid tax preparer is actually a slight bit lower at 55.7 percent while the share using tax software is much higher than before at 15.1 percent. So the use of these programs does not appear to be too closely tied to an overall demand for tax assistance.

---

<sup>3</sup> These are California, Texas, New York, Florida, Illinois, Pennsylvania, and Ohio.

## IS TAX SOFTWARE REALLY ABOUT SIMPLIFICATION?

Most of the discussion about tax software has simply taken for granted that people adopt it because it substantially simplifies tax filing (as opposed to just providing the same services people could get from an accountant but at a lower price). In this section, I question whether this is, in fact, the case. Essentially, taxes complicate people's lives in three ways: they induce people to engage in complicated transactions that they would not otherwise engage in; they necessitate extra record keeping; and they are complicated to compute and file. Software has no effect on the first, almost no effect on the second, and a lot of effect on the third but the third is the least important of the three.

Without being able actually to observe why people are using the software, it is important to look for indirect evidence. One basic idea would be that if a main attraction of these programs is to make things simpler, we would expect to see that, holding other things equal, people with more complex tax filing situations should be more likely to use them. We are, essentially, indirectly asking about the demand curve for tax software. It is important to note that this regression will not estimate the demand for tax planning in general since the data do not include information about paid tax preparers. It will estimate the demand for the software, given the current existence of substitutes. If accountants did not exist, people might all switch to tax software and its benefits might be great. Given that accountants *do* exist, though, we want to know whether complexity is leading people to use software. If complexity leads people to switch to accountants the answer will be no. As described earlier, if the only thing tax software can do is reduce very minor complexity but once you get past that, an accountant takes over, it is hard to imagine the consumer surplus gain from the product as being very large.

There are two natural alternative explanations for what drives tax software adoption (other than the desire to reduce complexity). One explanation is that the adoption decision is driven, or at least correlated, with various general demographic factors such as more education, greater wealth, and so on. The second is that tax software is simply a complement to computer usage and particularly to certain types of computer usage such as keeping family budgets on computer, etc.

I will examine the individual level decision to use tax planning software by doing regression analyses on the Forrester data. Given the nature of the survey respondents, it probably most appropriate only to do this regression among people who actually do have the choice of using such software which means people with personal computers. People without computers will answer no to the question rather automatically. More interesting is examining why the people who actually could adopt choose not to.<sup>4</sup> Restricting the sample to people with a home PC reduces the sample to a bit over 60,000 respondents. I will also present results including people without home computers to be sure that selection is not a problem. The results will be very similar. Table 3 lays out several regressions where the dependent variable is the individual level {0,1} decision of whether that use tax planning software.

Column 1 presents a basic linear probability specification. Factors that I include that are correlated with more complex returns (to test whether a desire to reduce complexity drives the software adoption decision) include the number of lines on the state income tax form, whether the person's state has an income tax at all, dummies for the number of

---

<sup>4</sup> The regression with only computer users will have a selection bias if, as an example, people are more likely to buy computers if they want to do their taxes using the software. I do not view this as especially problematic. Including the entire sample, on the other hand, will then make the results influenced by the factors drive the adoption of personal computers. Goolsbee and Klenow (2002) cover that topic in some detail.

children under six years old in the household (which make it more likely to have day care expenses), whether they run a business from home either full or part-time, and whether they have bought or sold a house in the past year. These coefficients are listed in the first rows of the specification.

Variables that I include to control for the independent influence of demographics and other factors include gender, race, education, family size and market size dummies as well as dummies for the types of assets the respondent has (such as full-service brokerage accounts, discount brokerage, mutual funds invested indirectly and in banks, and retirement accounts) as well as a cubic function of their age and income.

Variables that I include to control for either the general taste for new technology or the complementarities between tax software and other computer software include dummies for the frequency of computer usage, whether an individual has bought something online before, whether this is the first PC the household has owned, whether the respondent uses a computer at work, whether they own a cellular phone, a palm pilot/PDA, and whether the respondent uses Microsoft *Money*, Intuit's *Quicken*, or another type of financial planning software. In the full sample regression I will have to drop some of the computer variables but will add a variable for whether the individual has access to a PC at home.

The results in table 3 are not supportive of the view that tax management software is driven by a desire to reduce complexity. Taxpayers do not appear to be any more likely to use it if their tax status becomes more complicated. The number of lines on the state income tax has the wrong sign—more entries on the state income tax form make you less likely to use tax software, although the coefficient is quite small (the mean of the

dependent variable is .099). Not having a state income tax has an extremely small coefficient that is not significant. Having child care age children also has no significant effect on the likelihood of using a tax program and the point estimate is negative. There is similarly no significant effect of buying or selling a house nor of operating a business from home.

Many of the demographic variables do matter—college graduates and people with graduate education are much more likely to use the software (controlling for everything else). Men are more likely as are younger people, though the age coefficients are not reported in the table to conserve space. Race plays little role as does the existence of most types of financial accounts.

The thing that is rather clearly the strongest determinant of usage of tax planning software is the individual's use of computers and especially use of financial planning software. By far the biggest coefficients as well as the most significant are on the usage of Microsoft *Money*, Intuit's *Quicken*, and on other financial planning software. Use of one of these products doubles or even triples the probability that the respondent uses a tax planning program. Since the market leader by far is Intuit's *Turbo Tax*, the fact that Intuit's *Quicken* has the largest coefficient is not surprising since it is, presumably, the easiest one to integrate information into the tax program with. Of course, it might also represent combined advertising or something of that nature.

Essentially all of the other measures of computer usage show up significantly and with the correct sign. Compared to people who report using their computers every day, for example, less frequent usage is correlated with a lower likelihood of using the software. Usage is greater for respondents that own a Palm Pilot or other Personal

Digital Assistant, those for whom their current PC is not their first, and people that use a computer at work. Interestingly, even the controls for the types of financial accounts point to the computer usage explanation in that the largest coefficients are on ownership of discount brokerage and retirement accounts for which there is online access. The same accounts without online access have small or insignificant effects on tax software adoption.

Column (2) repeats the same specification but in a Probit model rather than the linear probability model. The estimated marginal effects are very close to the linear model in almost every respect so this does not seem to be a particularly troubling issue.

Column (3) expands the sample to include all survey respondents (i.e., including non-computer users) and adds a variable to the regression of whether the individual has a computer at home. Doing this regression necessitates dropping the computer usage related variables such as frequency of use, have ever bought online, and so on, since these are not asked of the non computer users. The results are very similar to those in the sample of just computer users. All of the tax variables have the same insignificant and/or perverse signs with the exception of home-based business which still has a small coefficient (having a home based business raises the probability of using turbotax by .007—less than one quarter of a standard deviation) but now is significant. It is still rather clearly the computer and technology related factors that are the primary determinants of the decision to use the software.

Column (4) returns to the base specification in (1) but includes further information including dummies for the total value of assets, dummies for the hours of leisure each week, dummies for the year the respondent's latest computer was purchased,

a full set of age dummies and income dummies rather than the cubic function, a dummy for whether the individual applied for a mortgage in the past year and dummies for whether the respondent is affiliated with Republicans or Democrats (unaffiliated or other is the omitted category). Several of these other variables include missing observations so the number in the sample falls from 61,724 to 42,170 but the results are highly similar. It is still the case that the tax complexity variables are not correlated with higher likelihoods of using tax software but the use of computers and other software is.

The bottom line is that people seem to adopt tax planning software not when their taxes are complex but rather when the costs of learning how to use the program or to integrate it into financial planning that they already do are particularly low. Examining how the programs work, perhaps this is not too surprising. They make filling out the forms more convenient but they don't really make it that much simpler to qualify for various deductions or anything like that. Indeed the internal research done by the Internal Revenue Service indicates that holding everything else equal, people that use tax software end up spending *more* time doing their taxes than comparable people not using the programs (I.R.S., 2002). At the least, it is hard to see how these programs make filing a tax return any simpler than they already were with an accountant (and have been for many years).

The main reason for adoption may be that it can provide similar services as a paid tax preparer but at lower cost. The reason this distinction matters for estimating the value of the software comes from the basic fact that if the software is just doing something that already exists but at a slightly lower price, the consumer welfare gain is rather seriously bounded above by the change in the price from the first alternative—a small number—

rather than the typical entire-area-under-the-demand-curve calculation one would do for a completely new good. In short, no one can have a very high valuation (i.e., dramatically higher than the price they have to pay) for the tax planning services offered by the software because if they did, they could have hired an accountant to do the same thing at prices only slightly higher than what the software costs.

### **ALTERNATIVE TECHNOLOGICAL APPROACHES TO SIMPLIFICATION**

The recent decision of the Bush administration to make free electronic filing available to people is a move in the direction of trying to accelerate the expansion of tax planning software. In this section I argue that an alternative approach to simplification would have greater benefit to taxpayers in the near term and might be a better place to devote resources. Ironically, this benefit comes from converting the least complex tax form of all—the 1040EZ—to automatic, return-free electronic filing, even just for some fraction of such filers.

As of 2001, the data suggest that something like 11 million households prepared tax returns using tax planning software. As of 2000, though, there were around 20 million 1040EZ returns filed (I.R.S., 2001-2002).<sup>5</sup> Clearly the EZ forms are not as complicated as other forms but it is equally evident that eliminating EZ filings would affect more people than increasing the use of the tax software can.

Economists and other tax analysts—people that typically have great deal of education themselves—are not used to thinking of the 1040EZ form as being complicated and, indeed, frequently say there isn't much objection to the compliance costs with such a

---

<sup>5</sup> Of course some people using tax planning software are using it to fill out EZ forms so the groups are not exclusive.

form (see, for example, Sperling, 2002). The irony is that the people who find the EZ form simple are exactly the ones that cannot use it. For the typical person filling out a 1040EZ for themselves, the process is not always trivial. As an example, note that although the form is only 13 lines long, the instruction booklet on the Internet is some 32 pages! It involves several worksheets and a fair amount of gathering and computing numbers and then adding and subtracting.

Although there is no information from the IRS on the educational background of people using EZ forms, in the Forrester data, among people with household income less than \$50,000 that hold no brokerage or mutual fund accounts (something approximating the requirements of the EZ form), close to *60 percent* have a high school diploma or less. The work of Bernheim (\*\*\*) and others has emphasized that retirement savings tend to be inadequate among people without education and has argued for a program of financial literacy. This may be quite analogous to the situation with taxes. Basic computational tasks which are obviously vital for filling out tax returns are not trivial to many people. Perhaps that is one reason why almost 50 percent of people filling out a 1040EZ form hire a paid tax preparer, typically at a cost of one to two hundred dollars (see Berube et al., 2002).

The IRS's own time disclosure estimate suggests it would take someone 4 hours and 11 minutes to fill it out the 1040EZ form (I.R.S., 2001) and such numbers are typically thought to be underestimates.<sup>6</sup> In the aggregate, people are spending close to 100 million hours filling out the easiest form the IRS has—time worth something like \$1 to \$2 billion dollars at average wage rates. The odd thing about the entire enterprise is

---

<sup>6</sup> Slemrod and Sorum (1984), Blumenthal and Slemrod (1992) and Arthur D. Little (1988) have considered the true compliance burdens of tax filing and preparation.

that for many, if not most of these taxpayers, all the information they fill out on their 1040EZ is already reported to the IRS directly. So why not just have the employers pay the money directly and skip the 1040EZ form altogether? Even if the employer simply filled out the form for them and gave it to them instead of their W-2 it would reduce complexity greatly. The employee would just have to sign it and send it in.

Clearly, enacting complete return-free status would entail some additional costs to the I.R.S. but would they really total \$1 to \$2 billion per year? As a comparison, I.R.S. (2003b) indicates that the *entire* I.R.S. budget for processing, administration and management (covering all taxpayers) was \$3.6 billion in 2001.

These would be the simplest types of reforms imaginable. If attempting to connect married payers across employers is too complex or too costly a task, consider just applying the return-free option for single people. The Forrester data suggests that about 45 percent of people with household incomes of less than \$50,000 and no brokerage or mutual fund accounts are single. This would still be close to 10 million people. In the married households, only one third have both spouses working, leaving some 7.5 million more people potentially covered by this most simple case.<sup>7</sup> Of these single and married people with one earner, 70 percent do not have children. Restricting it just to the childless to avoid any complications arising from the Earned Income Tax Credit would still leave more than 12 million potential beneficiaries of the program.

This revision to the tax system would be concentrated at the low end of the income distribution. Even the restricted program (restricted just to childless single people and married couples with only one working spouse) could reduce the hours spent on 1040EZ forms by more than 50 million hours or up to \$1 billion worth of time *per*

---

<sup>7</sup> Gale and Holtzblatt (1997) look in detail at the issues involved in converting to a return-free system.

*year*. If these people were going to paid tax preparers at a cost of \$150, instead of preparing it themselves, the reform would save the 12.25 million taxpayers almost \$2 billion in accountant costs. Can anyone truly claim that the costs of going return-free strictly for the people where it would be easiest on the I.R.S. would total more than \$1 to \$2 billion per year?

## **CONCLUSION**

This paper has considered the promise and problems associated with relying on electronic tax software as a solution to the complexity problem of the tax code. There are two basic difficulties with relying on the technological solution. The first is that in the near future, only a small fraction of people use such software and those that do are highly educated and have very high incomes. The people that do not use the software tend to be just the people for whom the losses from complexity are the greatest.

The second is that regression analysis of the individual decision of whether to use such software or not suggests that people are not using such software because it makes filling out their tax returns less complicated. Many individual factors associated with more complexity such as having a complex state income tax (or a state with an income tax at all), running a business from home, having children under six years of age, and the like, do not increase the likelihood of using tax management software. Instead, the driving factors seem to be computer related things such as how long the taxpayer has had access to the Internet, whether they have ever bought things online, whether they use a computer for family budgeting or paying bills, and whether they have a brokerage account with online access. In other words, people use tax management software when

the costs—either price or learning costs—are low, not when the simplification benefits are high.

An alternative approach that could reduce complexity for 10 to 15 million Americans, although it might not do much to eliminate the complexity tradeoffs in policy making, would be to eliminate many or even all 1040EZ filings and replace it with automatic return-free filing through the employer. In the near term, the distributional considerations and the limited spread of tax planning software suggest it would have a bigger impact.

Perhaps it is also worth considering the deeper issue of whether a purely technological solution to complexity is the right approach. In the extreme, such solutions have the potential to make the tax system a black box—at the end of the year, a machine tells you to pay some amount. If people do not understand the incentives embodied in the system, they will not respond to them. On one hand, this makes the system efficient/non-distortionary—people will not do things just because of the tax rules. On the other hand, the ability to influence behavior was exactly the policy makers' point of creating the complex tax system to begin with. In the long-run, that would be lost.

## **BIBLIOGRAPHY**

Akerlof, George (1978), "The Economics of 'Tagging' as Applied to the Optimal Income Tax and Other Things," *American Economic Review* (March 1978).

Arthur D. Little (1988), *Development of the Methodology for Estimating Taxpayer Paperwork Burden*. Final Report to the Department of the Treasury, I.R.S. (June).

Becker (1983)

Becker and Mulligan (2001), "Deadweight Costs and the Size of Government," forthcoming, *Journal of Law and Economics*.

Bernheim (\*), *Financial Literacy*

Berube, Alan, Anne Kim, Benjamin Forman, and Megan Burns, "The Price of Paying Taxes: How Tax Preparation and Refund Loan Fees Erode the Benefits of the EITC," *Center on Urban and Metropolitan Policy, Brookings Institution and Progressive Policy Institute Survey Series*, May 2002.

Blumenthal, Martha 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.

Burman, Leonard (2002), "Comment" on Stuerle (2002) in *American Economic Policy in the 1990s*, Jeffrey Frankel and Peter Orszag eds., MIT Press (Cambridge, Mass.), pp. 176-183.

Clemons, (1999), "Guide to Technographics," *Forrester Report*

Gale, William and Janet Holtzblatt (1997), "On the Possibility of a No-Return Tax System," *National Tax Journal*.

Goolsbee (2000), "In a World without Borders: The Impact of Taxes on Internet Commerce," *Quarterly Journal of Economics*, May 2000, vol 115(2), pp. 561-576.

Goolsbee and Peter Klenow (2002), "Evidence on Learning and Network Externalities in the Diffusion of Home Computers," *Journal of Law and Economics*, October.

Internal Revenue Service (2002), "Measuring Taxpayer Compliance Burden: A Microsimulation Approach," Report, November 8.

.R.S. Bulletin, Winter 2001-2002.

I.R.S., Form 1040EZ Instruction Booklet, 2001, Government Printing Office, Washington, D.C.

Internal Revenue Service (2003), " Costs Incurred by the Internal Revenue Service, by Budget Activity, Fiscal Years 2000 and 2001," < <http://www.irs.gov/pub/irs-soi/01db29cs.xls>> accessed 1/20/2003.

Intuit (2002), "Another Record Tax Year for TurboTax," press release, April 18, 2002, < [http://www.intuit.com/company/press\\_releases/2002/04-18.html](http://www.intuit.com/company/press_releases/2002/04-18.html)>, accessed January 20, 2003

Kopczuk, Wojciech (2001), "[Redistribution when Avoidance Behavior is Heterogeneous](#)," *Journal of Public Economics* 81(1), 51-71.

Mahoney (2001), "Online Tax Filing Firms in Battle of Goliath vs. Goliath," *E-Commerce Times*, March 12, <http://www.ecommercetimes.com/perl/story/8092.html>, accessed October 22, 2002.

Orszag, Peter (2002), "Summary of Discussion," on Stuerle (2002) in *American Economic Policy in the 1990s*, Jeffrey Frankel and Peter Orszag eds., MIT Press (Cambridge, Mass.), p.188-190.

Slemrod, Joel and Nikki Sorum (1984), "The Compliance Cost of the U.S. Individual Income Tax System," *National Tax Journal* 37 (December): 461-74

Slemrod, Joel and Shlomo Yitzhaki, "The Social Cost of Taxation and the Marginal Cost of Funds" (with Shlomo Yitzhaki). *International Monetary Fund Staff Papers*, pp. 172-198, March 1996.

Sperling, Gene (2002), "Summary of Discussion," on Stuerle (2002) in *American Economic Policy in the 1990s*, Jeffrey Frankel and Peter Orszag eds., MIT Press (Cambridge, Mass.), p.188-190.

Stuerle, Eugene (2002), "Tax Policy from 1990 to 2001," in *American Economic Policy in the 1990s*, Jeffrey Frankel and Peter Orszag eds., MIT Press (Cambridge, Mass.), pp. 139-169.

Toder, Eric \*\*

[http://www.intuit.com/company/press\\_releases/2001/05-03a.html](http://www.intuit.com/company/press_releases/2001/05-03a.html)

**TABLE 1: THE USE OF TAX PLANNING AND OTHER SOFTWARE**

<u>Year</u>	<u>Share Using Tax Software</u>
2000	8.8%
2001	9.9%
	<u>2001 Share Reporting</u>
Use of financial planning software	22.3%
Have bought online	46.9%

Source: Author's calculations

**TABLE 2: MEAN DEMOGRAPHICS OF TAX PLANNING SOFTWARE USERS**

	Tax Software Users	Tax Software non-users
Income (in \$000s)	78.3	56.8
Age	46.8	49.9
White	0.92	0.89
Single	0.21	0.32
High School or less	0.15	0.39
College	0.61	0.48
Post-Graduate	0.24	0.14
Republican	0.45	0.37
Democrat	0.28	0.37
Unaffiliated/Other	0.27	0.26
Have Mutual Funds	0.42	0.26
Have Retirement Acct.	0.70	0.45
Have Brokerage Acct.	0.46	0.26

Source: Author's Calculations

**TABLE 3: EXPLAINING THE USE OF TAX MANAGEMENT SOFTWARE**

	(1) OLS	(2) PROBIT	(3) OLS	(4) OLS	(5) OLS
# Lines on State Income Tax	<b>-0.0003</b> <b>(0.0001)</b>	<b>-0.0003</b> <b>(0.0001)</b>	<b>-0.0002</b> <b>(0.0001)</b>	<b>-0.0004</b> <b>(0.0001)</b>	<b>-0.0004</b> <b>(0.0001)</b>
No State Income Tax	-0.0021 (0.0046)	-0.0028 (0.0043)	-0.0026 (0.0035)	-0.0063 (0.0060)	-0.0061 (0.0060)
Single	<b>-0.0130</b> <b>(0.0034)</b>	<b>-0.0129</b> <b>(0.0031)</b>	<b>-0.0112</b> <b>(0.0024)</b>	<b>-0.0092</b> <b>(0.0043)</b>	<b>-0.0095</b> <b>(0.0043)</b>
1 Child Under 6 yrs old	-0.0048 (0.0049)	-0.0034 (0.0044)	-0.0048 (0.0038)	-0.0080 (0.0064)	-0.0081 (0.0064)
2+ Children under 6 yrs old	-0.0051 (0.0081)	-0.0037 (0.0070)	-0.0057 (0.0063)	-0.0107 (0.0104)	-0.0110 (0.0104)
Home Based Business	0.0041 (0.0035)	0.0045 (0.0031)	<b>0.0077</b> <b>(0.0028)</b>	0.0037 (0.0045)	0.0037 (0.0045)
Male	<b>0.0123</b> <b>(0.0026)</b>	<b>0.0111</b> <b>(0.0024)</b>	<b>0.0090</b> <b>(0.0020)</b>	<b>0.0158</b> <b>(0.0035)</b>	<b>0.0158</b> <b>(0.0035)</b>
Bought Home in Past Year	-0.0082 (0.0060)	-0.0061 (0.0055)	-0.0055 (0.0047)	-0.0102 (0.0080)	-0.0103 (0.0080)
Sold Home in Past Year	0.0126 (0.0074)	0.0082 (0.0065)	0.0125 (0.0058)	0.0104 (0.0092)	0.0107 (0.0092)
Have A Home PC			<b>-0.0304</b> <b>(0.0027)</b>		
Use Microsoft <i>Money</i>	<b>0.0943</b> <b>(0.0044)</b>	<b>0.0724</b> <b>(0.0035)</b>	<b>0.1072</b> <b>(0.0038)</b>	<b>0.0974</b> <b>(0.0054)</b>	<b>0.0972</b> <b>(0.0054)</b>
Use Intuit <i>Quicken</i>	<b>0.1660</b> <b>(0.0034)</b>	<b>0.1106</b> <b>(0.0027)</b>	<b>0.1842</b> <b>(0.0029)</b>	<b>0.1676</b> <b>(0.0042)</b>	<b>0.1676</b> <b>(0.0042)</b>
Use other financial program	<b>0.1132</b> <b>(0.0070)</b>	<b>0.0770</b> <b>(0.0053)</b>	<b>0.1204</b> <b>(0.0058)</b>	<b>0.1101</b> <b>(0.0087)</b>	<b>0.1104</b> <b>(0.0087)</b>
Cellular Phone	0.0023 (0.0029)	0.0037 (0.0028)	<b>0.0056</b> <b>(0.0022)</b>	<b>0.0070</b> <b>(0.0038)</b>	<b>0.0071</b> <b>(0.0038)</b>
Palm Pilot or other PDA	<b>0.0351</b> <b>(0.0050)</b>	<b>0.0183</b> <b>(0.0044)</b>	<b>0.0373</b> <b>(0.0040)</b>	<b>0.0329</b> <b>(0.0061)</b>	<b>0.0328</b> <b>(0.0061)</b>
White	-0.0077 (0.0048)	-0.0075 (0.0048)	0.0003 (0.0033)	<b>-0.0129</b> <b>(0.0064)</b>	<b>-0.0128</b> <b>(0.0064)</b>
Use computer 4-6 times/wk	<b>-0.0102</b> <b>(0.0034)</b>	<b>-0.0089</b> <b>(0.0030)</b>		<b>-0.0119</b> <b>(0.0043)</b>	<b>-0.0118</b> <b>(0.0043)</b>
Use computer 2-3 times/wk	<b>-0.0145</b> <b>(0.0044)</b>	<b>-0.0136</b> <b>(0.0039)</b>		<b>-0.0139</b> <b>(0.0058)</b>	<b>-0.0140</b> <b>(0.0058)</b>
Use computer 1 time/wk	<b>-0.0194</b> <b>(0.0069)</b>	<b>-0.0203</b> <b>(0.0062)</b>		<b>-0.0265</b> <b>(0.0097)</b>	<b>-0.0266</b> <b>(0.0097)</b>
Use computer 2-3 times/mo	<b>-0.0265</b> <b>(0.0079)</b>	<b>-0.0350</b> <b>(0.0069)</b>		<b>-0.0473</b> <b>(0.0121)</b>	<b>-0.0475</b> <b>(0.0122)</b>
Use computer 1/mo	-0.0170 (0.0126)	-0.0190 (0.0125)		-0.0386 (0.0227)	-0.0378 (0.0227)
Use computer <1/mo	<b>-0.0265</b> <b>(0.0072)</b>	<b>-0.0458</b> <b>(0.0064)</b>		<b>-0.0608</b> <b>(0.0156)</b>	<b>-0.0603</b> <b>(0.0156)</b>
Have Bought Online	<b>0.0408</b> <b>(0.0030)</b>	<b>0.0443</b> <b>(0.0027)</b>		<b>0.0426</b> <b>(0.0039)</b>	<b>0.0426</b> <b>(0.0039)</b>
This is not their first PC	<b>0.0368</b> <b>(0.0030)</b>	<b>0.0489</b> <b>(0.0031)</b>		<b>0.0434</b> <b>(0.0041)</b>	<b>0.0433</b> <b>(0.0041)</b>
Use computer at work	<b>0.0100</b> <b>(0.0033)</b>	<b>0.0162</b> <b>(0.0033)</b>	<b>0.0163</b> <b>(0.0025)</b>	<b>0.0083</b> <b>(0.0044)</b>	<b>0.0084</b> <b>(0.0044)</b>
Full service broker with online	-0.0009 (0.0041)	0.0000 (0.0035)	0.0013 (0.0033)	-0.0036 (0.0052)	-0.0035 (0.0052)
Full service broker, no online	-0.0016	-0.0012	0.0007	-0.0027	-0.0028

	(0.0038)	(0.0033)	(0.0030)	(0.0048)	(0.0048)
Discount broker with online	<b>0.0669</b>	<b>0.0365</b>	<b>0.0751</b>	<b>0.0663</b>	<b>0.0663</b>
	<b>(0.0048)</b>	<b>(0.0037)</b>	<b>(0.0040)</b>	<b>(0.0058)</b>	<b>(0.0058)</b>
Discount broker, no online	0.0054	0.0050	0.0040	0.0002	0.0001
	(0.0083)	(0.0069)	(0.0065)	(0.0104)	(0.0104)
mutual funds purchase direct	<b>0.0165</b>	<b>0.0124</b>	<b>0.0145</b>	<b>0.0120</b>	<b>0.0120</b>
	<b>(0.0031)</b>	<b>(0.0027)</b>	<b>(0.0025)</b>	<b>(0.0039)</b>	<b>(0.0039)</b>
mutual funds through bank	-0.0095	-0.0080	<b>-0.0105</b>	-0.0040	-0.0039
	(0.0055)	(0.0049)	<b>(0.0042)</b>	(0.0070)	(0.0070)
Retirement account w/online	<b>0.0497</b>	<b>0.0359</b>	<b>0.0466</b>	<b>0.0512</b>	<b>0.0512</b>
	<b>(0.0034)</b>	<b>(0.0029)</b>	<b>(0.0027)</b>	<b>(0.0042)</b>	<b>(0.0042)</b>
Retirement account, no online	<b>0.0166</b>	<b>0.0134</b>	<b>0.0150</b>	<b>0.0145</b>	<b>0.0146</b>
	<b>(0.0032)</b>	<b>(0.0029)</b>	<b>(0.0026)</b>	<b>(0.0041)</b>	<b>(0.0041)</b>
Have no investments	<b>0.0084</b>	-0.0046	<b>0.0098</b>	0.0092	0.0092
	<b>(0.0040)</b>	(0.0041)	<b>(0.0030)</b>	(0.0055)	(0.0055)
< High School	<b>-0.0283</b>	<b>-0.0329</b>	<b>-0.0286</b>	<b>-0.0364</b>	<b>-0.0368</b>
	<b>(0.0073)</b>	<b>(0.0063)</b>	<b>(0.0048)</b>	<b>(0.0103)</b>	<b>(0.0103)</b>
High School Diploma	<b>-0.0301</b>	<b>-0.0271</b>	<b>-0.0348</b>	<b>-0.0336</b>	<b>-0.0339</b>
	<b>(0.0046)</b>	<b>(0.0038)</b>	<b>(0.0035)</b>	<b>(0.0059)</b>	<b>(0.0059)</b>
Some College	<b>-0.0224</b>	<b>-0.0150</b>	<b>-0.0252</b>	<b>-0.0254</b>	<b>-0.0257</b>
	<b>(0.0043)</b>	<b>(0.0036)</b>	<b>(0.0034)</b>	<b>(0.0054)</b>	<b>(0.0054)</b>
College Graduate	0.0057	0.0058	0.0042	0.0029	0.0029
	(0.0040)	(0.0034)	(0.0032)	(0.0049)	(0.0049)
Applied for mortgage this year				0.0068	0.0069
				(0.0070)	(0.0070)
Democrat political affiliation				<b>-0.0092</b>	<b>-0.0092</b>
				<b>(0.0044)</b>	<b>(0.0044)</b>
Republican political affiliation				-0.0031	-0.0031
				(0.0042)	(0.0042)
Income	cubic	cubic	cubic	cubic	34 dummies
Age	cubic	cubic	cubic	cubic	9 dummies
Dummies	Market size	Market size	Market size	Market size	Market size
	Family size	Family size	Family size	Family size	Family size
				Assets value	Assets value
				Hrs Leisure	Hrs Leisure
				Year of comp.	Yr. of comp.
Observations	61,724	61,724	84,493	42,170	42,170
R-squared	0.12	--	0.13	0.11	0.11

Notes: The dependent variable is a {0,1} of whether the individual reports using tax planning software. Standard errors are in parentheses. Columns 1,3, 4, and 5 are linear probability models. Column 2 gives the marginal effects from a Probit. Column 3 includes all people. The other columns include only people with a home PC.