

Information and Behavioral Responses to Taxation: Evidence from an Experiment with EITC Clients at H&R Block*

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Abstract

This paper tests whether providing information about the work incentives created by the Earned Income Tax Credit (EITC) amplifies its effects on labor supply. We conducted a randomized field experiment with 43,000 EITC claimants at H&R Block in which half the clients were provided simple, personalized information about the EITC schedule. We obtain three results. First, tax filers initially in the increasing and peak ranges of the EITC in the base year are more likely to locate near the peak of the EITC schedule after receiving the information. Provision of information reduces the rate of extreme poverty (earnings below \$7,000) by 15% and also reduces the probability of moving into the phase-out range. Second, the bunching around the peak caused by information provision is stronger for tax filers who report self-employment income. However, there is increased bunching near the peak even among wage earners, suggesting that the information induced a real labor supply response. Third, for tax filers initially in the phase-out range, earnings are essentially unaffected by the provision of information, perhaps because tax professionals framed the work disincentive created by the EITC as being small. Overall, the changes in behavior induced by information are substantial: EITC subsidy rates would have to be increased by at least 20% (\$10 billion) to generate responses of the same size.

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1 Introduction

A canonical assumption in the literature on tax and transfer policy is that individuals are fully informed about the marginal incentives created by government policies. In this paper, we test this assumption using a large field experiment with Earned Income Tax Credit (EITC) clients at H&R Block. The EITC is the largest cash transfer program for low income families in the United States, and is intended to increase labor supply and earnings among low-income households. However, the marginal incentives created by the EITC may not be transparent to tax filers for three reasons. First, the EITC amount is a non-linear function of earnings: it initially increases with earnings, is constant at its maximum or “peak” value for a range of earnings, and then is phased out as earnings rise further (see Figure 1). Second, the parameters of the schedule vary with the number of dependents, the marital status of the tax filer, and other characteristics. Third, the EITC is typically received when individuals file taxes, and hence is received several months *after* the labor supply decisions that determine the size of the credit are made. This decoupling of choices and payoffs limits the feedback individuals receive about how their behavior affects the EITC amount.

Survey evidence shows that knowledge about the structure of the EITC is very limited among eligible tax filers. Most low-income families have heard about the EITC and know that working is associated with getting a tax refund check when they file their taxes. But very few recipients know whether working more would increase or reduce their EITC amount (Liebman 1998, Romich and Weisner 2002). This lack of information could explain why the EITC induces very small responses along the intensive margin (hours worked and earnings), despite generating substantial increases in labor force participation (Hotz and Scholz 2003).

We study whether providing information about the incentive structure of the EITC can amplify its impacts on intensive-margin labor supply behavior. We conducted a randomized experiment that provided information about the EITC to eligible tax filers and tracked the effect of this information on their subsequent earnings behavior. The experiment was implemented at 119 H&R Block offices in the Chicago metro area in 2007. H&R Block is the largest tax preparer in the U.S., and approximately 40% of its clients are eligible for the EITC. The experimental population comprised approximately 43,000 tax filers who (a) received EITC payments at one of the 119 H&R Block offices when filing taxes in 2007 and (b)

had one or more dependents. Half of these 43,000 clients were randomly selected to receive a two minute explanation about how the EITC works by the tax professional assisting them with their return. Tax professionals were trained to use three tools to explain the EITC to tax filers: a verbal description, a graph showing the shape of the EITC as a function of earnings, and a table listing the EITC parameters in a simple form (see Exhibit 1 below).¹ Each tax filer was also given a tailored message emphasizing the implications of his/her marginal incentives conditional on his/her location in the EITC schedule. For example, clients in the phase-in region were told, “It pays to work more!”

We view our treatment as changing perceptions of marginal incentives around the tax filer’s current location. Existing survey evidence indicates that most EITC recipients know the size of their current EITC refund, but underestimate the extent to which it varies with their earnings. Our information treatment corrects perceptions of the slope of the EITC schedule around the tax filer’s location. Our hypothesis is that this treatment induces labor supply responses that increase the EITC refund. In particular, we predict that those who would be in the phase-in region absent the treatment will increase earnings, while those in the phase-out region will decrease earnings.

We evaluate this hypothesis using data from tax returns filed in 2007 and 2008. Approximately 73% of the clients in the treatment and control groups returned to H&R Block to file their taxes in the post-treatment year, allowing us to conduct a panel study of the effects of the information treatment on earnings. There is no evidence of selective attrition from the sample across treatment and controls.

We begin our empirical analysis with a simple comparison of means across treatment and control groups. We find that treated individuals are less likely to have very low earnings and are more likely to locate near the peak of the EITC schedule. Consequently, changes in EITC amounts from the pre-treatment to post-treatment year are larger for treated individuals. However, these mean treatment effect estimates are imprecise, making it difficult to draw strong conclusions from this analysis. Since comparisons of aggregate means could mask heterogeneous responses, we implement non-parametric Chow tests to detect treatment effects in subgroups (Crump et al. 2008). These tests reveal clear differences between the treated and control groups in the distribution of post-treatment EITC amounts and earnings outcomes,

¹All exhibits in the Appendix were used during Tax Season 2007 for the entire duration of the experiment.

with p-values below 0.01. To understand where these differences come from, we break the data into subgroups and compare the earnings distributions of treated and control tax filers. This analysis yields three broad results.

First, consider the group of tax filers who were in the phase-in and plateau regions in the base year. In the post-treatment year, treated tax filers in this group are more likely to “bunch” near the peak of EITC schedule than control group tax filers. In particular, provision of information reduces the fraction of tax filers with very low earnings (earnings below \$7,000) from 16.5% in the control group to 14% in the treated group – a 15% reduction in the rate of extreme poverty. Informed tax filers who were in the increasing and peak range of the EITC in the base year are also less likely to have incomes above \$15,400, the start of the phase-out range, in the post-treatment year. As a result of this increased concentration in earnings outcomes around the EITC peak, the informed group receives \$70 more in EITC benefits (a 2.2% increase) than the control group on average.

Second, the bunching effect around the peak caused by information provision is stronger for individuals who report self-employment income – whose incomes are easiest to adjust both through flexibility in hours and reporting effects. Information provision also increased the probability of starting a business among tax filers initially in the phase-in region. Importantly, however, even when the sample is restricted to tax filers who do not report self-employment income in the base year, there is clear evidence of increased bunching near the peak for individuals who were initially in the phase-in and peak regions of the schedule. Since it is difficult to manipulate wage and salary income (reported on W2 forms by employers), this finding indicates that the informational intervention induced “real” changes in labor supply behavior, and not just reporting effects by the self-employed.

Third, for tax filers initially in the phase-out region, earnings did not change in the treated group relative to the control group. Similarly, the propensity to start a business and report self-employment income is unaffected by provision of information in the phase-out region. We believe that tax filers in this region did not reduce earnings in order to increase their EITC amount because of an “encouragement effect”: the take home message they received from tax professionals encouraged them to work despite the disincentive created by the EITC. In particular, tax professionals told tax filers in the decreasing region that although working and earning more would reduce their EITC amount slightly, they could get other tax credits and

would still come out ahead on net by a substantial amount. We infer that the take-home message is an important determinant of behavior because there is a discontinuous change in the treatment effect on earnings at the threshold where tax filers cross from the peak to the phase-out region. Only the verbal message changed discontinuously at the threshold; the quantitative informational content of the explanation (graph and tables) was the same for all tax filers. This finding indicates that advice about how one should respond to incentives shapes behavioral responses above and beyond the pure provision of information itself.

To benchmark the magnitudes of the behavioral responses induced by information, we compare the estimated treatment effects to the effect of changes in the EITC phase-in subsidy rate. The existing literature on behavioral responses to the EITC suggests that the elasticity of earnings with respect to the net-of-tax rate is at most 0.25 on the intensive-margin for EITC claimants. With an elasticity of 0.25, the EITC must be expanded by 20% to induce changes in earnings comparable to those induced by our information intervention. Hence, the modest information treatment – which, extrapolating from the costs of our experiment, would cost approximately \$115 million to administer to all EITC households in the United States – has approximately the same effect on intensive-margin labor supply behavior as a 20% expansion in the program. Such an expansion would require increasing expenditure on the EITC program by \$10 billion. Using a conventional measure of the marginal cost of public funds of 20 cents per dollar of revenue (see e.g. Ballard et al. 1985), the efficiency cost of such an EITC expansion would be 20 times larger than the cost of information provision. Information is thus an order of magnitude more powerful in affecting intensive-margin labor supply behavior than the changes in program parameters currently discussed in policy debates.

In addition to the literature on the EITC, which we discuss in greater detail in section 2, our analysis builds on and relates to a rapidly growing literature on the importance of information and salience on choices in other contexts. Most of those studies show that providing information can have substantial responses on short-run decisions. For example, Chetty, Looney, and Kroft (2007) show that the salience of commodity taxes has a substantial effect on the demand for grocery products. Hastings and Weinstein (2007) show that providing information on average test scores induces low income families to choose higher performing schools. Kling et al. (2008) show that providing information on out-of-pocket costs for medicare drug prescription plans influences recipients to switch to lower cost plans. A few recent studies

have shown that providing incentives can also generate changes in behavior in the longer run. Jensen (2008) shows that providing information to students in the Dominican Republic on the returns to schooling reduced dropout rates in subsequent years among some subgroups. Nguyen (2008) conducts a similar experiment in Madagascar and shows that information on returns to education increases subsequent test scores. Our analysis contributes to this literature by showing that information is important in labor supply behavior, which is one of the most important long-term decisions made by households and is a central element for the design of tax and transfer policy. An important implication of our results for empirical and theoretical research is that behavioral responses to government programs cannot be directly used to recover individuals' "true" preferences.

The remainder of the paper is organized as follows. Section 2 provides background on the EITC and tax filing procedures and the existing literature on the effects of the program. Section 3 describes the experimental design and data. Results are presented in Section 4. Section 5 presents the calibration comparing the effects of information to the effects of EITC expansions. We conclude in section 6 by discussing the policy implications of our results.

2 Background on the EITC

2.1 Program Parameters

The EITC is a refundable tax credit administered through the income tax system. Originally introduced in 1975, the EITC was significantly expanded in the 1980s and 1990s (Hotz and Scholz 2003; Meyer and Holtz-Eakin 2002). After the large expansion from 1993 to 1996, the EITC schedule has generally been stable and adjusted only for inflation.² In 2006, the latest year for which statistics are available, 23 million tax filers received a total of \$44.4 billion in EITC payments (Internal Revenue Service 2008, Table 2.5).

Eligibility for the EITC depends on earnings – defined as wage and salary income and self-employment income – and the number of qualifying children. Qualifying dependents for EITC purposes are relatives who are under age 19 (24 for full time students) or permanently disabled, and reside with the tax filer for at least half the year.³ See IRS Publication 596

²The only schedule change has been the modest extension of the plateau and phase-in regions for married joint filers since 2002 (\$1,000 in 2002-2004, \$2,000 in 2005-2007, and \$3,000 in 2008).

³Only one tax filer can claim an eligible child; for example, in the case of non-married parents, only one parent can claim the child.

(Internal Revenue Service 2007) for details on program eligibility and rules.

Figure 1 displays the EITC amount as a function of earnings for single and joint tax filers with zero, one, or two or more qualifying dependents in 2007. EITC amounts increase substantially with the number of dependents, but the shape of the schedule as a function of earnings is the same in all three cases. EITC amounts first increase linearly with earnings, then plateau over a short income range, and are then reduced linearly and eventually phased out completely. Since the EITC amounts are very small (maximum of \$428) for filers with no dependents, we excluded them from our experiment, focusing only on individuals with one or more dependents.

In the phase-in or *increasing* region, the subsidy rate of the EITC is 34 percent for taxpayers with one child and 40 percent for taxpayers with two or more children. In the plateau or *peak* region, the EITC is constant and equal to a maximum value of \$2,853 and \$4,716 for tax filers with 1 and 2+ children, respectively. In the phase-out region, the EITC *decreases* at a rate of 15.98% for one child, and 21.06% for two or more children. The EITC is entirely phased-out at earnings equal to \$33,241 and \$37,783 for single filers with 1 and 2+ dependents, respectively.⁴ If the tax filer has other income in addition to earnings (such as unemployment benefits), EITC amounts are calculated based both on earnings and on total income, and the actual EITC amount is the minimum of the two numbers. Finally, tax filers with investment income above \$2,900 are ineligible for the EITC.

2.2 Claiming the EITC: Administrative Procedures

The EITC is administered through the individual income tax system. To claim the EITC, families must file an income tax return that includes an EITC schedule. Tax filing occurs between January 1 and April 15 of the following calendar year. The EITC is received in a single payment as part of the tax refund shortly after filing. Because of the substantial refunds from the EITC and other credits, most low and moderate income families file as soon as they receive the required information forms from employers and other payers, typically in late January or early February.⁵

According to the 2004 public use microdata on tax returns, 74% of families receiving the

⁴For married filing jointly, the plateau and phase-out regions of the EITC are extended by \$2,000.

⁵There is an option to receive the EITC in advance during the year through the paycheck, but take-up of this option is extremely low (less than 2%). See Government Accountability Office (2007) and Jones (2008).

EITC (with children) use paid tax preparers to file their returns. The largest company in the market for paid tax preparation in the United States is H&R Block. H&R Block has about 13,000 offices located throughout the United States and employs over 100,000 tax professionals during the tax filing season. H&R Block currently prepares about 12% of all individual tax returns in the U.S. A substantial fraction of these returns are for EITC claimants, as over half of H&R Block’s individual clients have an adjusted gross income (AGI) below \$35,000.

To file their taxes, clients come to an H&R Block office with relevant documents such as their W2 wage income forms. The client sits with a “tax professional” – the term used to refer to H&R Block employees who prepare tax returns – in front of a computer running the H&R Block Tax Preparation Software (TPS). TPS consists of a series of screens corresponding to the various steps in tax return preparation. At each screen, the tax professional asks questions or inputs information from the forms brought in by the client. The tax preparation process takes about 30 to 45 minutes to complete for a typical EITC client.

2.3 Existing Evidence and Perception of EITC

There is a large empirical literature estimating the effects of the EITC on labor supply and earnings. Hotz and Scholz (2003) and Eissa and Hoynes (2006) provide comprehensive surveys. A number of studies have found strong evidence that the EITC increases labor force participation – the extensive margin response.⁶ However, there is little evidence that the EITC leads to a change in labor supply for those already in the labor market – the intensive margin. Most studies find no effects of the EITC on hours of work (see e.g., Meyer and Rosenbaum 1999 and Rothstein 2007). Using tax return data, Saez (2002) finds clear evidence of bunching of EITC recipients at the first kink of the EITC schedule – where the phase-in ends and the plateau starts – for recipients reporting self-employment income. However, there is no bunching for recipients who do not report any self-employment income, who account for 89% of the individuals in our dataset.

The contrast between the strong responses along the extensive margin and small or zero responses along the intensive margin could be explained by a lack of information about the structure of the EITC (Liebman 1998, Hotz and Scholz 2003, p. 182).⁷ To respond along the

⁶See e.g., Eissa and Liebman 1996, Meyer and Rosenbaum 2001.

⁷The bunching at the first kink for those who report self-employment income shows that some tax filers know about the EITC structure, but the lack of bunching in the rest of the population suggests that such knowledge

extensive margin, families only need to know that working is associated with a large tax refund. In contrast, responding along the intensive margin requires knowledge about the non-linear marginal incentives created by the three ranges of the EITC displayed on Figure 1. Surveys of EITC claimants show that there is widespread knowledge about the EITC's existence, but little knowledge about the structure of the EITC. For example, Ross Phillips (2001) and Maag (2005), find that 60% of low and moderate income families have heard about the EITC using data from the National Survey of America's Families for 1999 and 2002. Other studies have conducted in-depth interviews with small samples of low and moderate income families specifically designed to assess knowledge about the EITC (Olson and Davis 1994, Romich and Weisner 2002, Smeeding, Ross Phillips, and O'Connor 2002). These interviews confirm that most families in this population have heard about the EITC and know that it is a tax refund bonus for working. However, only a very small minority knows about the non-linear "bell shape" of the EITC as a function of earnings and is aware of the location of the kink points.⁸

The lack of knowledge about the EITC's structure is striking given that the program parameters have been quite stable for more than a decade. However, it is not surprising in view of the information currently available about the program. To our knowledge, prior to our experiment, the bell-shaped graphical depiction of the EITC schedule shown in Figure 1 could only be found in academic papers. Official Internal Revenue Service publications provide tables that show exact EITC amounts as a function of income and other characteristics, but do not summarize the EITC phase-in, peak, and phase-out structure in a simple and transparent way. The IRS does not provide personalized advice directly to tax filers and can only distribute comprehensive booklets that cover all possible contingencies. This makes it impossible for the IRS to highlight the key features of the tax code relevant for a particular taxpayer.⁹ In addition, none of the existing commercial tax preparation software describes the EITC structure or marginal incentives explicitly.

We conclude from the existing literature that most individuals are roughly aware of their

is limited to this small group.

⁸In the 42 families sampled by Romich and Weisner (2002), 90% had heard of the EITC, but only two families knew that they needed to earn a certain amount to maximize their credit. One of those two families aimed at reporting self employment earnings in order to maximize the credit (p. 378).

⁹For example, the official IRS publication on the EITC intended for the public (Internal Revenue Service, 2007, Publication 596) is 57 pages long and never explicitly mentions the key slope parameters of the credit. The publication simply states the EITC amounts in the form of a 7 page table that has 4,770 entries.

current EITC amount, but generally perceive the schedule to be “flatter” than the actual schedules shown in Figure 1.¹⁰ This motivates the question of whether improving knowledge about marginal incentives could amplify the impacts of the EITC on the labor supply behavior of low-income households by making true prices clearer and thereby increase their welfare.

3 Experimental Design

We implemented the information-provision experiment in 119 H&R Block offices in the Chicago metropolitan area during the entire 2007 tax filing season (January 1 to April 15). Clients at these offices who received an EITC with at least one eligible child were randomly assigned into the treatment or control group. Assignment was based on the last 2 digits of the Social Security Number of the primary filer. The probability of treatment assignment was 50 percent. The control group followed the standard tax preparation procedure using the TPS software described above. In the standard preparation procedure, a screen notifies the tax filer of his/her EITC amount if he/she is eligible for the EITC. This screen does not explain the structure of the EITC, although a few tax professionals do discuss the EITC in greater detail with their clients at this stage.¹¹

The new EITC information materials delivered by tax professionals to clients in the treatment group were tested and developed in a series of steps. We began by interviewing 12 single mothers with recent work experience in the welfare office of San Francisco county in early October 2006. All 12 had filed tax returns in the past and almost all had heard about the EITC, but none knew about or had seen the graphical depiction of how the EITC varies with earnings. The interviewees found the graphical presentation of the EITC reasonably easy to understand and felt that it made the key features of the EITC very salient. Furthermore, most of the mothers we interviewed grasped why such information could be useful when making work decisions and found the take-home messages sensible.¹²

We refined the information materials in a focus group with 15 experienced H&R Block

¹⁰Several studies have also shown that people do not fully understand other aspects of income tax schedules. See Fujii and Hawley (1988) for evidence from the United States, Brown (1968) for the United Kingdom, Bises (1990) for Italy, and Brannas and Karlsson (1996) for Sweden.

¹¹For example, a few tax preparers mentioned during training sessions that they sometimes sketch a graph similar to that displayed on Figure 1 to explain the EITC to their clients.

¹²For example, one of the interviewees suggested that we visit her housing complex to distribute this information more widely, because all of her neighbors and friends would find it very useful in making overtime and part-time work decisions.

tax professionals and local managers in the Chicago area in late October 2006. The tax professionals found our descriptions of how the program worked to be useful starting points and helped us refine our key messages in the way that seemed most appropriate for the targeted population. Finally, H&R Block’s internal staff and legal team approved all the materials used in the experiment. The process described below is the final procedure that resulted from the collaborative effort between the researchers and H&R Block. Note that in all official tax forms as well as in H&R Block materials, the EITC is referred to as the EIC (Earned Income Credit). We follow this convention in the information treatment materials described below.

3.1 Information Treatment Procedure

For the treatment group, two special “EIC information” screens are displayed automatically in TPS at the end of the tax preparation process.¹³ The first screen prompts the tax professional to begin the EIC explanation they were trained to provide and introduces the client to the information outreach program. This introductory screen is shown in Appendix Exhibit 1a for the case of a single filer with two or more dependents, the case on which we focus below for concreteness. The screen displays the EIC amount the tax filer is getting and describes the goal of the outreach effort, namely to help the client understand how the EIC depends on earnings. The second EIC information screen is displayed in Appendix Exhibit 1b for a tax filer in the increasing range of the EIC. This screen provides the key EIC information relevant to the tax filer’s case, which the tax preparer uses to explain the program to the client.

The central element of the explanation procedure is an “EIC handout” paper form that the tax preparer fills out with the client and uses as a visual aid to explain the program. There are four “EIC handout” forms based on the tax filer’s marital status and dependents: single vs. joint filer and one vs. two or more dependents. Exhibit 1 shows the EIC handout for the case of a single filer with two or more dependents. The tax professional uses the information on the computer screen to fill in the blanks on the form in the following four steps.

First, the tax professional writes down the income that the tax filer earned in 2006 and the corresponding EIC amount the tax filer is getting in his/her tax refund. Second, the tax professional draws a dot on the graph illustrating the location of his client on the schedule.

¹³This screen appears immediately after all the tax information has been entered and the tax refund and liability had been calculated. It appears just before the final settlement screen where the client chooses among the possible refund and payment options.

He then uses the graph to explain the link between earnings and the EIC amount.

In the third step, the tax professional circles the range of the schedule that the client is in – increasing, peak, or decreasing – and provides a simple take-home message corresponding to that range. This take-home message serves as a gentle suggestion about the implications of the information for labor supply decisions. In the increasing range, the message is “Suppose you earn \$10 an hour, then you are really making \$14 an hour. It pays to work more!” In the peak range, the message is “Your earnings are maxing-out the EIC amount.” In the decreasing range, the message is “If you earn \$10 more, your EIC is reduced by \$2.10. Earning more reduces your EIC, but you may qualify for additional tax credits.” An important aspect of the decreasing range message, which will be relevant in interpreting the results, is that it is a mixed message that downplays the work disincentive created by the EITC in the phaseout region. Many tax professionals pitched the message verbally as “You lose \$2 of your EIC credit when you earn \$10 more, but you still come out ahead by \$8 and potentially become eligible for other credits, so working more pays off.” The message took this form because managers and tax professionals at H&R Block felt strongly that it was in the best interest of tax filers to work and earn more. In some cases, other credits such as the non-refundable portion of the child tax credit can indeed increase with earnings in the EITC phaseout range, mitigating the implicit tax on work.

In the fourth step, the tax professional circles the relevant range in the table which displays the exact parameters for the EITC. This table provides an alternative method of showing exactly how far the claimant can change his/her earnings before hitting the threshold for the next range. Tax preparers were trained to spend the most time on whichever of the three methods the client appeared to understand best – the verbal, graphical, or tabular descriptions. Hence, the time spent on each of the four steps differed across clients depending on their tastes and skills.

After this information explanation is provided and the tax return process is completed, TPS automatically prints an “EIC printout” page that reproduces the information filled out in the handout. Appendix Exhibit 2 displays an example of the EIC printout. This page is printed at the same time as the tax return and inserted at the top of the packet given to the client to take home. The client is reminded by the tax preparer that this information may prove useful when making earnings-related decisions later in the year. The purpose of

the printout is to present the EITC information in a clean, accurate format. The temporary handout used to explain the program is kept by the tax professional.

Finally, to reinforce the treatment, H&R Block sent a letter summarizing the EITC information to all treatment-eligible clients in August 2007. Appendix Exhibit 3 displays an example of this letter.¹⁴

As with most provisions of the tax code, EITC ranges are mechanically indexed for inflation and therefore differ slightly across the base year and subsequent year. Since our goal was to inform tax filers about the EITC parameters relevant for their subsequent labor supply decisions, the table and graph display the EITC parameters for 2007 earnings and the corresponding EITC that would be received when filing in 2008 (the post-treatment year). The classification of tax filers into the 3 groups – increasing, peak, and decreasing – was also based on the 2007 EITC parameters. As a result, a tax filer who was at the very beginning of the peak range would actually be presented with the increasing scenario that would apply were he/she to have the same level of nominal income in 2007. Similarly, a tax filer at the very beginning of the decreasing range would be presented with the peak scenario. Since the IRS inflation rate applied from tax year 2006 to 2007 was relatively small (3.9%), only 4% of taxpayers were located at a point where their current range differed from their predicted range for the following year. Note that the phase-in and phase-out rates were unchanged across the years.

3.2 Tax Professional Behavior

The effects of the experiment depend critically on the knowledge and behavior of the tax professionals. For this reason, extensive training and information about our EITC “outreach pilot study” were provided. We directly trained around 100 “office leaders” in November 2006 ourselves, who then trained during December 2006 the approximately 1,000 tax preparers involved in implementing the experiment. The training described the general goal of the outreach effort, why the experimental design required giving information to only half the clients, and explained the changes to the TPS system that would be introduced. A series of case studies with hypothetical clients were used to illustrate various scenarios and how standardized explanations should be provided in the four steps. Tax professionals were

¹⁴Some of the letters never reached the clients because of incorrect addresses or changes of address.

also provided with extensive documentation to take home about the EITC outreach pilot.¹⁵ Field observations in some of the experimental offices in late January confirmed that the EIC information screens and printouts were working as planned, that the EIC handout materials were available at each tax professional’s desk, and that tax professionals were implementing the experiment as trained.

In pilot sessions, we found that a minimum time of 2 minutes was required for a coherent explanation of the EITC. To give tax professionals an incentive to administer the information treatment carefully to eligible clients, each tax professional was offered \$5 for each eligible client with whom they spent at least two minutes on the EIC information screens (with time tracked by the software). If the tax professional attempted to exit the information screens before two minutes elapsed, the TPS system displayed a warning, “Does your client understand the explanation of how the EIC impacts their tax return?” The system then allowed the tax professional to go back and continue his explanation, resuming the two minute clock. Tax preparers who spent less than two minutes on the information screens did not receive any compensation for that client. Note that clients given more than a two minute treatment may also not have been given a thorough explanation of the EITC. For example, tax professionals could have discussed issues unrelated to the EITC with the client while the clock was running. In view of this point and the results of our pilot studies, we believe that the fraction of compensated (more than two minute) treatments gives a lower bound for the fraction of clients who were given a truly effective explanation about the EITC.¹⁶

We refer to a client who was eligible to receive the information treatment as “eligible for treatment,” and refer to those who received effective (2+ minute) explanation as “treated” clients. Overall, 73% of tax filers whom we intended to treat were treated. A substantial fraction of the variance in compliance rates is explained by office fixed effects. Most offices had very high compliance, and a few offices had very low compliance rates, possibly due to training failures (four offices had compliance rates below 40%). The decision to offer a 2+ minute EITC explanation to eligible clients may also have depended on an assessment of whether the client was likely to be interested. Whether a client is “effectively treated” is therefore not completely random; only the intention to treat is randomized.

¹⁵The powerpoint slides and case studies used for training are available from the authors upon request.

¹⁶A caveat to keep in mind is that all treatment clients received the reinforcement letter in the mail.

To address the non-random compliance problem, we follow standard practice in the experimental literature and first estimate “intent-to-treat” effects – comparing outcomes of those eligible and ineligible to receive the information explanation. We then estimate “treatment-on-treated” effects using two-stage-least-squares models that effectively rescale the intent-to-treat estimates by the inverse of the treatment rate ($\frac{1}{0.73}$ in the full sample). A caveat in interpreting these estimates is that tax professionals were most enthusiastic about delivering the phase-in message which encouraged tax filers to work more in order to increase their EITC. As noted above, many tax professionals had reservations about emphasizing the work disincentive in the phase-out region. Therefore, the intensity of treatment is likely to have been greater for clients in the phase-in region than those in the phase-out region.

As a supplement to the statistics on compliance rates, we directly assessed the tax preparers’ reactions to the experiment by conducting a survey of the tax preparers at the end of the tax season. See Appendix Exhibit 4 for the survey instrument. In order to obtain candid responses, the surveys identified offices but not individual tax preparers within those offices. 78% of the 119 offices sent back completed surveys, yielding a total of 785 survey responses. 88% of the tax professionals who responded to the survey thought that the EITC information should be offered again in the future.¹⁷ 81% of surveyed tax professionals thought that the EITC experiment pilot helped their own understanding of how the EITC credit works. This statistic shows that our outreach effort did provide new information about the structure of the EITC beyond what is normally provided in the tax preparation procedure at H&R Block.¹⁸ When asked about client interest, 37% of tax preparers said that “most” (> 75%) of their clients were interested in the information explanation. 38% of the tax preparers said that “many” (25 to 75%) clients were interested, while 25% of tax professionals felt that few (<25%) of their clients were interested. Overall, we conclude from these surveys that most tax professionals were enthusiastic about the experiment and thought it was a valuable service for their clients, suggesting that the information treatment was implemented satisfactorily.

¹⁷In the written feedback section, many tax professionals commented that it would be good to offer the information explanations to all EITC recipients in the future instead of only half of them.

¹⁸It remains possible, however, that tax professionals who went through our training process offered deeper explanations on the EITC to tax filers in the control group as well. To minimize such contamination effects, we emphasized repeatedly in training that it was critical not to give any extra information to the clients who were not selected for treatment for the purpose of the study. Any remaining contamination effects would bias our estimated effects downward.

3.3 Data and Descriptive Statistics

Our analysis of the experimental results is based on anonymous statistical compilations prepared by H&R Block in accordance with applicable laws. The anonymous statistical compilations were constructed from data extracted from tax returns filed in 2007 and 2008 and from supplemental information collected by H&R Block during the implementation of the experiment in 2007.¹⁹

Table 2 shows descriptive statistics for the treatment and control groups. The means of all of the base year variables are similar in the treatment and control groups. None of the mean differences are significant at the 5 percent level, indicating that randomization was successful. The mean income in the year prior to the experiment (the “base year”) in the full sample is \$16,550, while the mean EIC amount in the base year is \$2,560. 40.5% of the claimants have one child in the base year, and the rest have two or more dependents. 29% of the clients are located in the phase-in region, 20% in the peak, and 51% in the phase-out. 11.6% of the sample reports positive self-employment income, with the majority coming from the phase-in region, where 21.7% of the sample reports some self-employment income.

EITC payments are highly volatile across years, with a standard deviation in the growth rate of 66%. This is primarily because of income volatility rather than changes in family characteristics. Transitions between dependent status are relatively rare: 19% of individuals with 1 dependent switch to 0 or 2+ dependents in the second (post-experiment) year, while 10% of individuals with 2+ dependents have a change in dependent status. In contrast, the standard deviation of income growth in the pooled sample is 65%. Those in the lower tail of the income distribution – e.g. the bottom 5%, with base year income less than approximately \$3,000 – are particularly unstable. The median growth rate of income for this subset of tax filers is 120% and the standard deviation is also 120%. This tremendous movement and volatility in income at the bottom end of the income distribution, which is consistent with earlier studies, makes it difficult to obtain statistically robust results for this subgroup.

The standard deviation of residual income growth remains at 62% after controlling for base year self-employment status, number of dependents, and a cubic in base-year income. Because

¹⁹Because of limitations in our current dataset, in which we do not have information on marital status and non-employment income, we slightly mis-measure the tax filer’s EITC range in the base year. This misclassification error is likely to bias the estimates of the treatment effects downward. As 90.8% of EITC filers in our sample were single filers in base year (and 9.2% joint filers), we always consider the single filer EITC parameters.

of this high level of income volatility, many tax filers who are initially in the phase-in region move to the peak or phase-out regions in the next year. The inability to predict tax filers' expected locations in the EITC schedule in the post-treatment year makes it difficult to sign the direction in which income should shift for a given tax filer when he/she is informed about the EITC. The empirical methods we use below are designed to account for this issue.

4 Results

Our hypothesis is that providing information about the EITC induces behavioral responses that work toward increasing the EITC amount. To test this hypothesis, it is important to recognize that the predicted changes in behavior are non-monotonic. We predict that treated individuals will be more likely to “bunch” around the peak of the EITC schedule, increasing the concentration of the income distribution around that point. Individuals expecting to be in the phase-in region should attempt to increase their labor supply and reported earnings, whereas individuals expecting to be in the phase-out region should attempt to reduce earnings. Hence, increased concentration may not affect the mean level of earnings. To capture the changes in the distribution, we will look at moments beyond the mean of the income distribution to characterize the effects of the intervention.

A further complication is that the treatment is heterogeneous across subgroups of the sample. The individual's initial position in the EITC schedule, which is a function of base year income and number of dependents, determines the take-home message and information discussed by the tax preparer. Moreover, even conditional on getting the same information, treatment effects are likely to be heterogeneous across groups. For example, self-employed individuals are able to adjust reported income more easily. Very low income individuals may not respond to the information treatment because of the instability in their incomes. Such heterogeneity in treatment effects will play a central role in the analysis that follows.

4.1 Mean Effects and Chow Tests

We begin our empirical analysis by estimating mean treatment effects. We regress changes in various outcome variables on an indicator for being eligible for the treatment. The results, which can be interpreted as intention-to-treat estimates, are presented in Panel A of Table 2. We refer to the base (pre-treatment) year as “year 1,” corresponding to variables for calendar

year 2006 (reported when filing taxes in 2007). We refer to the post-treatment year as “year 2,” corresponding to variables for calendar year 2007 (reported when filing taxes in 2008).

We first compare year 2 return rates across the treatment and control groups. The difference in the return rate across the groups is 0.7%, which is statistically indistinguishable from zero. Coupled with the evidence of successful randomization documented above, this lack of selective attrition suggests that comparisons of the treatment-eligible and ineligible groups should yield unbiased estimates of treatment effects.

Columns 2-6 show the effect of the treatment on changes (year 2 minus year 1) in several outcomes. Column 2 shows that the change in EITC amount from year 1 to year 2 is \$23 larger for individuals in the treated group relative to the control group, but this estimate is not statistically significant at conventional levels ($p = 0.12$). Column 3 shows that the treatment has no detectable effect on the mean level of income. As noted above, this finding is not surprising, because our prediction is that the earnings distribution should become more concentrated, not that mean earnings should change.

In columns 4-6, we test for changes in the distribution of earnings using indicator variables for being above or below certain income thresholds. We define as “low income” tax filers who have post-treatment earnings below \$7,000 – approximately the 10th percentile of the income distribution. We define as “high income” tax filers with post-treatment incomes above \$15,400 – the start of the phase-out region. Finally, we define as “middle income” those tax filers who have post-treatment incomes between \$7,000 and \$15,400.²⁰ The treatment reduces the fraction of individuals with low income by 1.1%, an estimate that is statistically significant with $p < 0.01$. Of this 1.1%, 0.86% are estimated to move into the middle income group, and the remaining 0.23% move into the high income group, but these point estimates are not statistically significant. Overall, information provision appears to have amplified the incentive effects of the EITC schedule by increasing the concentration of the earnings distribution as predicted. However, the mean treatment effect estimates are imprecise, making it difficult to draw strong conclusions from this analysis.

The lack of sharp differences in outcomes in the full sample could mask heterogeneous treatment effects across subgroups, most importantly across income in base year and number

²⁰The qualitative results below are not sensitive to varying the exact cutoffs used to define the income ranges for the earnings outcomes.

of dependents, since these characteristics affect the nature of the treatment as discussed above. To test for heterogeneous treatment effects along these two dimensions, we implement a Chow test. We first estimate the following specification in both the treatment and control groups:

$$y_i = \alpha_i + \beta_1 inc_i + \beta_2 inc_i^2 + \dots + \beta_6 inc_i^6 + \theta deps_i + \varepsilon_i \quad (1)$$

where y_i denotes an outcome (e.g. post-treatment EITC amount or post-treatment income), inc_i denotes base year income, $deps_i$ denotes dependents in base year. We then test the null hypothesis that all the coefficients are identical when this specification is estimated on the treatment and control samples. Crump et al. (2008) show that when this test is implemented using a high-order polynomial for continuous variables as in (1), it approximates a non-parametric test for a non-zero treatment effect in any subgroup defined by the observables (income and number of dependents in base year).

Panel B of Table 2 shows the F-statistics for the Chow tests for the same six outcome variables as in Table 1. In these specifications, the dependent variables are the levels of the outcome variables in year 2 rather than changes, because the controls in the regression already adjust for base-year levels. Column 1 shows that the null hypothesis that there are no differences in return rates across treatment and control in any subgroup is not rejected ($p = 0.25$). This provides further evidence against selective attrition.

Column 2 shows that the null hypothesis of no differences in EITC amounts is rejected with $p < 0.01$. This test shows that the treatment caused statistically significant changes in EITC amounts in some subgroups of the sample. Column 3 shows that there are no significant differences in mean income levels in any observable subgroup, consistent with our inability to predict tax filers' locations in the EITC schedule in the post-treatment year. In contrast, there is strong evidence of changes in the distribution of earnings (columns 4-6). The hypothesis that the fraction of tax filers with low income is the same across treated and untreated tax filers in all subgroups is rejected with $p < 0.0001$. The hypothesis that the probability of having "middle income" is unaffected by the treatment is also rejected, with $p < 0.01$. There are, however, no significant differences in the probability of having "high income" across the treatment and control groups. Together, these results indicate that the treatment induces significant changes in the earnings distribution in the phase-in and peak regions.

The results in Table 2 highlight two important features of the data. First, there are signifi-

cant changes in earnings behavior in certain subgroups of the population, but these changes are masked when examining the aggregate sample. Second, it is important to investigate moments of the earnings distribution beyond the mean to uncover the changes in behavior. Motivated by these results, we now explore the nature of the heterogeneous treatment effects in more detail by cutting the sample along various dimensions. We first focus on individuals who report self-employment income, where the effects of the intervention are particularly clear. We then turn to the full sample, and also examine specifically those who do not report self-employment income in base year, where we document similar but slightly weaker responses.

4.2 Treatment Effects: Self-Employed Tax Filers

This section analyzes the effect of the information intervention on business creation and expansion. We divide the analysis into two sections: (1) intensive margin – the effect of the treatment on the amount of income reported conditional on already having a business in the base year and (2) the extensive margin – the effect of the treatment on the propensity to start a business and report self-employment income in year 2.

Intensive Margin. To analyze intensive margin responses, we restrict attention to tax filers who report positive self-employment income in the base year. Note that these tax filers may also have additional wage earnings beyond their business income. Figure 2a illustrates the effects of the treatment on the distribution of post treatment year earnings for tax filers one dependent. It plots the density of total post-treatment year earnings for those in the control group and those eligible for treatment. The control group exhibits clear bunching at the first kink point of the EITC schedule, the lowest earnings level at which one obtains the maximum refund.²¹ Bunching is amplified in the treatment group: the treated group is less likely to report both a very low earnings level and a very high earnings level, showing that the information induced tax filers to target the peak as predicted.

Figure 2b replicates Figure 2a for tax filers with two or more dependents. Bunching at the beginning of the peak is again amplified by the information treatment. Note that the EITC schedules differ across the 1 and 2+ dependent cases, and the start of the peak region therefore moves from \$8,390 in Figure 2a to \$11,790 in Figure 2b. The fact that the point of

²¹This finding is consistent with Saez (2002) who uses the public use micro tax return data files and finds bunching at the first kink point among EITC recipients with self-employment income.

amplified bunching moves precisely along with the first kink point shows that the information treatment had a sharp impact on earnings among the self-employed.

We quantify these intensive-margin responses in Panel A of Table 3 by estimating treatment-on-treated effects. We estimate two-stage-least-squares (TSLS) specifications of the following form:

$$\begin{aligned} y_i &= \alpha + \beta \text{treat}_i + X_i + \varepsilon_i \\ \text{treat}_i &= \gamma + \rho \text{elig_treat}_i + X_i + \nu_i \end{aligned} \tag{2}$$

where treat_i is an indicator for whether the individual actually received a 2+ minute EITC information explanation, elig_treat_i is an indicator for whether the individual is treatment eligible, X_i denotes a vector of base year controls, and y_i denotes a post-treatment outcome.

To quantify the increase in bunching near the first kink, we use the “middle income” indicator variable (post-treatment income between \$7,000 and \$15,400) defined in section 4.1. Column 1 of Table 3A estimates (2) with no controls and $y_i = \text{middle income}$. It shows that the probability of having post treatment earnings in the middle income range rises by 5 percentage points as a result of the information treatment among self-employed individuals. This estimate is statistically significant with $p < 0.05$. In the control group, 58.6% of tax filers are in the middle income range, implying that the information treatment increases the probability of falling in that range by 8.5%. Column 2 replicates the specification in column 1, adding a control for base year dependents and a quadratic control for base year income. The point estimate is unaffected, but the standard error falls, as one would expect in a randomized experiment. In the remainder of the specifications in Table 3, we include this set of base year controls to improve precision.

Column 3 shows that the increased bunching in the middle income range comes partly from a significantly lower probability of having “low income” (post-treatment income less than \$7,000). The probability of having low income falls by 3.7 percentage points relative to a control group base of 14.3%. An analogous regression shows that the probability of being “upper income” (post treatment income greater than \$15,400) is 1.5 percentage points lower in the treatment group (relative to a base of 27.1%), but that estimate is statistically insignificant ($p = 0.44$).

Next, we investigate how the probability of having middle income in year 2 varies based

on the tax filer’s initial position on the EITC schedule in base year. Column 4 restricts the sample to self-employed individuals in the phase-in region of the schedule in base year, column 5 to the peak, and column 6 to the phase-out. The increase in bunching at the kink is driven primarily by those in the phase-in region, for whom the probability of having middle income rises from 69% to 78%.

Extensive Margin. We now turn to the effects of the information intervention on business creation – the propensity to start a new business. For this analysis, we restrict attention to individuals who did not report self-employment income in base year, and examine how the probability of reporting self-employment income varies across the treatment and control groups.

Figure 3 shows how the propensity to start a business varies with base year income in the treatment and control groups among tax filers with two or more dependents. For tax filers who are initially in the phase-in region, it is clear that the information treatment induces large increases in the propensity to start a business. As soon as one crosses into the peak region, the treatment effect becomes much smaller. The treatment effect is negligible in the phase-out region. This pattern is confirmed in the regression estimates reported in Panel B of Table 3. Column 1 estimates (2) for tax filers initially in the phase-in region, with no controls and $y_i =$ positive self employment income in year 2. The probability of having business income is 2.08 percentage points higher in the treatment group, starting from a base of 7.3%. Hence, the information treatment increases the propensity to start a business by 28.5%. Column 2 shows that this estimate is unaffected by the inclusion of base year controls for income and number of dependents.

Columns 3 and 4 estimate the same model for tax filers in the peak and phase-out regions, respectively. The estimates confirm that the information treatment has no effect on the propensity to start a business in these regions. The information treatment could have a small effect on the propensity to report self-employment income for those in the peak region because these individuals are already at or near the location that maximizes their EITC refund. However, the finding that there is no reduction in the probability of starting a business in the phaseout region is inconsistent with the predicted incentive effects.

A parallel analysis of the propensity to close a business on the sample of individuals who initially report self-employment income uncovers no significant differences between the treat-

ment and control groups. Since the only individuals who have a greater incentive to close their business in light of the information are in the phaseout region, this finding again reflects the general pattern that the information treatment did not induce significant behavioral responses in the phaseout region. We discuss why the treatment effects go against the predictions of the basic incentive mechanism in the phaseout region after showing that a similar pattern is obtained for wage earners in the next section.

4.3 Treatment Effects: Full Sample and Wage Earners

We now turn to the full sample, including tax filers who do not report self-employment income in the base year. To characterize the bunching response, we first examine how the probability of being in the middle income range (between \$7,000 and \$15,400) varies across the treatment and control groups. Figure 4 plots the fraction of tax filers who have middle income in the treatment and control groups by base year income. The figure shows that between base-year incomes of \$3,000 and \$16,000, there is a systematic increase in the probability of being in the middle income range post-treatment. Between these two income levels, the treatment-group percentages in each \$1,000 income interval are all higher than the corresponding control-group values. We infer that the information treatment increased bunching near the EITC peak for tax filers who initially (a) were in the phase-in and peak regions and (b) did not have very low incomes. The lack of a response for tax filers with initial incomes below \$3,000 (the bottom 5% of the income distribution) is not surprising given that the instability of income in this subgroup discussed in section 3.

To quantify the behavioral responses, we estimate two-stage-least-squares models to identify treatment-on-treated effects, analogous to the system specified in (2). In Column 1 of Table 4, we estimate the effect of the information treatment on the probability of having middle income in year 2 for all tax filers with base year income between \$3,000 and \$15,400. The probability of having middle income rises by 2.5 percentage points relative to a base of 54.4% in the control group, an estimate that is statistically significant with $p < 0.05$. Column 2 replicates the specification in column 1 with controls for base year dependents, self employment status in base year, and a quadratic control for base year income. The point estimate of the treatment effect is similar, and the standard error falls as expected. In column 3, we estimate the same model as in column 2 for the set of tax filers who are located in the phaseout region

in the base year. Consistent with Figure 4, we find no evidence of a treatment effect in this region.

One potential explanation for the lack of an effect in the phase-out region is the nature of the take-home message given to individuals in that region, which emphasized the benefits of earning more rather than the work disincentive created by the EITC phaseout. While the quantitative information (graph and table) provided to treated tax filers was the same irrespective of base year characteristics, the verbal take home message varied discontinuously depending upon the tax filer’s position on the EITC schedule in the base year. In particular, filers in the phase-in and peak regions received positive messages explaining how to maximize their EITC refund. In contrast, tax filers in the phaseout region received an encouragement to work more despite the work disincentive created by the EITC, as discussed in section 3. These households were given the objective information that they would lose either 16 or 21 cents (depending on number of dependents) of their EITC credit for every dollar they earned, but this point was framed by tax professionals as a small loss relative to the gain in income and the potential gain through other tax credits.

To study the role of the take-home message more directly, we estimate a “regression discontinuity” specification that tests for a discontinuous change in the treatment effect at the income threshold (\$15,400) separating the peak from the phaseout region in the base year. Since the verbal message varied discontinuously at the \$15,400 cutoff whereas the quantitative information did not, evidence of a discontinuous change in the treatment effect at this point would suggest that the verbal encouragement had an impact on behavior. In columns 4 and 5, we estimate regression discontinuity specifications of the following form:

$$\begin{aligned} \text{midinc}_i = & \alpha + \beta_1 \text{elig_treat}_i + \beta_2 (\text{elig_treat}_i \times \text{below_threshold}) \\ & + \text{I}(\text{base_region}_i) + f(\text{base_inc}_i) + \text{elig_treat} \times f(\text{base_inc}_i) + \varepsilon_i \end{aligned} \quad (3)$$

In this specification, $\text{I}(\text{slope}_i)$ denotes a triplet of indicator variables for the tax filer’s base year location in the EITC schedule – phase-in, peak, or phase-out. The `below_threshold` variable is an indicator for whether the tax filer’s base year income is less than \$15,400. The function $f(\text{base_inc})$ denotes the smooth control function used to capture the variation in the probability of having middle income by base year income level. We also interact this function with the treatment indicator to allow for smooth variation in the size of the treatment effect

by income level. In this specification, the coefficient β_2 can be interpreted as an estimate of the discontinuous change in the treatment effect around the threshold for being just below or above the phaseout cutoff in the base year. Note that this is an OLS specification run on the treatment eligibility variable, and hence the coefficients should be interpreted as “intent to treat” estimates.

Column 4 of Table 4 implements (3) with a linear control for base year income. Column 5 includes a quadratic control for base year income. Both specifications show that the size of the treatment effect is approximately 4 percentage points larger for tax filers who were just to the left of the base-year phaseout threshold than those who were just to the right of that cutoff. This discontinuity in the treatment effect indicates that the verbal encouragement provided by tax preparers to work more in the phaseout region may have mitigated the potential reductions in labor supply that one would have predicted from a simple explanation of the work disincentives.

Tax Filers Near Peak. Further exploration of the data disaggregated by number of dependents reveals that the strongest behavioral responses are for those individuals who are “near the beginning of the peak” in the base year. Define tax filers “near the peak” as those who are located within \$4,000 of the first kink in their EITC schedule – that is, base year incomes between \$4,400 and \$12,400 for tax filers with one dependent and incomes between \$7,800 and \$15,800 for those with two or more dependents. In Table 5, we show that the effects of the information treatment are particularly strong for these upper-phase-in and lower-peak tax filers.

Column 1 of Table 5 replicates the specification in column 2 of Table 4 for tax filers near the peak in the base year. The effect of the treatment on the probability of having middle income is 4.9 percentage points in this subgroup, and is statistically significant with $p < 0.001$. In column 2, we further restrict the sample to those who do not report positive self-employment income in the base year. The treatment effect remains substantial (4.2 percentage points) and statistically significant in this subgroup of base-year wage earners. Figure 5 illustrates the bunching effect for this subgroup, plotting earnings distributions in year 2 for tax filers with two or more dependents who were near the peak and had no self-employment income in the base year. This figure corroborates the regression evidence, showing that the treated group has a more concentrated earnings distribution near the peak. The bunching is not as

sharp as in the self-employed population (Figure 2), which is to be expected given that wage earners cannot control their reported earnings as finely as self-employed individuals. Column 3 replicates 2 for the subgroup of tax filers near the peak who do have self employment income in the base year. The estimated treatment effect is larger for the self-employed subgroup than the non-self-employed, consistent with the graphical evidence.

An important caveat to the preceding results is that part of the earnings response documented for those with no self-employment income in the base year in Column 2 could be driven by the business creation effect documented in Table 3. However, the magnitude of the business creation response is unlikely to fully explain the 4.2 percentage point increase in the probability of having middle income, since the treatment increases the probability of starting a business rises by less than 2 percentage points. Hence, this evidence suggests that wage earners change their labor supply behavior when given information about the EITC. However, additional data on W-2 earnings are required to confirm that changes in earnings behavior rather than reported self-employment income are driving the response.

Columns 4 and 5 investigate the heterogeneity of the response by number of dependents, showing that the treatment effects are significant in both the one dependent and two or more dependents subgroups of the near-peak sample. The estimated effects are somewhat larger in the one dependent group, consistent with the view that this subgroup is likely to have more elastic labor supply than households with more dependents. Columns 6 and 7 investigate where the people who move toward the middle of the earnings distribution as a result of the information treatment come from. Column 6 shows that the probability of having year 2 income below \$7,000 falls from 16.6% in the control group to 14% in the treatment group. Hence, the information treatment leads to a 15% reduction in the rate of extreme poverty within the subgroup of individuals near the peak in the base year. Column 7 shows that there is a similar reduction in the probability of having an income that puts the tax filer in the phaseout region (year 2 income above \$15,400), though this estimate is not statistically significant at the conventional 5% level ($p = 0.07$).

Finally, in columns 8 and 9, we return to the effect of the information treatment on the EITC amount obtained by the tax filer. In column 8, we replicate the preceding specifications for near-peak tax filers with the year 2 EITC amount as the dependent variable. The treatment is estimated to increase the EITC amount by approximately \$70 (2.2%) on average for tax

filers near the peak in the base year. Column 9 shows the analogous regression estimate for tax filers who are not near the peak (the complement of the sample in column 8). The estimated treatment effect in this subgroup is a statistically insignificant reduction of \$6 in the EITC amount.

We conclude that the information treatment induced significant behavioral responses aimed at increasing EITC amounts for those tax filers who were initially in the upper phase-in and peak regions of the EITC schedule (33% of the sample), but induced negligible responses for the rest (66%) of the sample. This pattern of heterogeneity in treatment effects is the reason that our initial examination of mean treatment effects did not yield robust evidence of behavioral responses, whereas the Chow tests to detect heterogeneous responses did uncover evidence of significant effects.

5 Calibration of Magnitudes

The objective of this section is to calibrate the EITC expansion that would be necessary to reproduce the behavioral response induced by the information treatment. The critical input in this calibration is the elasticity of earnings with respect to the net of tax rate on the intensive margin. As discussed in section 2, most studies find insignificant effects of EITC expansions on hours of work for those already in the work force. Saez's (2002) analysis of bunching at the kink points of the EITC implies that the intensive-margin elasticity for wage earners is close to 0 while the intensive-margin elasticity for the self-employed is around 1. Since 11% of EITC recipients have self-employment income (Table 1), the implied intensive-margin elasticity for the full EITC population is around 0.11. Given the imprecision of the existing estimates, we consider $e = 0.25$ to be an upper bound for the intensive elasticity of earnings.

Let t^i denote the EITC phase-in rate ($t^i = .4$ for filers with two or more dependents and $t^i = .34$ for one dependent). Let t^d denote the phase-out rate ($t^d = 0.21$ for two or more dependents, $t^d = 0.16$ for one dependent). Expanding the EITC program by Δ percent would increase the net-of-tax rate from $1 + t^i$ to $1 + t^i(1 + \Delta)$ in the phase-in range and decrease the net-of-tax rate from $1 - t^d$ to $1 - t^d(1 + \Delta)$ in the phase-out range. To calibrate how these changes would affect earnings behavior, we use a standard specification of utility as a function

of consumption (c) and labor (l) that features a constant net-of-tax elasticity:

$$u(c, l) = c - \frac{l^{1+1/e}}{1 + 1/e},$$

where $e = \frac{d \log l}{d \log 1-t}$ denotes the elasticity of labor supply with respect to the net-of-tax rate. Note that there are no income effects with this quasi-linear utility specification, so labor supply is a function purely of the marginal tax rate.

Let $F_0(z)$ denote the distribution of earnings under the existing EITC program and $F_\Delta(z)$ the distribution of earnings after the Δ percent EITC expansion. We denote by $f_0(z)$ the density distribution under current EITC. Assume that Δ is small, allowing us to use first-order approximations. In the phase-in range, if earnings under the existing EITC are equal to z_0 , then earnings after the Δ percent EITC expansion would be equal to

$$z_\Delta = z_0 \cdot [(1 + t^i(1 + \Delta))/(1 + t^i)]^e \simeq z_0 \cdot (1 + e \cdot \Delta \cdot t^i/(1 + t^i))$$

It follows that $F_\Delta(z) = Pr[z_\Delta < z] \simeq Pr[z_0 \cdot (1 + e \cdot \Delta \cdot t^i/(1 + t^i)) < z] \simeq F_0[z \cdot (1 - e \cdot \Delta \cdot t^i/(1 + t^i))] \simeq F_0(z) - e \cdot \Delta \cdot z f_0(z) \cdot t^i/(1 + t^i)$. Therefore, an EITC expansion of Δ percent increases the probability of having earnings above a given value z by $e \cdot \Delta \cdot z f_0(z) \cdot t^i/(1 + t^i)$ percentage points. Symmetrically, in the phase-out range, an EITC expansion of Δ percent increases the probability of having earnings *below* z by $e \cdot \Delta \cdot z f_0(z) \cdot t^d/(1 - t^d)$ percentage points. Hence, an EITC expansion of Δ percent would increase the probability of having earnings within an interval (k_1, k_2) by

$$X = e \cdot \Delta \cdot [k_1 \cdot f_0(k_1) \cdot t^i/(1 + t^i) + k_2 \cdot f_0(k_2) \cdot t^d/(1 - t^d)]$$

percentage points.

We calculate Δ using this equation with the estimates reported in columns 2 and 3 of Table 4 as inputs. The interval we focused on in the empirical analysis is having “middle income” – earnings between $k_1 = \$7,000$ and $k_2 = \$15,400$. According to Column 3, the information treatment increased the probability of having earnings in this interval by 2.7 percentage points for those with earnings below \$15,400 in the base year. The probability of having middle income fell by -0.4 percentage points for those with base-year earnings above \$15,400. On average, the increased probability of having earnings in the (\$7,000, \$15,400) interval is therefore $X = 0.96$ percentage points.

We set $t^i = 0.37$ and $t^d = 0.185$ (the average of the phase-in/out rates for the one and two or more dependents cases). The empirical distribution in the control group implies $f_0(7000) = .000027$ and $f_0(15400) = .000035$. With these inputs and $e = 0.25$, it follows that an EITC expansion of Δ would increase the probability of being in the middle income range by $X = \Delta \cdot 0.0433$. Finally, setting $X = .0096$ and solving yields $\Delta = 0.22$. That is, a 22% expansion in the federal EITC would be required to generate the same increase in the probability of being in the middle income range as the information treatment.

An alternative approach to the calibration is to measure the excess bunching at the first kink point created by the information treatment (see e.g, Figure 5). Using the method of Saez (2002), we estimate the EITC expansion needed to reproduce such excess bunching with $e = 0.25$. This alternative calculation also yields $\Delta \simeq 0.2$.

We conclude that the federal EITC subsidy would have to be increased by roughly 20 percent to induce a response of the same magnitude as the one induced by our information intervention. Such an expansion would require increasing EITC payments by \$10 billion. Assuming a marginal cost of public funds equal to 20 cents per dollar of revenue (Ballard et al. 1985), the efficiency cost of raising \$10 billion of tax revenue to finance this EITC expansion would be \$2 billion. Extrapolating from the costs of our experiment, we estimate the administrative cost of providing information for all 23 million EITC recipients²² in the country to be $\$5 \times 23 \text{ million} = \115 million .²³ Thus, the efficiency cost of achieving a given change in labor supply behavior is about 20 times larger than the administrative cost of providing information. Although this calculation should be viewed as a rough estimate given the highly stylized nature of the calibration, it suggests that information is a powerful determinant of behavioral responses relative to changes in marginal tax rates.

²²Obviously, this is a very coarse approximation. In practice, it would be difficult to reach the 24% of EITC recipients who do not use tax preparers (see our conclusion below). Furthermore, about 1/3 of EITC recipients in any given year did not get the EITC in the preceding year and hence would not be informed in advance about the program. Conversely, it might not be necessary to repeat the information every year for those receiving the EITC regularly year after year.

²³The \$5 compensation we offered Tax Pros was generous relative to the time spent explaining the EITC. We chose a generous compensation level in order to motivate Tax Pros to successfully implement this new pilot. There were other administrative costs involved in designing and producing the materials, and training Tax Pros. Therefore, \$5 per EITC claimant is probably a reasonable total cost for a large scale implementation.

6 Conclusion

This paper has reported the results of an experiment with 43,000 EITC claimants at H&R Block that tested the effects of information on labor supply responses to the EITC. We find that information induced tax filers who were initially in the phase-in and peak regions of the EITC schedule to change work behavior in order to locate closer to the peak of the schedule and maximize their refund. Tax filers in the phaseout region are unresponsive to the information treatment, perhaps because tax professionals framed the work disincentive created by the EITC as being small relative to other factors. Overall, the information treatment appears to have induced fairly large changes in behavior; a simple calibration indicates that the federal EITC would have to be expanded by 20% (\$10 billion) to achieve similar changes in labor supply.

These results have implications for (1) empirical work on the effects of taxes and transfers, (2) optimal tax and transfer policy design, and (3) the role of tax preparers in advising tax filers about the incentives created by complex tax and transfer programs. First, from a positive perspective, the results show that the effects of taxes and transfers depend critically on their information and salience characteristics. Such factors should be included as an explanatory variable in empirical estimation of behavioral responses. For example, if information matters, it could be very misleading to use a structural behavioral parameter estimated from one program to predict responses to changes to another program. Similarly, the long-run effects of policies could be very different from the effects of short-run changes in policy parameters since information about small changes may diffuse slowly.

Second, from a normative perspective, the results show that informational considerations are central to the optimal design of tax and transfer policies. Recent studies in behavioral public economics have begun to characterize optimal policies when agents do not have full information and optimize imperfectly relative to government policies (Liebman and Zeckhauser (2004); Chetty, Looney, and Kroft (2007)). These studies take the level of information as exogenously rather than endogenously determined by policy. The present study shows that information provision can be a powerful policy tool because perceptions about taxes and transfers can be modified at a low cost. The results suggest, for instance, that high phase-in rates coupled with low phaseout rates over a long range could maximize the impact of the

EITC on work effort, because the benefits of working in the phase-in region are salient while the work disincentives in the phaseout region can be framed as being negligible. More generally, the optimal design of tax policies may differ considerably from standard prescriptions when optimal program parameters and information structures are studied in combination.

Finally, the experiment demonstrates that EITC recipients can understand and fruitfully use information about the program's structure if it is explained to them in a simple and personalized way by professional tax preparers. Obligations to cover all contingencies make it difficult for the IRS to give such simple, personalized advice about the key features of the tax code to the public. Tax preparation companies are uniquely positioned to translate a complex tax code into easily interpretable advice for a broad client base.

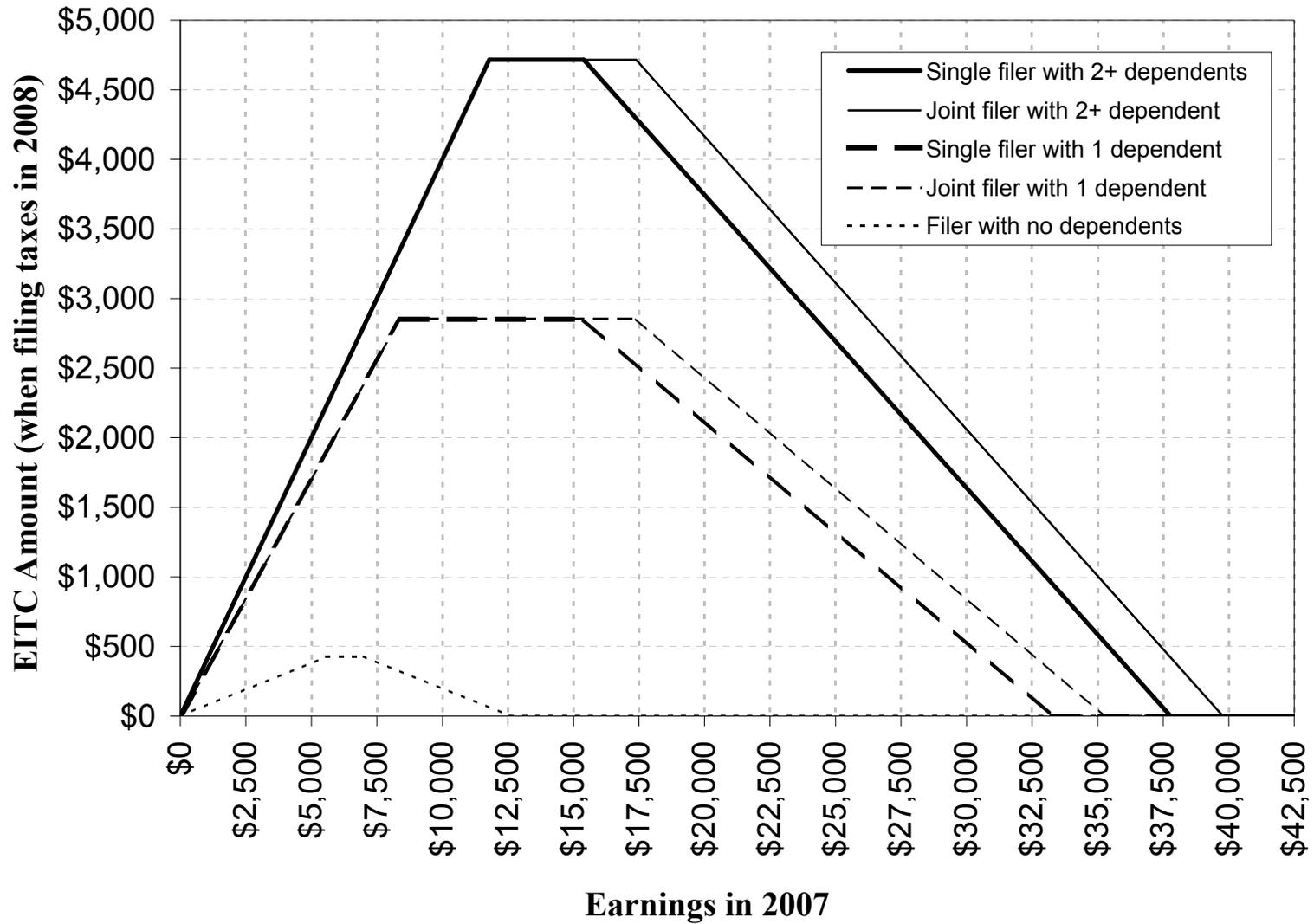
We plan to extend the preliminary analysis reported here in two important ways. First and most importantly, it is critical to confirm that wage and salary earnings responded to the information (so that the response is not the sole consequence of reporting behavior but also changes in real work decisions). To do so, we would need to analyze the wage and salary income components of the tax return directly. Second, the pilot may have had spillover effects on the control group. Tax professionals involved in the experiment might have provided more EITC information not only to the information group but also to their other clients in the control group. As a result, the true information effect may be larger than what our current estimates suggest.

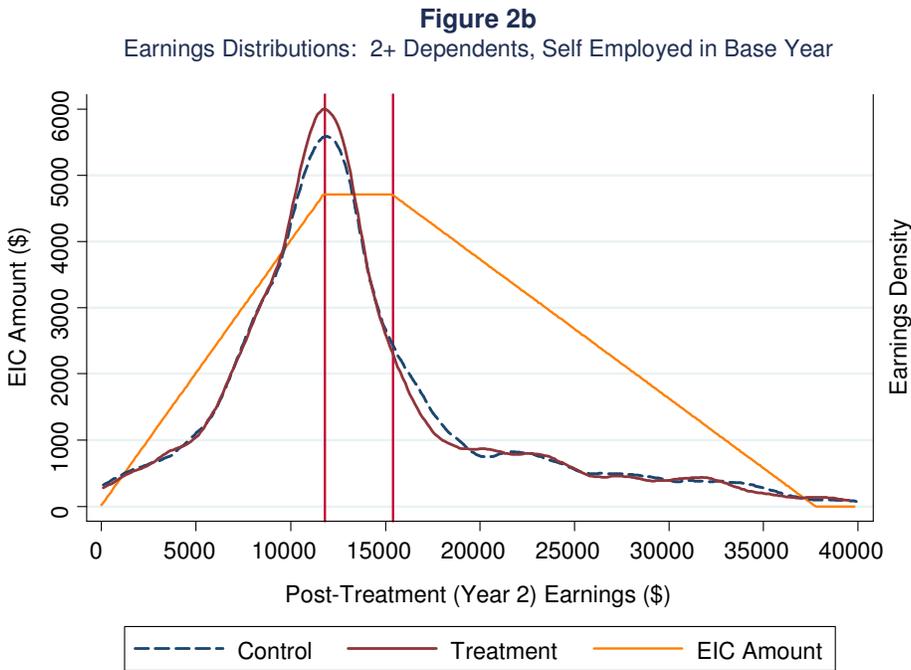
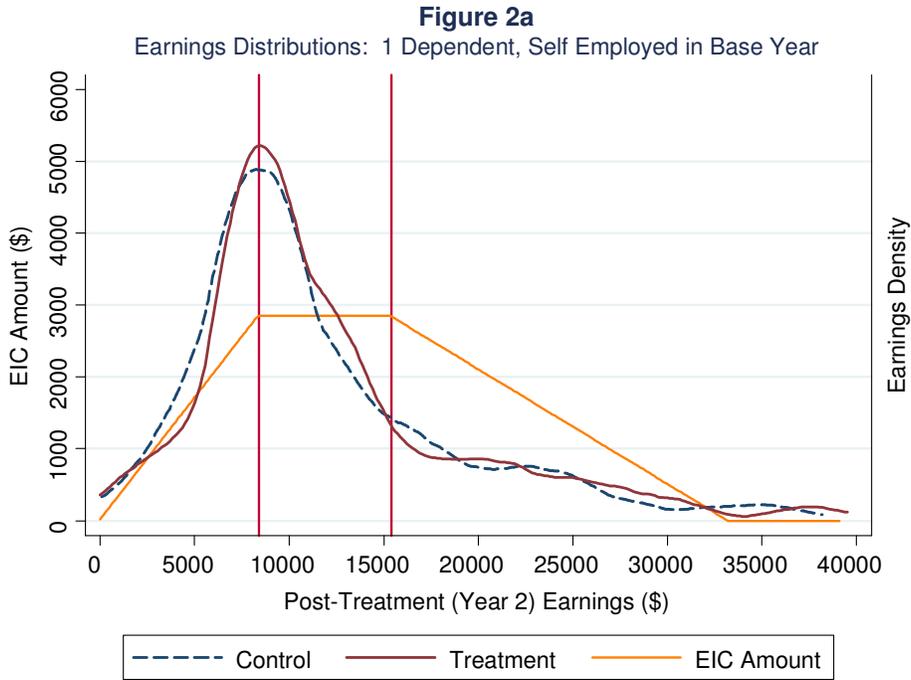
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Figure 1: The Earned Income Tax Credit as a Function of Earnings

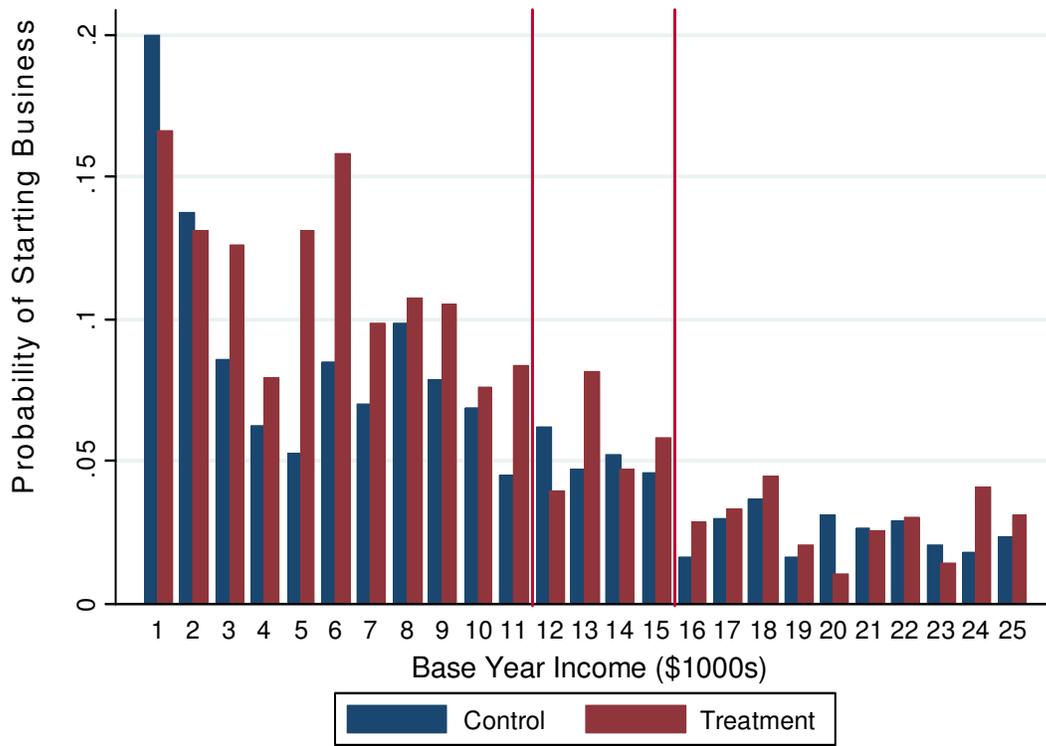




NOTE—Figure 2a shows kernel densities of post-treatment income for tax filers with 2+ dependents and positive self employment income in the base year. The dashed blue curve shows the earnings distribution for the control group and the solid red curve for the treatment group. Figure 2b plots analogous distributions for filers with 1 dependent. The EITC schedule is shown in orange with vertical lines denoting the kink points.

Figure 3

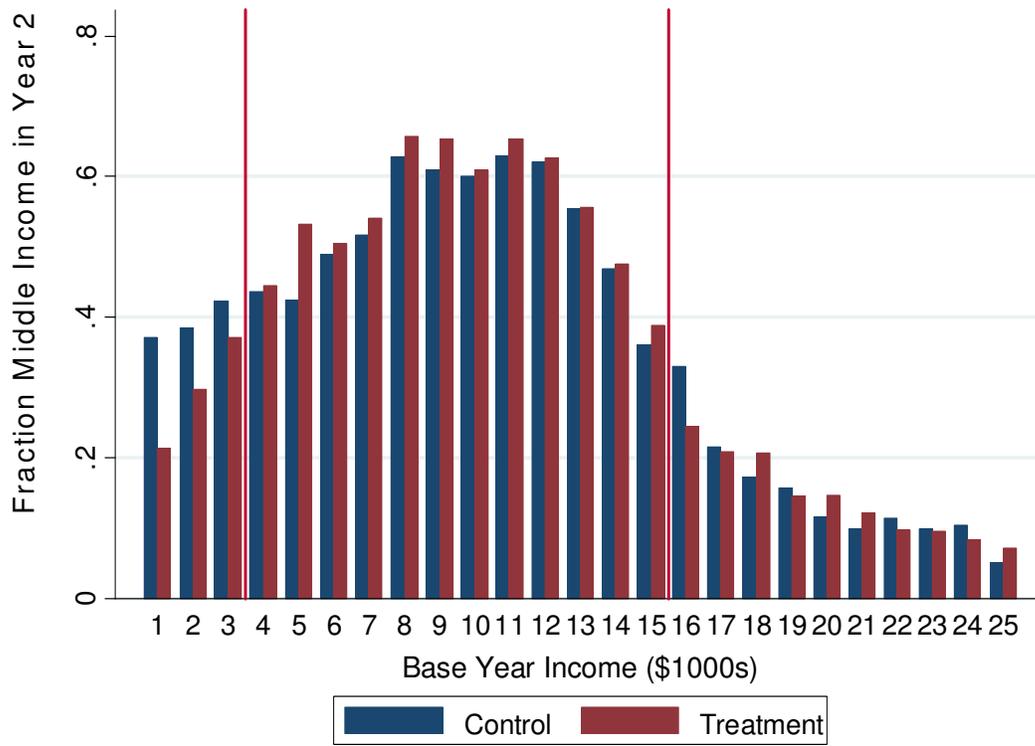
Business Creation in Year 2 by Base Year Income: 2 Dependents



NOTE—Figure 3 plots the mean probability of starting to report self employment income in year 2 by year 1 income for tax-filers with no self employment income in the base year. The figure was constructed by dividing the sample into year 1 income intervals of \$1,000 and computing the mean probability of reporting self-employment income in year 2 in each interval. Vertical lines denote the kink points in the EITC schedule for these tax filers.

Figure 4

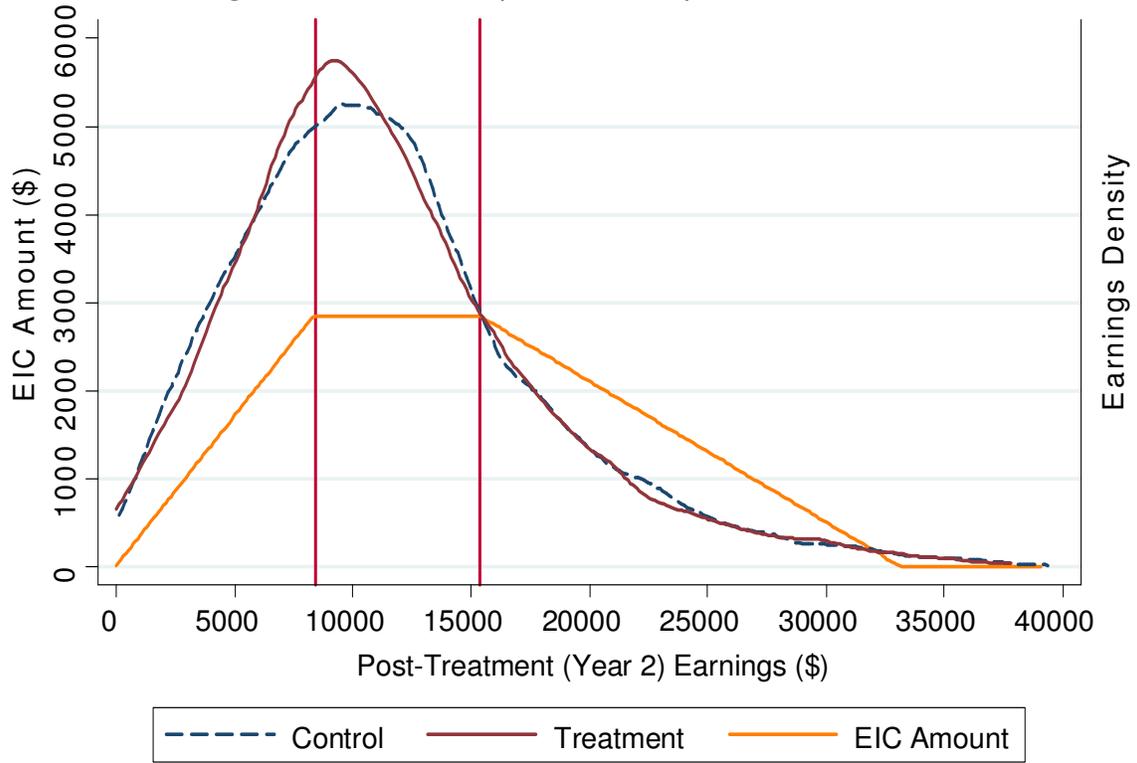
Fraction with Middle Income in Year 2 by Base Year Income



NOTE—Figure 4 plots the mean probability of reporting “middle income”, defined as earnings between \$7,000 and \$15,400 in year 2, by year 1 income level. The figure was constructed by dividing the sample into year 1 income intervals of \$1,000 and computing the mean probability of reporting middle income in year 2 in each interval. Vertical lines demarcate the income range where the treatment had the most significant effect.

Figure 5

Earnings Distributions: 1 Dep., No Self Emp., Near Peak in Base Year



NOTE—Figure 5 shows kernel densities of post-treatment income for individuals with one dependent and zero self-employment income who were within \$4,000 of the first kink point in the EITC schedule in the base year. The dashed blue curve shows the earnings distribution for the control group and the solid red curve for the treatment group. The EITC schedule is shown in orange, with vertical lines denoting the kink points.

TABLE 1
Means of Base-Year Variables by Treatment Eligibility

Variable:	Control (N=21,710)	Treatment (N=21,280)	Difference
	(1)	(2)	(3)
Income (\$)	16,532.36 (58.72)	16,565.45 (59.68)	33.09 [0.40]
EITC amount (\$)	2,566.45 (8.44)	2,552.60 (8.55)	-13.84 [-1.15]
Percent Self Employed	11.70% (0.218)	11.53% (0.219)	-0.17% [-0.54]
Percent Low Income	14.17% (0.237)	14.55% (0.242)	0.38% [1.12]
Percent Middle Income	34.75% (0.323)	34.52% (0.326)	-0.24% [-0.51]
Percent Upper Income	51.07% (0.339)	50.93% (0.342)	-0.15% [-0.31]
Num. of Dependents in Year 1	1.59 (0.003)	1.60 (0.003)	0.0007 [0.16]
Num. of Dependents in Year 2	1.64 (0.004)	1.64 (0.004)	0.0031 [0.55]

Notes: All variables are base year (year 1) values except last row. Standard errors reported in parentheses and t-statistics in brackets. Income is defined as total taxable earnings. Self employed is defined as having positive self-employment income (irrespective of other wage earnings). Low income is defined as income below \$7,000; middle income is defined as income between \$7,000 and \$15,400; and upper income is defined as income above \$15,400. Treatment group includes all tax filers we intended to treat.

TABLE 2a
Comparisons of Means

Dependent Variable:	Return (%) (1)	Δ EITC Amt. (\$) (2)	Δ Income (\$) (3)	Δ Low Inc. (%) (4)	Δ Mid. Inc. (%) (5)	Δ High Inc. (%) (6)
Treatment Indicator	-0.70 (0.433)	23.07 (14.69)	-3.44 (83.83)	-1.09 (0.41)	0.86 (0.57)	0.23 (0.50)
T-statistic	-1.62	1.57	0.04	2.63	1.50	0.46
p-value	0.106	0.116	0.967	0.009	0.135	0.646
Observations	42,990	30,926	30,926	30,926	30,926	30,926

TABLE 2b
Chow Tests

Dep. Var. (Year 2 Outcome):	Return (%) (1)	EITC Amt. (\$) (2)	Income (\$) (3)	Low Inc. (%) (4)	Mid. Inc. (%) (5)	High Inc. (%) (6)
F-Statistic	1.27	2.55	1.23	4.25	3.15	0.96
p-value	0.252	0.009	0.277	0.000	0.002	0.469
Observations	42,990	30,926	30,926	30,926	30,926	30,926

Notes: Standard errors reported in parentheses. In Panel A, all dependent variables except Return are changes (year 2 - year 1). In Panel B, all dependent variables are levels of year 2 (post-treatment) variables. Panel A reports estimates from an OLS regression on treatment-eligible indicator (intent-to-treat estimates). Return is an indicator for whether client returned to H&R Block in post-treatment year. Low Inc. is an indicator variable for having income below \$7,000. Middle Inc. is an indicator variable for having income between \$7,000 and \$15,400. High Inc. is an indicator for having income above \$15,400. Panel B reports F-statistics for Chow tests based on the specification in equation (1).

TABLE 3

Effect of EITC Information: Self-Employed Tax Filers

Panel A: Intensive Margin

Dep. Var. (Year 2 Outcome):	Middle Inc.	Middle Inc.	Low Inc.	Middle Inc.	Middle Inc.	Middle Inc.
Subgroup (Year 1):	All Self. Emp.	All Self. Emp.	All Self. Emp.	Phase-In Self Emp.	Peak Self-Emp.	Phase-Out Self Emp.
	(1)	(2)	(3)	(4)	(5)	(6)
Treatment indicator	5.02 (2.52) [1.99]	5.21 (2.33) [2.23]	-3.68 (1.64) [-2.24]	9.13 (3.11) [2.93]	0.70 (4.04) [0.17]	3.91 (4.61) [0.85]
Mean of dep. var. in cntrl grp.	58.60	58.60	14.34	68.67	21.66	66.60
Base year controls	No	Yes	Yes	Yes	Yes	Yes
Observations	3,277	3,277	3,277	1,697	650	930

Panel B: Extensive Margin

Dep. Var. (Year 2 Outcome):	Start Business			
Subgroup (Year 1):	Phase-In No Self Emp.	Phase-In No Self Emp.	Peak No Self Emp.	Phase-Out No Self Emp.
	(1)	(2)	(3)	(4)
Treatment indicator	2.08 (1.00) [2.08]	2.18 (1.00) [2.18]	0.08 (0.35) [0.22]	-0.05 (0.85) [-0.06]
Mean of dep. var. in cntrl grp.	7.31	7.31	2.26	4.55
Base year controls	No	Yes	Yes	Yes
Observations	5,685	5,685	13,596	4,643

Notes: Standard errors reported in parentheses and t-statistics in brackets. All coefficients and standard errors are expressed in percentages. Coefficients are treatment-on-treated estimates using TSLS specification in equation 2. All dependent variables are year 2 (post-treatment) variables. Subgroups are based on year 1 self-employment status and location in EITC schedule. Middle Inc. is an indicator variable for having income between \$7,000 and \$15,400. Low inc. is an indicator for having income below \$7,000. Start Business is an indicator for having positive self-employment income in year 2. Sample in Panel A includes only those reporting positive self-employment income in base year; sample in Panel B includes only those who do not report self-employment income in base year. Base year controls are number of dependents, income, and income squared.

TABLE 4
Effect of EITC Information: Full Sample

Dependent Var: Middle Income in Year 2	Income Between \$3K and \$15.4K		Income >\$15.4K	Regression Discontinuity	
	Subgroup (Year 1):			Full Sample	Full Sample
	(1)	(2)	(3)	(4)	(5)
Treatment indicator	2.51 (1.23) [2.04]	2.74 (1.20) [2.29]	-0.40 (0.65) [-0.62]	-3.80 (2.42) [-1.57]	-5.70 (3.41) [-1.67]
treatment x (inc. below \$15.4K)				3.61 (1.68) [2.15]	4.01 (1.77) [2.27]
Mean of dep. var. in control group	54.40	54.40	11.38	30.47	30.47
Base year controls	No	Yes	Yes	Linear	Quadratic
Observations	13,242	13,242	16,943	30,926	30,926

Notes: Standard errors reported in parentheses and t-statistics in brackets. All coefficients and standard errors are expressed in percentages. Coefficients in columns 1-3 are treatment-on-treated estimates using TSLS specification in equation 2; coefficients in columns 4 and 5 are intent-to-treat OLS estimates. Dependent variable in all specifications is an indicator for having middle income (income between \$7,000 and \$15,400) in year 2. Subgroups are based on location in EITC schedule in year 1. Base year controls are number of dependents, self employment status, income, and income squared. Columns 4 and 5 are regression-discontinuity specifications as in equation 3 in the text. These specifications include base-year controls and are estimated on the full sample. Column 4 includes a linear control function interacted with the treatment indicator (linear f), while column 5 includes a quadratic control function interacted with the treatment indicator (quadratic f).

TABLE 5

Effect of EITC Information: Near Peak in Base Year

Dep. Var. (Year 2 outcome) Subgroup (Year 1)	Middle Income (%)					Low Inc. (%)	High Inc. (%)	EITC Amount (\$)	
	All Near Peak.	No SEI	SEI	One Dep.	Two Deps.	All Near Peak	All Near Peak	All Near Peak	All <i>Not</i> Near Peak
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Treatment indicator	4.85 (1.38) [3.52]	4.19 (1.57) [2.66]	6.77 (2.81) [2.41]	5.86 (2.24) [2.62]	4.06 (1.74) [2.33]	-2.62 (1.02) [-2.58]	-2.22 (1.22) [-1.83]	69.12 (34.56) [2.00]	-5.72 (22.84) [-0.25]
Mean of dep. var. in cntrl grp.	55.90	51.29	71.63	54.82	56.55	16.58	27.52	3,151	2,139
Base year controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	9,979	7,757	2,222	3,819	6,160	9,979	9,979	9,979	20,947

Notes: Standard errors reported in parentheses and t-statistics in brackets. Coefficients and standard errors are expressed in percentages in columns 1-7 and dollars in columns 8-9. Coefficients are treatment-on-treated estimates using TSLS specification in equation 2. All dependent variables are year 2 (post-treatment) variables. Subgroups are based on location in EITC schedule, self-employment status (SEI), and number of dependents in year 1. Middle Income is an indicator variable for having income between \$7,000 and \$15,400. Low inc. is an indicator for having income below \$7,000. High inc. is an indicator for having income above \$15,400. Base year controls are number of dependents, self employment status, income, and income squared. Sample in columns 1-8 is restricted to tax filers within \$4,000 of first kink point in EITC schedule in base year; sample in column 9 includes the complement of this group.

Exhibit 1

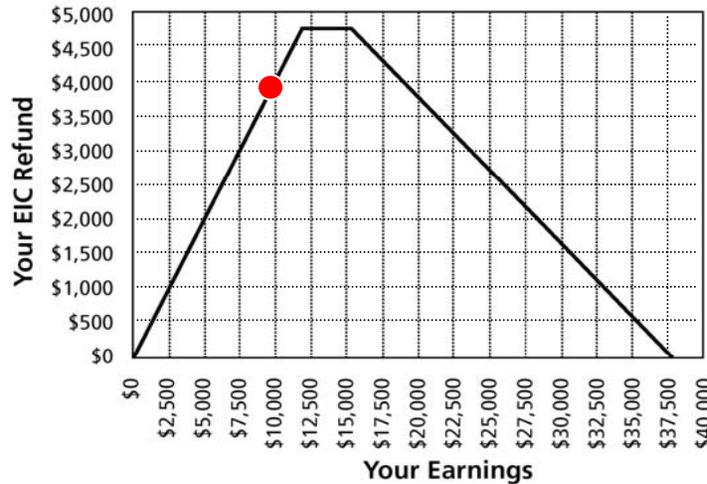
Single With Two or More Children

The EIC (Earned Income Credit) is a tax refund that gives families as much as \$4,500 per year.

We want to explain how the EIC works to help you decide how much to work and earn this year.

In 2006, you made \$ **10,000** → you are getting an EIC of \$ **4,000** in your refund.

- Your earnings this year (in 2007) will determine the size of your EIC refund next year
- The EIC has 3 ranges: 1) Increasing, 2) Peak, 3) Decreasing



You are in the **increasing** range of the EIC. Think about it like this:

- (increasing) Suppose you earn \$10 an hour, then you are really making \$14.00 an hour.
- (peak) Your earnings are maxing-out the EIC amount
- (decreasing) If you earn \$10 more, your EIC is reduced by \$2.10

EIC Range	If you earn between	EIC refund will be	If you earn \$10 more, the EIC...
Increasing	\$0-\$11,790	\$0 up to \$4,716	Increases by \$4
Peak	\$11,790-\$15,390	\$4,716	Stays the same
Decreasing	\$15,390-\$37,780	\$4,716 down to \$0	Decreases by \$2.10

Explaining
EIC: 4 steps

1. Fill in
earnings,
EIC amount

2. Explain
and dot
graph

4. Take-home
Message

3. Table

Appendix Exhibit 1a

H&R Block Client Assistant - EIC

The EIC is the largest component of the tax refund of American working families. This year, you are getting an EIC of \$4000 as part of your tax refund. As part of a special effort to promote the EIC, H&R Block will offer you some useful and simple information about the EIC to help you take the best advantage of this credit. We want to explain how the EIC works to help you decide how much to work and earn this year.

Let me tell you some more details about the study. We are trying to better understand and increase awareness of EIC among our EIC-eligible clients.

Use Handout SINGLE WITH 2+ CHILDREN

Appendix Exhibit 1b

H&R Block Client Assistant - EIC

In 2006, you made **** \$10000 **** and you are getting an EIC of **** \$4000 **** in your tax refund. Your earnings this year (in 2007) determine the size of your EIC refund next year. The EIC has 3 ranges: 1) Increasing, 2) Peak, 3) Decreasing.

You are in the **** increasing **** range of the EIC. Think about it like this: Suppose you earn \$10 an hour. Because of the EIC you are really making \$14 an hour. It pays to work more!

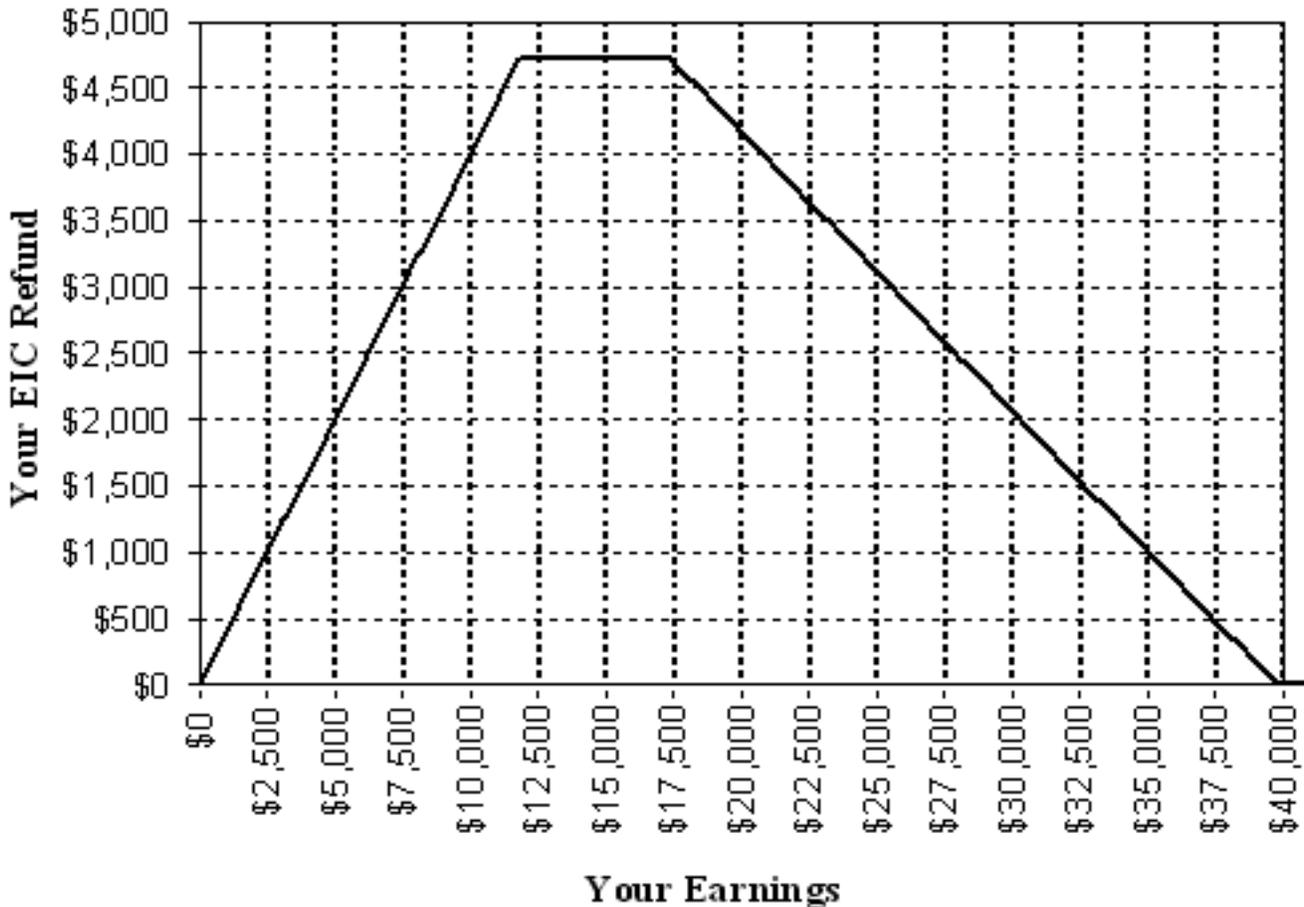
EIC Range	If you earn between	Your EIC refund is	Earn \$10 more, the EIC...
1) Inc	\$0-\$11,790	\$0 up to \$4,716	Increases by \$4.00
2) Peak	\$11,790-\$15,390	\$4,716	Stays the same
3) Decr	\$15,390-\$37,780	\$4,716 down to \$0	Decreases by \$2.10

Appendix Exhibit 2

Dear WARD CLEAVER,

The **EIC** (Earned Income Credit) gives tax refunds to working families. We want to explain how the EIC works to help you decide how much to work and earn this year. In 2006, you made \$10000 and you are getting an **EIC** of \$ 1984 in your tax refund.

Your earnings this year (in 2007) determine the size of your **EIC** refund next year. The EIC has 3 ranges: 1) Increasing, 2) Peak, 3) Decreasing.



EIC Range	In 2007 if you earn between:	Your EIC refund in 2008 will be:	If you earn \$10 more, the EIC:
Increasing	\$0-\$11,790	\$0 up to \$4,716	Increases by \$4
Stays the Same	\$11,790-\$17,390	\$4,716	Stays the same
Decreasing	\$17,390-\$39,780	\$4,716 down to \$0	Decreases by \$2.10

You are in the ** increasing **** range of the EIC. Think about it like this: Suppose you earn \$10 an hour. Because of the EIC you are really making \$14 an hour. It pays to work more!**

Note: The EIC does not affect any other credits or refunds you can get. This table applies to married joint filers with two or more qualifying children. If your family situation changes in 2007, your EIC may also change (see IRS Publication 596). Changes in earnings may also affect other credits you are entitled to or taxes you may owe. Though the printed earnings and EIC amounts are based directly on your current tax return, the indication of your position on the graph is for illustrative purposes only.

Appendix Exhibit 3



H&R BLOCK®

[Date]

[1st Name] and [1st Name] [Last Name]

[Address Line 1]

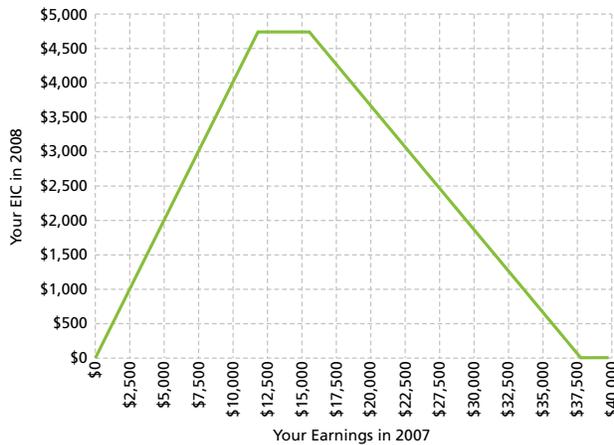
[Address Line 2]

[City] [State] [Zip]

Dear [1st Name],

Thank you for preparing your taxes with H&R Block this year. Even though it's early, we want to provide important information that you may want to consider as you plan financially for next year. The EIC (Earned Income Credit) gives tax credits to working families. This year, you qualified for the EIC. This letter is a follow up to the EIC information your H&R Block tax professional shared with you when you had your taxes prepared. We want to remind you how the EIC works as you consider how much to work and earn this year.

As pictured on the graph below, the EIC has 3 ranges: 1) Increasing, 2) Peak, 3) Decreasing.



Last year, you were in the **increasing** range of the EIC. Look at the table below. Will you be in the increasing range again this year? If yes, think about it like this: Suppose you earn \$10 an hour. Because of the EIC, for each \$10 you earn you could be eligible to receive an additional \$4 in EIC – so it's like you're making \$14 an hour. **It pays to work more!**

EIC Range	In 2007, if you earn between	Your EIC refund in 2008 could be	If you earn \$10 more, the EIC could
Increasing	\$0 - \$11,790	\$0 up to \$4,716	Increase by \$4.00
Peak	\$11,790 - \$15,390	\$4,716	Stay the same
Decreasing	\$15,390 - \$37,780	\$4,716 down to \$0	Decrease by \$2.10

This table applies to single filers with two or more qualifying children. If your family situation changes in 2007, your EIC may also change (see IRS Publication 596). Many things can affect EIC, including changes in your family situation, other financial changes, or changes in tax laws. These changes may also affect your eligibility for other credits or deductions or taxes you may owe.

We hope you find the EIC information helpful. We look forward to continuing to provide tax and financial planning assistance to you in the future.

Sincerely,

Bernard M. Wilson
Vice President
Outreach & Business Development

Appendix Exhibit 4

Tax Professional Survey about the EIC Outreach Initiative March 2007

Office

Dear Tax Professional,

As you know and thanks to your help, H&R Block has implemented an EIC outreach effort in Chicago where you have explained the Earned Income Tax Credit to our clients. In order to evaluate this initiative, we would like to ask you a few short questions about your experience. Please circle your response to each question below.

- 1) What proportion of your clients was interested in the EIC information?
 - a. Few (less than 25% of your clients)
 - b. Many (25% to 75% of your clients)
 - c. Most (over 75% of your clients)

- 2) Do you think Block should provide this EIC information to clients again in the future?
 - a. Yes
 - b. No

- 3) Is there anything else you would want to tell us about this EIC outreach or about how to make it work better?
 - a. No
 - b. Yes: Please explain below and/or on the back of this survey.

- 4) Did the explanation of EIC help your understanding of how the credit worked?
 - a. Yes
 - b. No

Please return this survey to your office leader who will forward it to Block headquarters in the envelope provided to each office. Thank you for your participation in the EIC Outreach and in this survey.

If you have questions, please contact Eileen McCarthy, at 816.854.4866.