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“Tax Benefit Complexity and Take-up:  
Lessons from the Earned Income Tax Credit”

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Vanderbilt Hall – 208  
Time: 4:00 – 5:50 p.m.  
Week 6

## **SCHEDULE FOR 2018 NYU TAX POLICY COLLOQUIUM**

(All sessions meet from 4:00-5:50 pm in Vanderbilt 208, NYU Law School)

1. Tuesday, January 16 – Greg Leiserson, Washington Center for Equitable Growth. “Removing the Free Lunch from Dynamic Scores: Reconciling the Scoring Perspective with the Optimal Tax Perspective.”
2. Tuesday, January 23 – Peter Dietsch, University of Montreal Philosophy Department. “Tax Competition and Global Background Justice.”
3. Tuesday, January 30 – Andrew Hayashi, University of Virginia Law School. “Countercyclical Tax Bases.”
4. Tuesday, February 6 – Gerald Auten, U.S. Treasury Department. “Income Inequality in the United States: Using Tax Data to Measure Long-Term Trends.”
5. Tuesday, February 13 – Vanessa Williamson, Brookings Institution. “How the Taxpaying Experience Obscures Low-Income Taxpayers and Shapes Attitudes about Progressivity”
6. Tuesday, February 27 – Jacob Goldin, Stanford Law School. “Tax Benefit Complexity and Take-up: Lessons from the Earned Income Tax Credit”
7. Tuesday, March 6 – Lisa Philipps, Osgoode Hall Law School. “Gendering the Analysis of Tax Expenditures.”
8. Tuesday, March 20 – Lisa De Simone, Stanford Graduate School of Business. “Repatriation Taxes and Foreign Cash Holdings: The Impact of Anticipated Tax Reform”
9. Tuesday, March 27 – Damon Jones, University of Chicago Harris School of Public Policy.
10. Tuesday, April 3 – Ajay Mehrotra, American Bar Foundation and Northwestern University School of Law. “T.S. Adams and the Beginning of the Value-Added Tax.”
11. Tuesday, April 10 – Jason Furman, Harvard Kennedy School. “Should Policymakers Care Whether Inequality Is Helpful or Harmful For Growth?”
12. Tuesday, April 17 – Emily Satterthwaite, University of Toronto Law School. “Electing into a Value-Added Tax: Survey Evidence from Ontario Micro-Entrepreneurs.”
13. Tuesday, April 24 – Wolfgang Schon, Max Planck Institute. “Taxation and Democracy.”
14. Tuesday, May 1 – Mitchell Kane, NYU Law School. "Collecting the Rent: The Global Battle to Capture MNE Profits"

TAX BENEFIT COMPLEXITY AND TAKE-UP: LESSONS FROM  
THE EARNED INCOME TAX CREDIT

**DRAFT: February 2018 (comments welcome)**

*Jacob Goldin\**

ABSTRACT

Tax benefits like the Earned Income Tax Credit (EITC) provide an important source of income to those who claim them, but millions of those who are eligible to claim such benefits fail to do so. One possible explanation is that the rules governing most tax benefits are extraordinarily complex. I consider efforts to increase tax benefit take-up in light of this complexity. A key fact in thinking about this issue is that the vast majority of tax filers today prepare their taxes with assisted preparation methods (APMs) like software or professional assistance. Because APMs eliminate most of the barriers to claiming tax benefits for which one is eligible, I argue that efforts to increase benefit take-up should focus on inducing benefit-eligible individuals to file a tax return using an APM. In contrast, efforts aimed at increasing awareness of a benefit (of the type widely employed by governments and nonprofits) are less likely to be successful, except to the extent they themselves induce an increase in tax filing. Tax reforms that appear unrelated to the benefit may dramatically affect benefit take-up rates by altering tax filing incentives. I illustrate these arguments in the context of the EITC, drawing on recent empirical work to support my claims.

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## INTRODUCTION

The United States tax code is notoriously complex, and the provisions governing individual tax benefits like the Earned Income Tax Credit (EITC) and the Child Tax Credit (CTC) are no exception. Taxpayers seeking to claim these benefits must learn that the benefit exists; navigate a labyrinth of interdependent tests to assess their eligibility; apply additional rules and tiebreaker tests to determine which of their dependents qualify for which benefit; and calculate the dollar value of each credit they end up claiming.

Or must they? In recent years, more and more taxpayers are preparing their returns with commercial software or professional tax assistance. These assisted preparation method (APMs) dramatically reduce the complexity associated with claiming tax benefits: taxpayers (or their preparer) enter the relevant information into the software, and the software determines the taxpayer's eligibility and credit amount. Because APMs prompt the taxpayer for the information required to assess each credit for which the taxpayer is potentially eligible, the taxpayer never even needs to know that a particular credit exists – even if she ends up claiming it on her return. Thus although the legal rules governing tax benefits remain mind numbingly complex, the rise of APMs means that the vast majority of taxpayers never need to engage with that complexity when claiming tax benefits.

In this article, I argue that the growing use of APMs has dramatic and largely unappreciated implications for policy efforts to increase the take-up of social benefits administered through the tax code. Incomplete take-up of tax benefits is a persistent policy concern. In the context of the EITC alone, non-profit organizations, state and local governments, and the Internal Revenue Service (IRS) all devote substantial resources to efforts to raise participation by eligible individuals. Despite these efforts, an estimated one-in-five of those who qualify for the EITC – about five million people per year – fail to claim it.

To study tax benefit complexity and take-up given the prevalence of APMs, I focus on two types of complexity that can potentially prevent a taxpayer from claiming a benefit for which she is eligible. A benefit's *informational complexity* refers to the costs to the taxpayer of acquiring and providing the information required to determine her eligibility for the benefit, and, if eligible, the benefit amount. In turn, a benefit's *computational complexity* refers to the costs of determining eligibility and benefit amount, on the basis of the required information. The use of APMs mostly eliminates the computational complexity associated with claiming a benefit but does not meaningfully reduce a benefit's informational complexity. Applying these concepts to the EITC, I argue that the EITC's informational complexity is actually quite modest, and as a result, there are few hurdles to claiming the credit for EITC-eligible tax filers who use an APM.

I use this insight to draw lessons for efforts to increase EITC take-up. The most important takeaway is that in our world of APMs, the key determinant of whether a person who is eligible for the EITC claims the credit is whether

the person files a tax return. Consequently, efforts to increase take-up should focus on increasing the filing rate among EITC-eligible non-filers. Because the vast majority of these new filers will use an APM to prepare their return, there is a near mechanical relationship between their filing a return and their receiving the tax benefits for which they are eligible. Hence, policies that affect incentives to file for this population can significantly influence EITC take-up, even if on their face they are unrelated to the EITC. Such policies may raise take-up – e.g., by creating a new refundable tax credit, reducing the cost of tax preparation, or altering the withholding schedule – or reduce take-up – e.g., by raising the income threshold at which taxpayers are required to file a return.

A corollary to this argument is that outreach campaigns aimed at spreading awareness of the EITC – of the type traditionally relied on by governments and nonprofit organizations – are unlikely to succeed at raising take-up, except to the extent they induce more people who qualify for the EITC to file a return. The reason why is that the only taxpayers who need to be aware of the EITC in order to claim it are those who do not use an APM. Taxpayers who use an APM and provide it with the correct information will receive the EITC whenever they qualify for it – even if they never become aware of the credit’s existence. Because so few taxpayers prepare their taxes without an APM, the scope for awareness efforts to raise take-up among current filers is limited.

Understanding the complexity of tax benefits is crucial for those concerned with income transfer programs in the United States, particularly given the large and growing number of social benefits administered through the tax code. Most important among these benefits is the EITC, which provides an average credit of about \$2500 to over 25 million households each year.<sup>1</sup> Other refundable tax credits also provide important support to low-income taxpayers, such as the Additional Child Tax Credit for households with children and the Premium Tax Credit, which subsidizes the cost of health insurance for low- and middle-income households. While my focus in this article is primarily on the EITC, the rise of APMs shapes the complexity of the process by which taxpayers claim these other benefits as well.

This article considers tax complexity in the context of benefit take-up, but complexity can affect other margins as well, most importantly how taxpayers adjust their behavior in response to the incentives a tax benefit creates.<sup>2</sup> To

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<sup>1</sup> IRS, *About EITC*, online at <https://www.eitc.irs.gov/eitc-central/about-eitc/about-eitc> (accessed Dec. 2017).

<sup>2</sup> David Bradford labeled this “transactional complexity,” which refers to “the problems faced by taxpayers in organizing their affairs so as to minimize their taxes within the framework of the rules.” The two forms of complexity on which I focus, informational and computational complexity, both fall into Bradford’s category of “compliance complexity,” which refers to “the problems faced by the taxpayers in keeping records, choosing forms, making forms, making necessary calculations, and

the extent that the complexity of a tax benefit obscures the incentives the benefit creates, it can mute taxpayers' behavioral responses to it and make tax planning more costly.<sup>3</sup> And whereas the use of an APM reduces the importance of complexity for taxpayer behavior with respect to take-up, APM usage does not reduce the importance of complexity with respect to a tax's other behavioral components. The desirability of such effects is ambiguous: on the one hand, complexity can cause taxpayers to incur additional costs when adjusting their behavior because of the tax and can lead taxpayers to make suboptimal behavioral choices. On the other hand, to the extent taxpayers' behavioral responses to the taxes are socially undesirable – i.e. when behavioral change represents deadweight loss – benefit complexity can be efficient.<sup>4</sup> Such issues are important to consider when evaluating policy reforms that would add to or reduce the complexity of a tax benefit, but are not directly related to my focus here.

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so on.” David F. Bradford, *UNTANGLING THE INCOME TAX* (1999), 266-7. I also set aside the final type of complexity Bradford described, “rule complexity,” which refers to problems of interpreting the tax law. *Id.* As with other areas of the law, ambiguities in the proper interpretation of the tax law contribute to the law's complexity. I set this type of complexity aside because most of the rules that apply to taxpayers in the EITC context are well-established.

Another useful approach for analyzing tax complexity is the distinction between *substantive* and *procedural complexity* set out in Kathleen Thomas, *User-Friendly Taxpaying*, 92 *INDIANA LAW JOURNAL* 1509 (2017). Both informational and computational complexity fall into the procedural category, since both refer to barriers the taxpayer faces during the preparation and filing process (although, like other forms of procedural complexity that Thomas discusses, both are shaped by substantive complexity in the tax law, such as the rules for what information is required).

<sup>3</sup> Lawrence Zelenak, *Complex Tax Legislation in the TurboTax Era*, 1 *COLUMBIA JOURNAL OF TAX LAW* 91 (2010); Johannes Abeler & Simon Jager, *Complex Tax Incentives*, *AM. ECON. J.: ECON. POL.* (2015). *See also* Jacob Goldin & Yair Listokin, *Tax Expenditure Salience*, 16 *AM. L. ECON. REV.* 144 (2014).

<sup>4</sup> To illustrate this dynamic in the EITC context, raising awareness of the credit could strengthen the effectiveness of the credit's pro-work incentives. On the other hand, it could also raise the deadweight loss associated with the high marginal tax rates associated with the credit phase-out. For theoretical work explaining similar trade-offs in other tax contexts, see Jeffrey B. Liebman & Richard J. Zeckhauser, *Schmeduling*, Working Paper (October 2004); Jacob Goldin, *Optimal Tax Salience*, 131 *J. PUB. ECON.* 115 (2015); Alex Rees-Jones & Dmitry Taubinsky, *Heuristic Perceptions of the Income Tax: Evidence and Implications for Debiasing*, NBER WORKING PAPER 22884 (December 2016). For empirical evidence on the effect of EITC knowledge on behavior, *see* Raj Chetty, John N. Friedman, & Emmanuel Saez, *Using Differences in Knowledge Across Neighborhoods to Uncover the Impacts of the EITC on Earnings*, 103 *AM. ECON. REV.* 2683 (2013) (finding EITC expansions led to larger changes in labor supply in locations with greater knowledge of the credit); Raj Chetty & Emmanuel Saez, *Teaching the Tax Code: Earnings Responses to an Experiment with EITC Recipients*, 5 *AM. ECON. J.: APPLIED ECON.* 1 (2013) (finding that providing taxpayers with knowledge of the EITC incentives led to changes in reported income that increased credit amount).

The remainder of the article proceeds as follows. Section I provides additional background on the EITC and on the problem of incomplete take-up of its benefits. Section II develops a framework for assessing the complexity of a tax benefit and applies it to the EITC. Section III describes the rise of APMs and considers how their use affects the complexity of claiming a tax benefit. Section IV applies the lessons about tax benefit complexity to shed light on efforts to raise EITC take-up. Section V concludes.

## I. BACKGROUND ON THE EARNED INCOME TAX CREDIT

This section briefly describes the EITC and the provisions governing eligibility for it. I then describe the issue of incomplete EITC take-up and provide some background information on how it is measured.

### *A. Design of the EITC*

The EITC is a refundable tax credit for low-income, working taxpayers. Over 27 million households received the EITC during 2016 – representing 20 percent of all taxpayers and 44 percent of taxpayers with children.<sup>5</sup> The maximum credit amount varies widely by income and family size, ranging from \$506 for taxpayers with no qualifying children to \$6,269 for taxpayers with three or more qualifying children.<sup>6</sup> It is estimated that without the EITC, the number of children growing up in poverty would be 25 percent greater than it is today.<sup>7</sup>

Eligibility for the credit depends on a taxpayer’s income and the number of EITC qualifying children the taxpayer claims. Only taxpayers with some non-zero amount of earned income can claim the credit; those without any income (such as the unemployed) receive no benefit.<sup>8</sup> Earned income primarily captures compensation for employment and net earnings from self-employment.<sup>9</sup> In contrast, taxpayers do not qualify for the EITC based on “unearned” income derived from sources like interest, social security, unemployment insurance, alimony, or child support payments.

Up to a limit, the more earned income a taxpayer receives during the tax year, the higher the value the credit.<sup>10</sup> In this sense, the EITC acts as a negative income tax, with tax liability declining with each additional dollar

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<sup>5</sup> IRS Statistics of Income, *SOI Tax Statistics Publication 1304 for Tax Year 2015*, 120, 123-30 (2017).

<sup>6</sup> These dollar amounts correspond to tax year 2016. Rev. Proc. 2015-53.

<sup>7</sup> Center on Budget and Policy Priorities, *Policy Basics: The Earned Income Tax Credit*, online at [cbpp.org/research/federal-tax/policy-basics-the-earned-income-tax-credit](http://cbpp.org/research/federal-tax/policy-basics-the-earned-income-tax-credit) (2016).

<sup>8</sup> I.R.C. § 32(a)(1).

<sup>9</sup> I.R.C. § 32(c)(2).

<sup>10</sup> I.R.C. § 32(a), (b).

earned. The threshold at which the EITC “phase-in” is complete – i.e., the dollar amount at which additional income does not raise the taxpayer’s EITC amount – varies based on the number of qualifying children a taxpayer claims.<sup>11</sup> These features of the credit – the fact that taxpayers must have positive earned income to receive it, and the fact that the credit amount goes up for some taxpayers as they earn more income – amplify taxpayers’ economic incentives to seek and maintain employment.<sup>12</sup>

Taxpayers whose income exceeds a second (higher) income level, referred to as the phase-out threshold, experience a reduction in their EITC benefit with each additional dollar of income that they earn. The phase-out threshold also varies based on the taxpayer’s number of qualifying children, as well as based on the taxpayer’s marital status.<sup>13</sup> Because the rate at which EITC benefits phase-out by income is the same for all taxpayers, the maximum income limit at which a taxpayer can qualify for the EITC varies based on the taxpayer’s marital status and number of qualifying children. Whereas only earned income qualifies a taxpayer to claim the EITC, the EITC phase-out is triggered based on the presence of any income, whether earned or unearned.<sup>14</sup> Finally, taxpayers earning too much investment income during the tax year (\$3400 in 2016) are ineligible for the EITC, even if they would qualify based on the other rules.<sup>15</sup>

Both the income limits that govern EITC eligibility as well as the EITC schedules that govern benefit amount depend on the number of EITC qualifying children a taxpayer claims.<sup>16</sup> Consequently, that determination is a crucial step in assessing EITC eligibility and in computing one’s allowable EITC amount.

An individual must satisfy several requirements to be considered a taxpayer’s qualifying child for purposes of the EITC. First, the individual must satisfy an age test: he or she must be 18 years or younger during the entire tax year, 23 years or younger and a full-time student, or any age if totally and permanently disabled.<sup>17</sup> Second, the individual must satisfy a residency test: he or she must live with the taxpayer for more than half of the tax year.<sup>18</sup> Third, the individual must satisfy a relationship test: he or she must be the taxpayer’s child, grandchild, sibling, niece, or nephew.<sup>19</sup> Finally, note that unlike other child-related benefits in the tax code, an individual is not

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<sup>11</sup> I.R.C. § 32(b)(2).

<sup>12</sup> There is a large empirical literature on the employment effects of the EITC. For a recent overview, see Austin Nichols & Jesse Rothstein, *The Earned Income Tax Credit*, NBER WORKING PAPER 21211 (2015).

<sup>13</sup> I.R.C. § 32(b)(2). Specifically, the credit begins to phase-out at a higher income amount for married taxpayers than for single ones.

<sup>14</sup> I.R.C. § 32(a)(2)(B).

<sup>15</sup> I.R.C. § 32(i).

<sup>16</sup> I.R.C. § 32(b).

<sup>17</sup> I.R.C. §§ 32(e)(3); 152(c)(1)(C).

<sup>18</sup> I.R.C. §§ 32(e)(3); 152(c)(1)(B).

<sup>19</sup> I.R.C. §§ 32(e)(3); 152(c)(1)(A).

required to provide less than half of his or her own support to be a qualifying child for purposes of the EITC.<sup>20</sup> If two or more taxpayer would be eligible to claim the child, a series of tiebreaker rules come into play to determine whose qualifying child the individual is.<sup>21</sup>

Taxpayers without any qualifying children are also able to claim the EITC, but as noted above, the maximum credit for this group is much smaller than for those with qualifying children.<sup>22</sup> Taxpayers seeking to claim the childless EITC must meet several additional requirements beyond the ones required of taxpayers with qualifying children. First, the taxpayer must have resided in the U.S. for at least half of the tax year.<sup>23</sup> Second, the taxpayer must not be a dependent of a different taxpayer.<sup>24</sup> Third, the taxpayer must be between the ages of 25 and 65 during the entire year for which the credit is claimed.<sup>25</sup>

In addition to the basic rules governing EITC eligibility described so far, there are a number of additional rules that limit a taxpayer's eligibility or ability to claim the credit, whether or not the taxpayer claims any qualifying children. First, the taxpayer must not be an EITC qualifying child of any other taxpayer.<sup>26</sup> Second, the taxpayer must not have had EITC disallowed in the past 2 years due to reckless or intentional disregard of the rules or regulations, or in the past 10 years due to fraud.<sup>27</sup> Third, the taxpayer must be either a U.S. citizen or U.S. resident alien.<sup>28</sup> Fourth, the taxpayer must either be single, or, if married, must file a joint return with his or her spouse.<sup>29</sup> Finally, the taxpayer, as well as any qualifying children claimed for the credit, must have a valid social security number that authorizes the holder to work in the U.S.<sup>30</sup>

### *B. Incomplete Take-Up of the EITC*

Although the EITC is generally considered a policy success, an issue of persistent concern is the lack of take-up by some eligible households. Incomplete take-up of the credit is potentially worrisome for a number of reasons, the most important of which is that non-claiming households miss out on the income transfer associated with the credit and the corresponding improvements in financial security. An additional concern is that taxpayers

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<sup>20</sup> I.R.C. § 32(e)(3)(A).

<sup>21</sup> I.R.C. § 152(c)(4).

<sup>22</sup> I.R.C. § 32(b).

<sup>23</sup> I.R.C. § 32(c)(1)(A)(ii)(I).

<sup>24</sup> I.R.C. § 32(c)(1)(A)(ii)(III).

<sup>25</sup> I.R.C. § 32(c)(1)(A)(ii)(II).

<sup>26</sup> I.R.C. § 32(c)(1)(B).

<sup>27</sup> I.R.C. § 32(k).

<sup>28</sup> I.R.C. § 32(c)(1)(D).

<sup>29</sup> I.R.C. § 32(d).

<sup>30</sup> I.R.C. § 32(c)(1)(E), (c)(3)(D), (m).

who fail to claim the EITC may also fail to respond to the pro-work incentives built into the credit's design.

The problem of incomplete take-up is by no means unique to the EITC: take-up is well below 100 percent for virtually all means-tested social welfare programs that exist in the United States today, such as the Supplemental Nutrition Assistance Program (SNAP), the Supplemental Nutrition Program for Women, Infants, and Children (WIC), Temporary Assistance for Needy Families (TANF), as well as other that are benefits administered through the tax system, like the Child Tax Credit.<sup>31</sup>

In general, individuals who qualify for a social welfare program may choose not to claim the benefit for a myriad of reasons, including stigma, the hassle or effort required to sign up, or lack of awareness that the benefit exists.<sup>32</sup> When an individual's failure to claim a tax benefit reflects a conscious determination that the advantages of doing so do not exceed the costs, the welfare gains from raising take-up will be limited. In contrast, when incomplete take-up reflects inattention or a mistake on the part of the would-be claimant, the welfare gains from raising take-up can be substantial.<sup>33</sup>

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<sup>31</sup> Historically, EITC take-up has been estimated to exceed take-up of other social welfare programs that are not administered through the tax code. See Janet Currie, *The Take-Up of Social Benefits*, in Alan Auerbach, David Card, and John Quigley (eds). *Poverty, the Distribution of Income, and Public Policy* (2006). However, recent estimates of the SNAP take-up rate suggest it has risen above EITC take-up, rising to 83% among eligible individuals in fiscal year 2015. USDA, *Trends in Supplemental Nutritional Assistance Program Participation Rates: Fiscal Year 2010 to Fiscal Year 2012* (June 2017) at 8. Because of differences in the methodology by which the take-up estimates for these two programs are produced, one should exercise caution in directly comparing the estimated take-up rates. For example, the numerator of the SNAP take-up rate is equal to the total number of SNAP claimants, which implicitly assumes that every SNAP claimant is eligible to do so. If that methodology were applied in the EITC context, it is likely that the resulting EITC take-up estimate would be near 100%, or even above it.

Similar estimation approaches yield Medicaid and CHIP participation rates that are similar to, or exceed, the EITC take-up rate. Genevieve M. Kenney et al., *Medicaid/CHIP Participation Rates Rose among Children and Parents in 2015*, Urban Institute Research Report (2017) (finding that 80% of eligible parents and 93% of eligible children participated in Medicaid/CHIP in 2015). However, take-up of these programs is not directly comparable to voluntary tax benefits, given the existence of financial penalties that sometimes apply to eligible individuals who choose not to participate. See I.R.C. § 5000A.

Finally, EITC take-up is still estimated to exceed take-up of WIC. USDA *National and State-Level Estimates of Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) Eligibles and Program Reach in 2014* (September 2017) (finding 55% participation in 2014).

<sup>32</sup> See Janet Currie, *The Take-Up of Social Benefits* (2006).

<sup>33</sup> Intuitively, when non-participation decisions are rational, those induced to participate by a change in policy will be near-indifferent between participating and not participating. In contrast, when non-participation decisions are magnified by

## 1. Challenges in Measuring EITC Take-Up

The take-up rate for a benefit is typically defined as the number of eligible households that claim the benefit divided by the total number of households that are eligible to do so.<sup>34</sup> Although the statistic is easy to understand, it turns out that measuring the take-up rate of a tax benefit is surprisingly difficult. The main difficulty stems from the fact that the denominator of the take-up rate is hard to measure because there is no good source of information about the universe of households that are eligible for a benefit. Notably, tax return data is insufficient because it lacks information with which to calculate EITC eligibility for those individuals who do not file a tax return.

More generally, there are two key pieces of information needed for determining whether an individual qualifies for the EITC: the individual's income (along with the income of the spouse, if married) and the number of EITC-qualifying children the individual can claim. As described further in Section III.A, below, determining how many qualifying children an individual has requires knowing information such as the child's age, where the child lives during the tax year, and the child's relationship to the taxpayer. Moreover, because taxpayers who themselves are the qualifying child of another taxpayer may not claim the EITC, information about other individuals may be needed as well in determining an individual's eligibility for the credit.

The best data source for estimating the number of EITC-eligible households comes from surveys administered by the U.S. Census, specifically the Annual and Social Economic Supplement to the Current Population Study, and the American Communities Survey. These surveys randomly select a representative sample of households from the U.S. population and obtain age, relationship, and residency information for each member of the household. The survey also asks about each household member's annual income. From this information, researchers can estimate which of the surveyed households qualify for the EITC. The number of such households provides the denominator in the EITC take-up rate.

Once the set of EITC-eligible households has been identified, the next step in measuring EITC take-up is determining which of those households

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behavioral frictions, policies that raise participation make the new participants better off by a more substantial amount (where the size of the benefit depends on the magnitude of the behavioral friction that was standing in the way of enrollment). See Jacob Goldin & Daniel Reck, *Rationalizations and Mistakes: Optimal Policy with Normative Ambiguity*, *American Economic Journal: Papers & Proceedings* (Forthcoming).

<sup>34</sup> Technically, this is the household participation rate. One might alternatively look at the individual participation rate, or at the dollar participation rate, defined as the share of claimed dollars to total eligible dollars.

actually received the credit. Simply counting the total number of households in the U.S. population that claimed the EITC on their tax return does not answer this question, since some of the households that claim the credit are not actually eligible to do so. A different approach would be to survey the EITC-eligible households about whether they received the credit. However, a concern with self-reported data about tax claiming behavior is that many taxpayers do not have accurate perceptions of what was claimed on their returns.

Researchers have gotten around the problems described in the prior paragraph by linking the survey data to the tax returns of those who were surveyed. In this way, one can first determine which households are EITC-eligible using survey data, and then use tax return information to determine the fraction of those households that actually claimed the credit.<sup>35</sup>

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<sup>35</sup> See Dean Plueger, *Earned Income Tax Credit Participation Rate for Tax Year 2005*. IRS Research Bulletin (2009); Maggie R. Jones, *Changes in EITC Eligibility and Participation: 2005-2009*. CARRA Working Paper (2014).

Although it represents the state of the art, this method for estimating EITC take-up is still far from perfect. One problem is that the measure of income in the survey data is self-reported, so that estimates of EITC eligibility derived from that income measure are likely to exhibit substantial measurement error. The best estimates of EITC take-up replace the self-reported income data with income data from information returns (e.g., Jones 2014). This step substantially raises the estimated take-up rate. However, this step does not solve the problem because the information return income data is not available for households in the survey that are not matched to the tax return data.

A second concern with this method for estimating EITC take-up is that a child who is a qualifying child for an apparently eligible but non-claiming household may in fact be claimed by some other taxpayer to qualify for EITC. The other taxpayer claiming the child may not actually be allowed to do so, and the household where the child resides may technically be the one that is eligible for the EITC. Such behavior technically constitutes incomplete EITC take-up, but from the perspective of increasing EITC take-up rates it is less concerning than the case in which the child is not claimed for EITC purposes by any household at all.

An important consideration when interpreting EITC take-up rates is that participation is defined for potential eligible taxpayers, not for potentially eligible children. To illustrate the importance of this distinction, suppose a child, “C”, satisfies the definition of a qualifying child for taxpayer A but not for taxpayer B, either because C does not satisfy one of the qualifying child requirements with respect to B, or because C does satisfy all of the qualifying child requirements with respect to B but A has priority to claim C under the tie-breaker rules. Despite this, suppose that with A’s consent, B claims C on B’s tax return, including for purposes of the EITC. Without a qualifying child, A does not qualify for the EITC, and does not claim it. In this scenario, C is only used to qualify one taxpayer for the EITC. However, A’s non-claiming of the credit contributes to the incomplete take-up rate and B’s claiming of the credit contributes to the EITC over-claim rate.

## 2. The Current EITC Take-Up Rate

In this paper, I focus on the EITC take-up estimates produced in collaboration between the U.S. Census Bureau and the IRS, according to the methodology described above. The most recent estimates of EITC take-up that are publicly available are for tax year 2013, and suggest that EITC take-up is approximately 80%.<sup>36</sup> In absolute terms, this estimate implies that of the approximately 24 million individuals who are eligible to claim the EITC, almost 5 million fail to do so. Thus although the clear majority of those who are eligible to claim the EITC appear do so, a substantial minority do not.

As described above, the take-up rate reflects the fraction of eligible households that claim a benefit. If one instead considers EITC take-up in terms of the fraction of eligible *dollars* that are claimed, the resulting take-up rate is higher, at about 86%.<sup>37</sup> The fact that take-up is higher in dollar terms than in household participation suggests that the households that have the most to gain by claiming the credit are disproportionately likely to do so.

In addition to variation in the EITC take-up rate based on the size of the potential credit, recent estimates suggest that EITC take-up varies by age, with older households less likely to claim the credit than younger ones.<sup>38</sup> In addition, households with no EITC-qualifying children are much less likely to claim the credit than are households that do have EITC-qualifying children.<sup>39</sup> Consistent with the evidence cited above, this last fact may be

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<sup>36</sup> IRS, *EITC Participation Rate by States*, online at <https://www.eitc.irs.gov/eitc-central/statistics-for-tax-returns-with-eitc/statistics-for-tax-returns-with-eitc> (accessed Dec. 2017).

<sup>37</sup> IRS, TY2013 IRS-CPS ASEC Exact Match (2013).

<sup>38</sup> The take-up rate is 89% for taxpayers under the age of 25 compared to 73% for those over the age of 55. *Id.*, Table 4.

<sup>39</sup> The take-up rate is 87% for taxpayers with 1 or 2 qualifying children, 83% for taxpayers with 3 or more qualifying children, and 67% for taxpayers with no qualifying children. *Id.*, Table 3.

partially explained by the fact that the typical EITC benefit is much smaller for households without any qualifying children.

### *C. Current Efforts to Raise EITC Take-Up*

Because a significant fraction of individuals who are eligible for the EITC fail to claim it, it is perhaps not surprising that efforts to raise take-up have received significant policy attention. The federal government, state governments, and non-profits each spend millions of dollars annually on awareness campaigns designed to increase take-up of the credit. These campaigns involve flyers distributed throughout the communities where the nonprofits operate, direct mailings to low-income neighborhoods with information about the EITC, social media communications, and even “street teams” organized to canvass low-income neighborhoods to spread EITC awareness.<sup>40</sup> For example, each year the IRS and a team of nonprofits promote EITC Awareness Day near the start of filing season.<sup>41</sup>

In addition to efforts by governments and nonprofits to directly communicate with EITC eligible individuals, some governments require employers to provide notices to their employees to inform them about the credit. At the federal level, for example, employers are required to provide Notice 797 to employees from whom they did not withhold any wages and who did not claim an exemption from withholding.<sup>42</sup> The notice is a two-page document providing eligibility and dollar limit information about the credit (see the Appendix for a replication).

Along similar lines, a number of states (and one city) have adopted their own rules that require employers to provide EITC information to certain employees. Specifically, Maryland and New Jersey require employers to give EITC notices to any employee whose yearly earnings do not disqualify them from EITC eligibility, and California, Illinois, Texas, and the city of Philadelphia require employers to provide EITC notices to all employees, regardless of their income. These jurisdictions differ with respect to the flexibility of the notices that employers are required to provide; in many cases, employers are required to provide employees with the federal Notice 797, or something close to it. Two additional states (Louisiana and Virginia) require employers to post notices regarding EITC in locations visible to their

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<sup>40</sup> See, e.g., City of Philadelphia, Department of Revenue. Earned Income Tax Credit for Philadelphians, Report for Tax Year 2015 (July 2016).

<sup>41</sup> See IRS, *EITC Awareness Day*, online at <https://www.eitc.irs.gov/partner-toolkit/eitc-awareness-day/eitc-awareness-day-2> (accessed Dec. 2017).

<sup>42</sup> Section 111(e) of PL 99-514; See also IRS, Notice 1015 (2016). It is not obvious what the rationale is for limiting the notice to this particular subset of employees. One possibility is that the IRS believed individuals with positive withholding would be likely to discover the existence of the EITC on their own.

employees.<sup>43</sup> Considering just these state- and city-level requirements, approximately 46 million employees are required to receive EITC-related information from their employers each year.<sup>44</sup>

## II. A FRAMEWORK FOR ANALYZING THE COMPLEXITY OF TAX BENEFITS

This section presents a framework for analyzing the complexity associated with claiming a tax benefit. The basic idea is that claiming a tax benefit requires overcoming two types of costs: those associated with gathering and reporting the information on which the benefit depends, and those associated with determining eligibility and benefit amount based on the relevant information. I describe both forms of complexity and illustrate each in the context of the EITC.

To frame the discussion that follows, one can think of a tax benefit as a function that maps a taxpayer’s characteristics to a benefit amount. That is, the “input” to the function are all of the characteristics of the taxpayer upon which benefit eligibility and benefit amount depend, such as the taxpayer’s income, number of children, or expenditures made during the tax year that fall into a particular category. The “output” of the function is the amount of the tax benefit the taxpayer may claim on his or her return. The output of the function is zero for taxpayers whose characteristics make them ineligible for the benefit.

### *A. Informational Complexity*

The first type of complexity associated with claiming a tax benefit comes from keeping track of and reporting the information upon which benefit eligibility or benefit amount depend. I will refer to this type of complexity as *informational complexity*. Informational complexity is a property of the inputs to the tax benefit function.

#### 1. Informational Complexity in General

A benefit’s informational complexity depends on several factors. First and most basically, the more information on which the benefit function depends, the greater the informational complexity. A tax credit for the elderly that depends only on age has less informational complexity than a similar tax credit that depends on both age and income, or age and work history. The level of detail at which the information is required matters as well; for

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<sup>43</sup> For additional details about these requirements, see Taylor Cranor & Jacob Goldin, *Does Informing Employees About Tax Benefits Increase Take-up? Evidence from Earned Income Tax Credit Notification Laws*, Working Paper (2017).

<sup>44</sup> Cranor & Goldin, *supra* note \_\_.

example, whether a taxpayer must report whether she spent more than half of the year in the U.S., or whether she must report the exact number of days.

Second, a credit's informational complexity depends on how difficult it is to obtain and keep track of the required information. A tax benefit that requires information that is easy for the taxpayer to provide – such as the taxpayer's marital status or birthday – will have little informational complexity, even if the total quantity of required information is large. Conversely, when the required information does not come up in other contexts, or when it requires extensive recordkeeping by the taxpayer over the course of the year, the informational complexity will be greater.<sup>45</sup>

A third factor shaping a tax benefit's informational complexity is whether the information it requires is otherwise required elsewhere on the taxpayer's return. For instance, a tax benefit requiring information about gross income would not contribute to informational complexity because gross income must already be reported on other parts of the return to determine one's tax liability. In contrast, if the tax benefit required more detailed income information than what was otherwise required (such as a breakdown of whether the income was earned in a rural or urban area), the finer level of detail required would add to the overall informational complexity associated with the return.<sup>46</sup>

Finally, the manner in which a particular informational requirement shapes a benefit's informational complexity can vary based on how many of the taxpayers claiming the benefit are required to provide the information. In many cases, some information is required only for a subset of taxpayers claiming a credit, depending on the taxpayer's circumstances. For example, a very low-income taxpayer might qualify for a credit regardless of her family size, but a slightly higher income taxpayer's eligibility for the same credit might turn on the number of children she supports. In this example, family size is one of the pieces of information upon which benefit eligibility might potentially depend, but not all benefit recipients experience that informational requirement as a source of complexity. For this reason, the informational complexity of a benefit can vary between taxpayers.<sup>47</sup>

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<sup>45</sup> For example, I.R.C. § 25D creates an energy efficiency credit for taxpayers who invest in certain residential energy efficiency improvements. Claiming the credit requires tracking and reporting those expenditures. In a different domain, calculating the Premium Tax Credit requires information about the costs of certain health insurance plans in the region in which the taxpayer lives, whether or not the taxpayer actually enrolls in that plan. I.R.C. § 36B(b)(3)(B).

<sup>46</sup> Put differently, if some piece of information required by a benefit is also required by other parts of the return, that piece of information doesn't add to the incremental informational complexity of the return. However, as discussed below, the informational requirement is still relevant to assessing the overall informational complexity of filing a tax return.

<sup>47</sup> At least in theory, one additional mechanism by which informational complexity might deter individuals from claiming the EITC is by raising the costs of

## 2. The Informational Complexity of the EITC

How much informational complexity is associated with the EITC? The first step in answering the question is to identify the information upon which benefit eligibility and benefit amount could potentially depend. However, the complexity of the EITC rules makes answering even this seemingly straightforward question surprisingly difficult.<sup>48</sup> For example, might one's EITC eligibility depend on whether one's child provides more than half of her own support? In general, claiming a child as a dependent requires that the child not provide more than half of her own support.<sup>49</sup> The definition of a qualifying child for EITC purposes mirrors the definition of a qualifying child for purposes of the dependent exemption, but specifically excludes the self-support test.<sup>50</sup> However, a distinct provision of the EITC statute excludes from the definition of a qualifying child an individual who is married, unless the taxpayer can claim the individual as a dependent.<sup>51</sup> Thus, information about whether a child provides more than half of her own support is potentially relevant for determining one EITC eligibility.

The preceding case illustrates the type of difficulties associated with determining the range of information potentially required by the EITC, but the reasoning is fairly straightforward. Assessing whether other information is required necessitates additional mental gymnastics. Sticking with a related example, consider whether the EITC eligibility of a hypothetical taxpayer ("A") could potentially depend on whether A provides more than half of her own support. Suppose A is married, and that A satisfies the basic requirements to be treated as the EITC-qualifying child of a different taxpayer (B). Under section 32(c)(1)(B), A cannot claim the EITC if she is B's qualifying child, but because A is married, section 32(c)(3)(B) states that she is treated as B's qualifying child only if B can claim A as a dependent. As discussed above, whether B can claim A as a dependent turns on whether A provides more than half of her own support; thus it would appear that A's EITC eligibility turns on whether A provides more than half of her own support. However, section 152(b)(2) provides that an individual cannot be a dependent of another taxpayer if the individual files a joint return with his or her spouse. And because section 32(d) limits the EITC eligibility of married taxpayers to those who file a joint return, the case in which A files a separate return – and is thus potentially able to be claimed as B's dependent – does

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verifying the information on which eligibility depends, in the event that the taxpayer is audited.

<sup>48</sup> For a set of tools that can be applied in complicated settings like this to identify the information on which eligibility depends, see Sarah Lawsky, *Formalizing the Tax Code*, 70 TAX L. REV. 377 (2017).

<sup>49</sup> I.R.C. § 152(c)(1)(D), (d)(1)(C). Although the qualifying relative test differs slightly from this formulation, it cannot be satisfied when the child provides more than half of his or her own support.

<sup>50</sup> I.R.C. § 32(c)(1)(A).

<sup>51</sup> I.R.C. § 32(c)(1)(B).

not need to be considered (since A is not EITC-eligible in this scenario). Hence, A's EITC eligibility does not depend on whether A provides more than half of her own support; whether she does or not, the fact that she is married and files a joint return means that she cannot be claimed as another taxpayer's qualifying child.

Table 1 presents an incomplete list of the information that is potentially required for assessing one's EITC eligibility. What makes the universe of potentially relevant information so large is that many of the EITC eligibility requirements have exceptions that are triggered if the basic requirement is not met, and many of these exceptions require additional information to assess. For example, EITC qualifying children must generally be 18 or younger during the year they are claimed, but children up to the age of 23 can be claimed if they were a full-time student for 5 months or more during the year. In addition, children of any age can be claimed if they are totally and permanently disabled. Hence, assessing whether the EITC's age requirement for qualifying children is satisfied can potentially depend upon the child's age, student status, and disability status.

<b>Table 1: Informational Requirements of the EITC and Other Tax Provisions</b>				
EITC-Required Information	Source of Requirement	Also Required for Determining:		
		Child Tax Credit	Dependent Exemption	Taxable Income or Tax Liability
<b>Information About Taxpayer</b>				
Age	§32(c)(1)(A)(ii)(II); §152(c)(3)(A)	X	X	X
Marital status	§32(b)(2)(B)	X		X
Filing status	§32(d)	X	X	X
Months spent in U.S.	§32(c)(1)(A)(ii)(I)			X
Earned income	§32(a)	X		X
Adjusted gross income	§32(a)(2)(B)	X	X	X
Investment income	§32(i)			X
Subject to 2-year or 10-year EITC ban	§32(k)			
Nonresident alien status	§32(c)(1)(D)			X
Months as full-time student	§32(c)(1)(B); §152(c)(3)(A)(ii)		X	X
Disability status	§32(c)(1)(B); §152(c)(3)(B)		X	X
SSN valid for employment	§32(m)			
<b>Information About Qualifying Children</b>				
Child's name	§32(c)(3)(D)(i)	X	X	
Child's age	§152(c)(3)(A)	X	X	
Child's SSN / TIN	§32(c)(3)(D), (m)	X	X	
Relationship to taxpayer	§152(c)(2)	X	X	
Length of residence with taxpayer	§152(c)(1)(B)	X	X	
Whether child's SSN is valid for employment	§32(c)(3)(D), (m)			
Months as a full-time student	§152(c)(3)(A)(ii)	X	X	
Disability status	§152(c)(3)(B)	X	X	
Marital status	§32(c)(3)(B)	X	X	
Country of principal abode	§32(c)(3)(C)	X	X	
Whether child provides half of own support	§32(c)(3)(B), §152(c)(1)(D)	X	X	

<b>Information About Each Other Taxpayer the Child Lived with During Year</b>				
Duration of shared residence	§152(c)(4)(B)(ii); §152(c)(1)(B)	X	X	
Relationship to other taxpayer	§152(c)(4); §152(c)(2)	X	X	
Income of other taxpayer	§152(c)(4)(A)(ii), (c)(4)(B)(ii), (c)(4)(C)	X	X	
Age of other taxpayer	§152(c)(3); §152(c)(4)	X	X	
Whether other taxpayer is claiming child	§152(c)(4)	X	X	
<b>Information About Each Other Taxpayer the Taxpayer Lived with During Year</b>				
Duration of shared residence	§32(c)(1)(B); §152(c)(1)(B)		X	X
Relationship to other taxpayer	§32(c)(1)(B); §152(c)(2)		X	X
Age of other taxpayer	§32(c)(1)(B); §152(c)(3)		X	X

Table 1 makes clear the large quantity of information that can be relevant to fully determine the taxpayer’s allowable EITC. However, the effect of these requirements on the EITC’s informational complexity is tempered by several factors. First, not all EITC claimants will need to consider all, or even most, of the information listed in Table 1. For example, taxpayers whose children are 5 years old will not have to provide information about student status or disability status. And since the 5-year-old is presumably unmarried, the taxpayer will not have to consider information for determining whether the child can be claimed as a dependent. Such taxpayers can also avoid providing the information required to assess eligibility for the childless EITC, such as their own age, and the number of months during the tax year that they spent in the United States.

The second factor that tempers the EITC’s informational complexity is that much of the information required by the EITC is already required by other provisions in the tax code. For example, information about the age of one’s child is not only required for determining whether the child qualifies the taxpayer for the EITC, but is also required for determining whether the child qualifies the taxpayer for the CTC and as the taxpayer’s dependent.

Similarly, information about taxpayers' citizenship or resident alien status is potentially required for the EITC, but is also required for assessing one's U.S. tax liability more generally. Even the specific disaggregation of income into earned income is relevant for assessing the amount of one's CTC that is refundable.<sup>52</sup>

Columns 3-7 of Table 1 investigate the degree of overlap between the information required to claim the EITC and the information required for other tax provisions. It is important to consider not only whether the information is required by some other tax provision, but also whether the other provisions that require it are mandatory (e.g., taxable income) or elective (e.g., other tax benefits like the CTC). This distinction matters because taxpayers who choose not to provide the information for the other provision will face the full burden of providing it if they claim the EITC.

From Table 1, it is apparent that most of the information required for determining one's EITC is also required by other parts of the tax code. With respect to the determination of EITC-qualifying children, virtually every informational requirement is already required by the CTC and the dependent exemption. Although some taxpayers may choose to forgo all of these benefits, the substantial degree of overlap in the information required between them significantly reduces the EITC's contribution to informational complexity.

Finally, the table highlights that most of the required information about a taxpayer's qualifying children will be relatively easy for taxpayers to obtain. Most taxpayers will know their child's age, for example, as well as the child's relationship to the taxpayer. Similarly, information about the child's student status and months living with the taxpayer would usually be readily available.

The most challenging informational requirements for determining qualifying child status involve questions about the sources of the child's support during the year, as well as information about the income or residency of other taxpayers who could potentially claim the child themselves. For example, if a child, parent, and grandparent all live together, the grandparent would have to have some sense of the parent's income to determine whether the child is the grandparent's qualifying child.

Although EITC claimants can face significant informational complexity when subject to the tiebreaker rules, several factors mitigate the informational complexity here as well. First, as with the other types of required information, the information required to apply the tiebreaker tests is also required for claiming other child-related tax benefits. This overlap makes it less likely that the informational complexity will deter the taxpayer from

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<sup>52</sup> I.R.C. § 24(d)(1)(B)(i). Technically, all of the information used to determine the EITC is *potentially* relevant to assessing the allowable amount of CTC a taxpayer can claim under § 24(d)(1)(B)(ii)(II), which limits the refundable portion of the CTC based on the amount of EITC one is allowed. However, this provision only applies to a subset of those CTC claimants with more than three qualifying children.

claiming the EITC, since doing so would mean forgoing the other child tax benefits as well. Second, in many cases the required information will not be difficult to obtain because only one of the potential claimants will be the child's parent (resulting in priority under the tiebreaker rules). Third, even if exact information about another taxpayer's income or residence is unknown, applying the tiebreaker rules requires only *relative* comparisons. For example, taxpayer A might not know the exact length of time that taxpayer B lived with child C, but A might nonetheless know that A lived with C longer than B lived with C. Similarly, A might not know B's exact income, but still have a good sense of whether B's income is greater or lesser than A's.

Turning to the information required by the EITC that relates to the taxpayer, here too the majority of the required information is also required by other provisions of the tax code. For example, claiming the EITC requires that the taxpayer not be a qualifying child of another person, but that determination relies on a subset of the information used to determine whether the taxpayer can be claimed as a dependent of another person.<sup>53</sup> This overlap matters because taxpayers who can be claimed as a dependent of another person cannot claim the personal exemption deduction for themselves;<sup>54</sup> hence, this information would be required even absent its role in determining eligibility for the EITC.<sup>55</sup>

Another piece of information required by the EITC that is not always required elsewhere on the return relates to the taxpayer's earned income. Of course, taxpayers are required to report their aggregate income elsewhere on their tax returns, but reporting one's *earned* income requires keeping track of income at a finer level of detail than what might otherwise be required. In most cases, however, it will be straightforward for taxpayers to disaggregate their gross income into earned and unearned components, given that the main components of earned income – wage income and earnings from self-employment – are already required to be reported separately on the taxpayer's return.

In summary, although determining EITC eligibility potentially requires a substantial quantity of information, the overall informational complexity of the credit is relatively low. This is because many of the informational requirements will only apply to a minority of taxpayers; much of the required information would be required for other provisions in the tax code, even absent the EITC; and most of the required information is easy for taxpayers to keep track of and provide when preparing their return.

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<sup>53</sup> See generally I.R.C. § 152.

<sup>54</sup> I.R.C. § 151(d)(2).

<sup>55</sup> Mention EITC ban – possible taxpayer isn't aware, or isn't aware of the need to turn in extra paperwork after the ban is concluded.

## B. *Computational Complexity*

Once the required information is collected and known, the second source of complexity in claiming a tax benefit is determining, on the basis of the required information, how much benefit the taxpayer is eligible to claim. *Computational complexity* thus refers to complexity associated with determining one’s eligibility for a benefit as well as complexity associated with computing the dollar value of the benefit that one can claim.<sup>56</sup> A third component of computational complexity are hurdles associated with knowing that a tax benefit exists during the return preparation process. Whereas informational complexity describes the “inputs” to the tax benefit function, computational complexity is a property of the rules that map the inputs of the function into the function’s output – i.e., the amount of benefit the taxpayer is entitled to claim.

### 1. Complexity in Determining Eligibility

As with informational complexity, several factors shape the degree of complexity associated with determining one’s eligibility for a tax benefit. First, the more requirements for eligibility, the more complicated the eligibility determination will be (all else equal). If there is just one requirement to be eligible for a credit, there is less computational complexity than when several separate requirements must be met.

Second, a benefit’s computational complexity depends in part on the degree to which the eligibility requirements interact with one another. For example, if eligibility for a credit depends on the taxpayer’s age being within some range and the taxpayer’s income being in some range, there is a sense in which that is simpler than if eligibility depends on age and income, but the allowable income range varies by the taxpayer’s age.

Third, as with informational complexity, a tax credit will have less computational complexity if it relies on legal conclusions that are already required for other parts of the tax code. For example, a tax credit for which the credit amount depends on the number of dependents one claims requires determining which individuals count as the taxpayer’s dependents, but this determination must already be made in other contexts, such as the dependent exemption, as well as for non-benefit provisions, such as the obligation to provide minimal health insurance coverage for each individual that can be claimed as a dependent.<sup>57</sup>

Turning to the EITC, the rules for determining eligibility exhibit a high degree of computational complexity. As described in Section I.A, the EITC has numerous eligibility requirements, and some of these requirements interact with one another. For example, determining whether an individual is a taxpayer’s qualifying child for EITC purposes requires working one’s way

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<sup>56</sup> I adopt the phrase “computational complexity” from Zelenak, *supra* note \_\_.

<sup>57</sup> See I.R.C. § 5000A.

through the age, residency, and relationship tests for whether an individual is considered the taxpayer's qualifying child, and possibly through the tiebreaker rules as well if other taxpayers would be able to claim that individual. The eligibility rules are also interactive, in the sense that the requirements for eligibility are contingent on other eligibility tests being met. For example, if it is determined that a taxpayer has no EITC qualifying children, then a different set of eligibility requirements apply, relative to the case in which a taxpayer is determined to have at least one EITC qualifying child.

On the other hand, as with informational complexity, the overall contribution of the EITC to computational complexity is lessened by the fact that the qualifying child rules substantially overlap with the definition of a qualifying child used to determine eligibility for other child tax benefits. For example, if a taxpayer determines that an individual qualifies him or her for the dependent deduction, less work is needed to determine whether the individual also qualifies the taxpayer for the EITC. An important caveat, however, is that the EITC qualifying child rules are not identical to the analogous rules for the other child tax benefits. For example, claiming a child for the dependent deduction, the CTC, or head of household filing status requires the child not provide more than half his or her own support;<sup>58</sup> no such requirement exists for a child to be claimed for the EITC.<sup>59</sup> Similarly, unmarried parents can transfer the right to claim a child for certain tax benefits – such as the dependent exemption – to the other parent.<sup>60</sup> However, the EITC rules do not provide this form of flexibility.<sup>61</sup> Because the legal tests for claiming a child for EITC purposes do not entirely overlap with the legal tests for claiming a child for other tax purposes, the EITC exhibits substantial computational complexity with respect to determining a taxpayer's eligibility for the credit.

## 2. Complexity in Determining Benefit Amount

For taxpayers who are eligible to claim a benefit, a second source of computational complexity is determining the precise amount of the benefit for which they qualify.

The degree of computational complexity associated with determining benefit amount depends on how many pieces of information enter into the benefit amount formula and on how many steps it takes to calculate. The simplest case occurs when the benefit amount is uniform for each taxpayer who qualifies. The presence of a phase-out or phase-in makes the calculation more complicated.

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<sup>58</sup> I.R.C. §§ 24(c)(1); 152(c)(1)(D).

<sup>59</sup> I.R.C. § 32(c)(3)(A).

<sup>60</sup> I.R.C. § 152(e).

<sup>61</sup> I.R.C. § 32(c)(3)(A).

An example of a computationally complex credit is the Premium Tax Credit (PTC), which subsidizes health insurance purchased through a state's health insurance exchange marketplace.<sup>62</sup> A taxpayer's PTC is determined according to a formula designed to limit health insurance costs to a set percentage of the taxpayer's income. The set percentage varies by taxpayer; determining which percentage applies requires computing one's income as a fraction of the applicable federal poverty line (based on one's family size), and substituting the resulting number into a piece-wise linear function. Next, the taxpayer uses the applicable percentage they have computed, in conjunction with their household income, to determine an upper limit of health insurance premium costs for which they are responsible. Finally, the taxpayer compares this upper limit to the cost of the second lowest health insurance plan (among plans of a certain quality category) available to the taxpayer's family within the taxpayer's region. The PTC is equal to the difference between the income limit and the cost of this plan.<sup>63</sup>

A final factor that increases a benefit's computational complexity is when taxpayers must calculate a benefit in multiple ways to determine the allowable benefit amount. One setting in which this occurs is when taxpayers have flexibility in how the benefit amount is determined. Although such provisions are taxpayer-favorable in the context of tax benefits, they increase the amount of effort that goes into computing the maximum allowable benefit, since a taxpayer must make the computation in multiple ways. Returning to the PTC for an example, the credit allows taxpayers who were married during the tax year the ability to treat themselves as unmarried until the end of the year if doing so would increase the total amount of subsidy they qualify to receive.<sup>64</sup> Similarly, although not a provision that grants taxpayers additional flexibility, the Alternative Minimum Tax is a classic example of computational complexity because taxpayers' must re-compute their taxes using an alternative formula to determine their ultimate tax liability.<sup>65</sup>

With respect to benefit amount, the EITC's computational complexity arises from having to calculate the amount of the credit for which one qualifies based on the taxpayer's AGI, earned income, and number of qualifying children. The number of EITC-qualifying children a taxpayer can claim – anywhere from 0 to 3 – along with the taxpayer's marital status, determines the taxpayer's benefit schedule. As described above, each of the EITC benefit schedules has both a phase-in and phase-out region. Perhaps to counterbalance the computational complexity that the phase-in and phase-

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<sup>62</sup> See I.R.C. § 36B for the rules described in this paragraph.

<sup>63</sup> This is the simple case. Determination of the PTC can quickly get more complicated when the taxpayer's household for tax purposes does not overlap perfectly with the individuals for whom the taxpayer purchases health insurance. Other difficulties arise from electivity in the rules for alternative calculations for the year in which a taxpayer gets married.

<sup>64</sup> IRS, *Publication 974: Premium Tax Credit* (2017) at 34.

<sup>65</sup> See generally I.R.C. § 55.

out regions would introduce, the EITC statute provides that a taxpayer's actual benefit amount is to be governed by a table, published in the tax return instructions, that the taxpayer can use to look up the amount of EITC for which he or she qualifies, based on her income, filing status, and number of qualifying children.<sup>66</sup>

A second source of computational complexity in the EITC is that determining the correct credit amount requires computing one's EITC two ways; once using adjusted gross income and once using earned income, and using whichever approach yields a smaller value.<sup>67</sup>

A third factor increasing the computational complexity of the EITC is that in some circumstances, taxpayers can elect to have income classified in different ways, and this election can affect the amount of EITC one is allowed (as well as the amount of total tax refund or balance due). For example, taxpayers in the armed services with combat pay can elect to have the combat pay excluded from their income (which reduces their tax liability by reducing their taxable income) or they can elect to include it as earned income.<sup>68</sup> Depending on whether the taxpayer's other income places her in the phase-in or phase-out range of the EITC schedule, characterizing the combat pay as earned income can increase or decrease her benefit. The availability of this election increases computational complexity because taxpayers have to consider both possibilities to maximize their benefit amount.<sup>69</sup>

Finally, the EITC introduces computational complexity by requiring taxpayers to determine which of their income constitutes earned income. Although I argued in the prior subsection that requiring information about one's earned income does not greatly increase informational complexity (since each component of earned income is otherwise required to be reported on one's return), this requirement does increase computational complexity by requiring the taxpayer to wade through the rules concerning which sources of income count as earned income and which do not.

A unique consideration in the EITC context that potentially reduces some of the computational complexity in determining benefit amount is the fact that the IRS gives taxpayers the option of it computing the taxpayer's allowable EITC for them. Taxpayers wishing to exercise this option write "EIC" in the box corresponding to the credit.<sup>70</sup> Although this step reduces the complexity associated with determining EITC amount, it does not

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<sup>66</sup> I.R.C. § 32(f).

<sup>67</sup> I.R.C. § 32(a)(2)(B).

<sup>68</sup> § 32(c)(2)(B)(vi)

<sup>69</sup> Assuming, that is, that taxpayers even realize they have this choice – recent research indicates that many fail to select the tax-minimizing option. Suzanne Gleason & Patricia Tong, *Nontaxable Combat Pay Election and the Earned Income Tax Credit*, IRS-TPC RESEARCH CONFERENCE REPORT (2015).

<sup>70</sup> IRS, *Instructions to Form 1040* (2017) at 57.

simplify the determination of EITC eligibility or determination of the number of EITC qualifying children the taxpayer may claim.

### 3. Hurdles in Knowing a Tax Benefit Exists

The third source of computational complexity in claiming a tax benefit is a basic hurdle: learning that the benefit exists and remembering its existence when preparing one's return. Even taxpayers who have collected all the information on which a tax benefit depends may fail to claim the benefit if they don't know that the benefit exists or fail to indicate their desire to claim the benefit on their return.

A related hurdle is that certain tax benefits necessitate taking extra steps to claim them, like filing an extra tax schedule, or filing some other document along with one's return. For example, for a non-custodial parent to claim the dependent exemption for a child, he or she must submit a written agreement with the custodial parent along with the tax return.<sup>71</sup>

Knowledge that a benefit exists can be shaped either before the tax preparation process begins (such as through informational campaigns), or during the tax preparation and filing process itself, such as by providing reminders or prompting the taxpayer in the instructions to the tax return form or in a box on the form itself.

Turning to the context of the EITC, taxpayers who are not aware of the credit might inadvertently fail to claim it while filling out their returns by leaving blank the EITC box on their tax return form. Similarly, a taxpayer who knew about and intended to claim the EITC could fill out the EITC box on the return but fail to submit the supplementary schedule that is required to claim the credit.<sup>72</sup> Alternatively, a taxpayer completing a return who did not previously know about the EITC might be alerted to its existence by the box on the tax return or the tax return instructions, depending on which version of the tax return form was being filled out.

## III. ASSISTED TAX PREPARATION AND COMPLEXITY

In this section I briefly describe the use of assisted tax preparation methods (APMs) the United States. I then consider how the various sources of tax benefit complexity are (or are not) alleviated by the use of APMs.

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<sup>71</sup> I.R.C. § 152(e)(2).

<sup>72</sup> See IRS, *Instructions to Form 1040* (2017) at 59.

*A. Types of Assisted Preparation Methods*

This subsection briefly describes the two main types of APMs that taxpayers use to prepare their taxes: expert preparation and self-preparation with software. The next subsection describes trends in their use.

1. Expert Preparation

The first type of APM a taxpayer might use involves an expert who assists in the preparation of the return. The expert might be an accountant or lawyer who the taxpayer works with for other purposes, or one hired specifically for tax preparation. Preparers who are not lawyers or accountants must be an “enrolled agent” to represent taxpayers before the IRS, which requires mandatory education and a basic competency examination. Others can prepare returns for compensation but cannot represent taxpayers before the IRS without supervision.

For low-income taxpayers, the most common types of expert APMs are retail tax preparation stores, such as Jackson-Hewitt, Liberty Tax, and H&R Block. Many smaller, non-chain tax preparation stores operate as well. At these stores, the taxpayer provides information to an employee (or series of employees), who uses the information to prepare and file the tax return. In almost all cases, the expert uses tax preparation software to complete the return.<sup>73</sup> In addition to the software making the process of preparing the return simpler for the expert, the federal government as well as many states requires that most paid preparers file their returns electronically, which is facilitated by software preparation.<sup>74</sup>

A final category of expert preparation worth mentioning is Volunteer Income Tax Assistance (VITA) and Tax Counseling for the Elderly (TCE) sites, which provide free tax preparation services to qualifying taxpayers. The VITA and TCE programs are administered by the IRS, but the individual sites are typically operated by nonprofit organizations. VITA provide free preparation and filing services to taxpayers whose income falls below a particular dollar threshold, with the dollar amount varying by year. In recent years, the income limit on VITA participation was \$54,000 (although some sites may further limit eligibility).<sup>75</sup> The TCE program also provides free tax preparation services, and is aimed at taxpayers over the age of 60.<sup>76</sup>

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<sup>73</sup> The fraction of expert preparers using software to prepare returns has risen along with the use of software by individuals in preparing their own returns. For an account of this trend, see Zelenak, *supra* note \_\_, at 94.

<sup>74</sup> Since 2012, tax return preparers who prepare over 10 returns a year are required to file electronically. I.R.C. § 6011(e)(3). See also Wojciech Kopczuk & Cristian Pop-Eleches, *Electronic Filing, Tax Preparers and Participation in the Earned Income Tax Credit*, 91 J. PUBLIC ECON. 1351 (2007) (studying the introduction of state electronic filing programs).

<sup>75</sup> IRS, *Free Tax Return Preparation for Qualifying Taxpayers*, online at [irs.gov/vita](https://www.irs.gov/vita) (accessed Dec. 2017).

<sup>76</sup> *Id.*

Apart from VITA and TCE, most expert tax preparation is not provided for free. The cost of preparing a return typically vary based on the return's complexity. The average price for low-income taxpayers is believed to be in the range of \$200-\$400 per return, although there is limited high-quality data available to support this figure. Paid preparers sometimes offer additional products that have extra costs, such as Refund Anticipation Loans or Refund Anticipation Checks, which can speed the rate at which the taxpayer can access the anticipated refund associated with a return.<sup>77</sup>

## 2. Software Preparation

The second major category of APMs in use today is software that assists taxpayers with the preparation of their returns without the direct involvement of an expert. In prior years, the software may have been purchased at a store and installed on the taxpayer's computer (like TurboTax), but in recent years tax preparation software is more commonly accessed over the internet (either through the taxpayer's computer, or more and more commonly, using the taxpayer's phone). There are a fair number of providers of tax preparation software, many of which can be found by a simple google search.

As with the VITA and TCE programs, the IRS administers tax preparation software that is free for taxpayers to use. It does this through the Free-File program, which is a partnership between the IRS and about 12 commercial software preparation providers (the exact number of participating software companies varies by year). Taxpayers qualify for Free-File if their income is below a particular dollar limit, set annually so that 70% of U.S. taxpayers are eligible to participate (the dollar limit was \$64,000 in tax year 2016).<sup>78</sup> Depending on the company, taxpayers who use Free-File to prepare and file their federal tax return may face a fee for filing their state tax return using the software. Despite its low cost and the fact that it offers taxpayers commercial software programs, fewer than 3% of taxpayers participate in the program.<sup>79</sup>

As with expert APMs, there is limited data available to assess the average cost of software preparation. In many cases, pricing varies depending on the point during the tax filing season at which the return is filed and on the complexity of the return. A number of companies offer their software for free to some or all taxpayers, with the number of companies doing so

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<sup>77</sup> Regulatory changes in recent years have significantly affected the availability and use of these charges. For accounts of these changes and investigations into their effects, see Andrew Hayashi, *The Effects of Refund Anticipation Loans on the Use of Paid Preparers and EITC Take-up*, Working Paper (2016); Maggie R. Jones, *A Loan by any Other Name: How State Policies Changed Advanced Tax Refund Payments*, Working Paper (2016).

<sup>78</sup> IRS, *Free File: Do Your Federal Taxes for Free*, Online at [irs.gov/freefile](https://www.irs.gov/freefile) (accessed Dec. 2017).

<sup>79</sup> Jacob Goldin, Participation in the IRS Free-File Program, Tax Notes (2017).

trending up in the last couple of years.<sup>80</sup> Typically, the cost of preparing a return with software is believed to be much less than the cost of preparing the return with an expert.

*B. Prevalence and Trends in the Use of Assisted Preparation Methods*

This section describes trends in the use of APMs among taxpayers, with a special focus on taxpayers whose incomes are likely to qualify them for the EITC.<sup>81</sup>

Figure 1

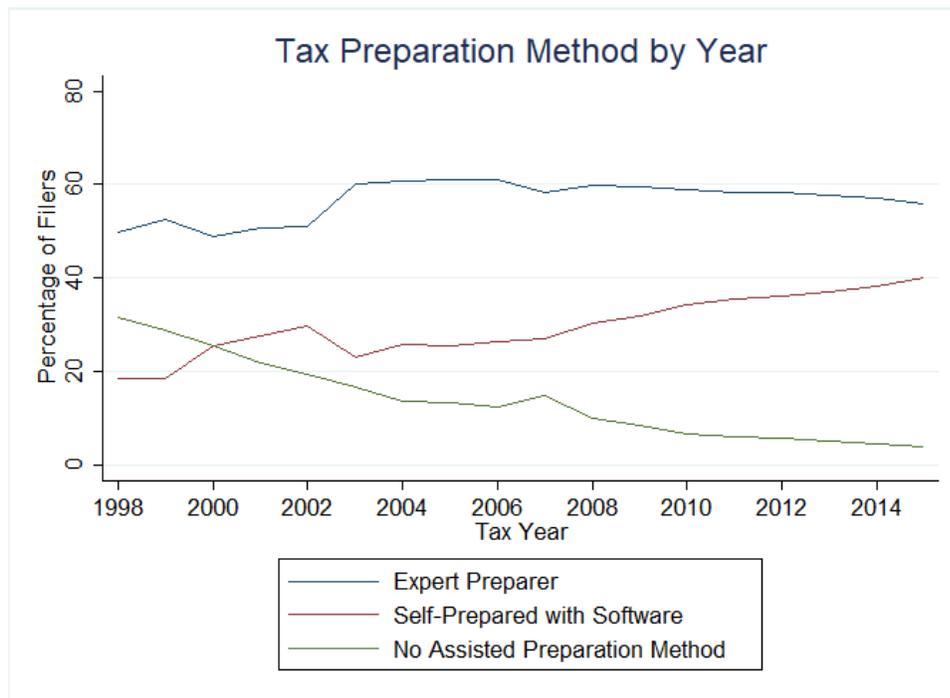


Figure 1 plots the use of alternative types of preparation methods by year, from 1998 to 2015. In tax year 1998, at the start of the sample, approximately 50% of taxpayers prepared their taxes with the help of an expert, 18 percent used software, and 32 percent prepared their return on their own without the use of an APM.

<sup>80</sup> See, e.g., Forbes, *Credit Karma Takes On TurboTax, H&R Block With Free Tax Filings* (Dec. 7, 2016).

<sup>81</sup> For discussions of these and related trends for prior tax years, see Rosemary Marcuss et al., *Income Taxes and Compliance Costs: How Are They Related?* 66 NATIONAL TAX JOURNAL 833 (2013).

By tax year 2015, the most recent year for which data is available, the use of APMs had become much more prevalent. The fraction of taxpayers preparing their returns without an APM had fallen to 4 percent, with many of the taxpayers who had been using an APM turning to software (40 percent in 2015), and a smaller fraction turning to expert preparers (56 percent in 2015).<sup>82</sup>

Figure 2 restricts the sample to taxpayers who claim the EITC. The patterns and trends in Figure 2 are quite similar to those in Figure 1. This similarity is striking, because previous research that had focused on earlier tax years had found that the rise in APMs was primarily concentrated on higher-income and better-educated taxpayers.<sup>83</sup> As shown in the Figure 2, the fraction of EITC claimers preparing their returns without an APM fell from approximately 27 percent in 2000 to less than 2 percent in 2015, with all of the increase in APM use over the sample period associated with an increase in software (a 28 percentage point increase) and a very slight reduction in the use of expert preparers (4 percentage points).<sup>84</sup>

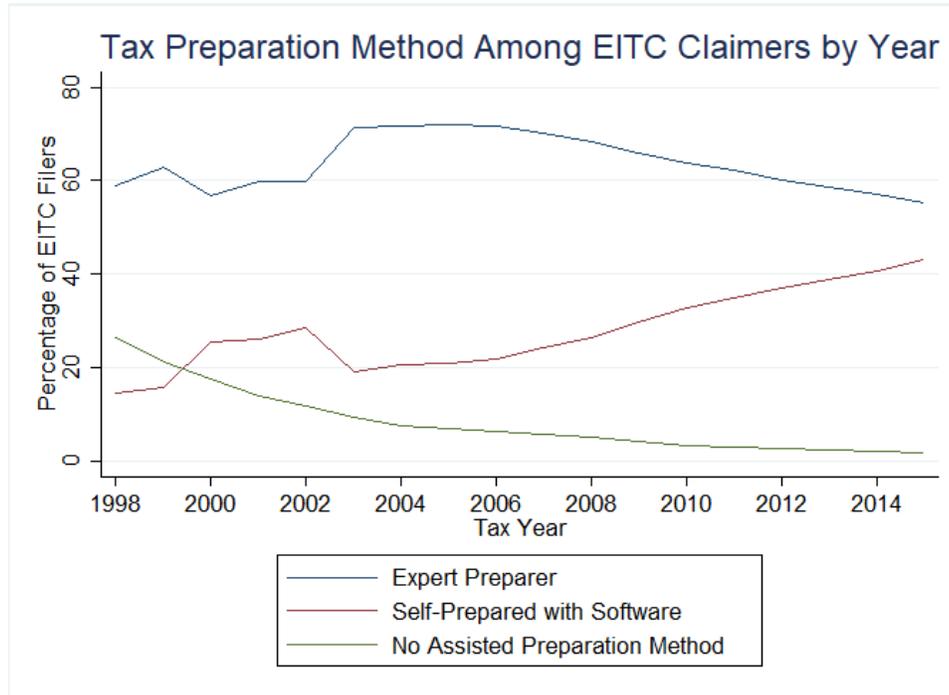
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<sup>82</sup> The figure suggests a sizable discrete shift from self-preparation with software to expert preparation in tax year 2003, which may reflect a change in how expert preparers are recorded in the tax data. If this shift is interpreted as an artifact of the data (which seems plausible), growing use of self-preparation software plays an even larger role in the rise of APM than otherwise suggested by the figure.

<sup>83</sup> Austan Goolsbee, *The TurboTax Revolution? Evaluating the Ability of Technology to Solve the Tax Complexity Dilemma*, Working Paper (2002).

<sup>84</sup> As described above, if the 2003 shift from self-preparers to expert preparers is an artifact of the data, the implied reduction in use of expert preparers among EITC recipients would be even larger.

Figure 2



*C. The Effect of Assisted Preparation Methods on Tax Benefit Complexity*

APMs dramatically reduce certain sources of complexity associated with claiming a tax benefit. Once a taxpayer has entered the required information about his or her characteristics (whether directly through software, or indirectly through an expert intermediary), the APM automatically determines which credits the taxpayer qualifies for as well as the appropriate credit amount. In this way, APMs generally eliminate all sources of computational complexity: at least in theory, taxpayers need not assess their eligibility for a benefit, determine the proper benefit amount, or even remember that the benefit exists.<sup>85</sup>

In contrast, APMs generally do not eliminate a tax benefit’s informational complexity, since the relevant characteristics of the taxpayer must still be communicated to the expert preparer or inputted into the tax preparation

<sup>85</sup> In practice, of course, not all APMs are designed in this idealized fashion. For example, a software program might ask the taxpayer whether he or she can be claimed as a dependent by any other taxpayer, which is a legal conclusion that is determined based on information the software has not solicited from the taxpayer. Others have recognized how tax preparation software reduces computational complexity, including Goosbee, *supra* note \_\_; Zelenak, *supra* note \_\_; and (presumably) the millions of taxpayers who choose to purchase such software to prepare their taxes.

software. That being said, although informational complexity cannot be entirely eliminated with APMs, it can be lessened. First, APMs can structure the process by which information is obtained from the taxpayer intelligently, so that only relevant information is asked. For example, if the taxpayer's age has already been collected, and it is known that the taxpayer is 70, the APM would not need to solicit the other information needed to ascertain whether the taxpayer qualified for the childless EITC (such as the number of months the taxpayer spent in the United States), since the childless EITC is only available to those under the age of 65.

In addition to reducing informational complexity by intelligently structuring the solicitation of information from taxpayers, APMs can also reduce informational complexity by utilizing information from sources other than the taxpayer. For example, a number of software companies now work with payroll providers to allow wage information to be directly inputted into the tax return during the filing process. Not only does this reduce the risk of inputting errors, it also reduces informational complexity by reducing the amount of information the taxpayer is required to provide. Along similar lines, APMs might further reduce informational complexity by making it easier for the taxpayer to enter the required information, such as by allowing the taxpayer to input an information return into the tax return digitally, by taking a picture of the information return with the taxpayer's smartphone.<sup>86</sup>

To summarize, using an APM eliminates the computational complexity associated with claiming a tax benefit. The remaining hurdle to claiming a benefit is overcoming the benefit's informational complexity.

How does the use of APMs affect the complexity of claiming the EITC? As discussed in the prior section, the EITC's complexity is primarily computational; the credit adds relatively few informational requirements that are not already required by other parts of the tax code, and what informational requirements it does add are relatively easy for the taxpayer to provide. Consequently, most of the taxpayers who prepare and file their taxes using an APM will claim the EITC if they are eligible to do so.

To assess this claim empirically, it is helpful to disaggregate the EITC take-up rate based on the preparation method of those who file a tax return. As described in Section I.B, the overall EITC take-up rate is approximately 80 percent. Among those who file a tax return using an APM, however, the take-up rate is higher, approximately 92 percent.<sup>87</sup> That is, 92 percent of those who are estimated to be eligible for the EITC and who prepare their returns using an APM claim the EITC. The fact that EITC take-up is quite

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<sup>86</sup> As some have pointed out, these steps could be implemented by the IRS as well, possibly through an online account. See Kathleen DeLaney Thomas, *User-Friendly Taxpaying*, 92 INDIANA L. J. 1509 (2017).

<sup>87</sup> This estimate is derived using the methodology described in IRS, *TY2013 IRS-CPS ASEC Exact Match* (2015).

high (although not 100%<sup>88</sup>) among those using an APM is consistent with the prediction that APMs substantially reduce the complexity of claiming the EITC for those who are eligible to do so.

In summary, taxpayers using an APM to prepare their taxes face few complexity hurdles to claiming the EITC, especially when they are already claiming children or dependents on other parts of their tax return. In contrast, taxpayers who do not use an APM will need to overcome the EITC's substantial computational complexity in order to claim the credit. The next section considers, in light of these conclusions, how policies might affect EITC take-up – either intentionally or otherwise.

#### IV. LESSONS FOR EITC TAKE-UP

This section considers the implications of tax benefit complexity on tax benefit take-up, given the modern-day prevalence of APMs. As with the rest of this article, my primary focus is on the EITC, although many of the conclusions apply to other tax benefits as well.

##### *A. Efforts to Increase EITC Take-up Should Focus on Raising the Filing Rate Among EITC-Eligible Individuals.*

The theory described thus far suggests that the key determinant of EITC take-up is the filing rate among EITC-eligible individuals. Because the use of APMs eliminates most of the complexity associated with claiming the EITC, there is a near mechanical relationship between (1) using an APM to file one's taxes, and (2) claiming the EITC, if eligible. Moreover, because so many filers today prepare their taxes using an APM, simply getting an EITC-eligible individual to file his or her return (without focusing on the method of preparation) will in most cases result in that individual claiming the credit. For these reasons, efforts to increase the EITC take-up rate should primarily focus on getting EITC-eligible non-filers to file their return. If these eligible

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<sup>88</sup> There are several possible explanations for why EITC take-up is below 100% for taxpayers in this group. First, in practice, APMs do not always function perfectly – some preparers may mistakenly think a taxpayer is ineligible for the credit, and some software programs may fail to take all of the EITC rules into account. Second, the EITC take-up rate may under-estimate the true degree of EITC take-up; for example, some households may have higher income than what they report to the Census, and are therefore less likely to be eligible for the credit. Third, some degree of non-take-up is probably voluntary. Some eligible taxpayers may decline the credit out of stigma or ideological opposition, and others might agree to allow a different taxpayer to claim the credit on behalf of one of their qualifying children (whether or not the other taxpayer is legally eligible to do so). *See, e.g.,* Steve Holt, *The Role of the IRS as a Social Benefit Administrator*, AMERICAN ENTERPRISE INSTITUTE REPORT (2016), at 7; Currie, *supra* note \_\_. Other filers may prefer not to claim the credit due to the higher audit risk faced by EITC claimants as compared to other taxpayers.

non-filers begin to file, they are likely to use an APM to prepare their return, and hence, they are likely to receive the EITC.

There are a number of potential ways to raise the filing rate among those who qualify for the EITC. Broadly speaking, these efforts can succeed by raising the perceived net benefit to filing, which can involve raising the perceived benefit or reducing the perceived cost. Policies might also raise the filing rate by reducing other hurdles (psychological or monetary) to filing. An added bonus to any of these approaches is that inducing someone to file a tax return results in that person claiming not just the EITC, but also the other tax benefits for which he or she is eligible.

### 1. Raising the Real or Perceived Benefit to Filing

Policies can raise the filing rate by increasing the real or perceived benefit to filing a tax return. For example, policies might increase the perceived benefits to filing by increasing the awareness or salience of existing tax benefits. Emphasizing the existence and availability of credits like the EITC and CTC could increase the perceived benefit of filing, especially for taxpayers who were previously unaware that the credits existed and who would expect to benefit from them. Notably, spreading awareness of tax benefits other than the EITC could be at least as important for motivating EITC-eligible people to file as spreading awareness of the EITC itself, especially if awareness of the EITC is already relatively high.<sup>89</sup> Along the same lines, spreading awareness of even non-refundable credits could make people more likely to file, to the extent that the nonrefundable credits reduce the degree to which they have any positive tax liability. As described further below, policies in this category are likely to raise filing rates only to the extent that would-be filers expect themselves to qualify for the benefit being described.

More substantively, policies could change the economic benefits to filing, not just people's perceptions of them. This might take the form of a carrot, such as expanding the size of existing tax credits like the EITC or CTC in ways that would benefit EITC-eligible non-filers,<sup>90</sup> or sticks, such as

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<sup>89</sup> Similarly, increased awareness of non-tax benefits to filing, such as those relating to immigration or social security benefits, could also serve as effective motivators for EITC-eligible individuals to file a return.

<sup>90</sup> Marsha Blumenthal, Brian Erard, & Chih-Chin Ho, *Participation and Compliance with the Earned Income Tax Credit*, 58 NAT. TAX. J. 189 (2005); John Scholtz, *The Earned Income Tax Credit: Participation, Compliance, and Antipoverty Effectiveness*, 47 NAT. TAX. J. 63 (1994); Jay Weismuller, *Earned Income Tax Credit Expansions and Filing Behavior Among Eligible Individuals*, Georgetown University Undergraduate Thesis (2016).

expanding the range of individuals who face penalties for failing to file a return.<sup>91</sup>

Similarly, Congress could reform various features of the tax administration to amplify the incentive to file a return. One policy that would accomplish this goal would be to alter the withholding schedule so that EITC-eligible non-filers would have a larger refund at year's end on average (stemming from both their EITC as well as their excess withholdings). Of course, those who continue not filing would be made worse off by this reform, so the net welfare effect would depend on how many more individuals were induced to file because of the reform and the size of their benefit. Along similar lines, many individuals may not file a return because they are concerned that any refund they receive will be diverted through an offset program (such as for child support). Policies that limit these offset programs would likely raise EITC take-up by inducing more individuals to file a return, but at the obvious cost of undermining the goals that prompted the offset program in the first place.

To illustrate how raising the benefit to filing can translate into new EITC claims, consider the case of the Making Work Pay (MWP) tax credit. In 2008, Congress created the temporary Making Work Pay (MWP) credit, which provided a one-time benefit of \$300-\$600 to individual taxpayers (\$600-\$1200 for married couples). A recent study documents that eligibility for the credit resulted in an increase in the filing rate among persistent non-filers.<sup>92</sup> Consistent with the predictions described above, the study found that the increase in filing was also associated with a positive and statistically significant increase in EITC take-up – almost 50 percent of the persistent non-filers induced by the MWP credit to file a tax return claimed the EITC on that return.<sup>93</sup> Thus although the MWP credit was not designed with the EITC in mind, a side effect of its creation was causing more EITC-eligible taxpayers to file a return, resulting in a higher EITC claims rate.

In addition to the creation of substantive tax benefits like MWP, changes in tax administration can also shape the desirability of filing a return, and hence the rate of EITC take-up. To illustrate, consider the introduction of electronic filing programs during the 1980s and 1990s. With electronic filing, taxpayers could have their returns processed in a shorter period of time, resulting in a quicker refund. In addition, electronic filing allowed tax preparers to offer profitable services such as refund anticipation loans to

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<sup>91</sup> At the federal level, taxpayers whose income exceed the standard deduction and personal exemption are required to file a return, but monetary penalties for failing to file apply only to those non-filers who owe a balance due. I.R.C. § 6651. The same is true in many (but not all) states. Consistent with the hypothesis that the filing requirement affects EITC take-up, Blumenthal et al., *supra* at \_\_, finds that filing rates among EITC-eligible households are over 50 percentage points higher above the filing threshold than below it.

<sup>92</sup> Shanthi Ramnath & Patricia Tong, *The Persistent Reduction in Poverty from Filing a Tax Return*, 9 AMERICAN ECONOMIC JOURNAL: ECONOMIC POLICY 367 (2017).

<sup>93</sup> *Id.*, at Online Appendix Table A4.

taxpayers. Aggressive marketing by taxpayers, in conjunction with shortening the delay between tax filing and receiving one's refund, could be expected to increase the perceived benefit to taxpayers to filing a return – and hence, EITC take-up. Consistent with this hypothesis, one study found that the introduction of state electronic filing programs during the 1990s was associated with an increase in electronic filing by taxpayers, and that the majority of the new electronic filers claimed the EITC.<sup>94</sup>

Finally, it is important to keep in mind that just as some reforms would raise EITC take-up by increasing the benefits to filing, reforms that limit the incentive to file are likely to have the opposite effect. For example, recently enacted tax legislation would, by raising the standard deduction, significantly raise the income threshold at which one is required to file a tax return. Because this reform would reduce the legal obligation for many individuals to file it is likely that many of those with incomes below the new filing threshold will choose not to file. And because many current EITC recipients have incomes in this range, it is likely that a reform along these lines would have the effect of depressing EITC take-up. Of course, raising the filing threshold would have other beneficial effects, such as saving some taxpayers the time and effort of filing.<sup>95</sup> But for those who do continue to file in order to claim the EITC or other tax credits, these simplification benefits will not materialize.

## 2. Reducing the Real or Perceived Costs of Filing

In addition to raising the benefits of filing, policies that reduce the cost of filing are likely to raise EITC take-up. One obvious cost of filing is the monetary cost associated with use of an APM, so policies that would tend to lower that cost could raise the filing rate. For example, policies that promote competition in the tax preparation market, such as reducing barriers to entry or regulating advertising, are likely to lower prices. Conversely, policies that reduce competition, such as the government approving the merger of large tax preparation firms, would tend to raise prices and hence reduce filing. Regulations that impose additional burdens on tax preparation firms, such as imposing preparer education or training requirements or adding mandatory

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<sup>94</sup> Wojciech Kopczuk & Cristian Pop-Eleches, *Electronic Filing, Tax Preparers and Participation in the Earned Income Tax Credit*, 91 J. PUBLIC ECON. 1351 (2007).

Conceivably, the increase in electronic filing and EITC claims that the authors document could come from people who would otherwise have filed by paper, or from people who would otherwise failed to file at all. The authors speculate that their observed effect is driven by the latter group, consistent with the link between filing and EITC take-up discussed here.

<sup>95</sup> If individuals were perfectly rational in their decisions about whether or not to file, a policy that lowers the cost to not filing could only be beneficial. However, to the extent that individuals over-weight the costs of filing relative to the benefits, such policies could reduce welfare by increasing the number of taxpayers who (sub-optimally) choose not to file a return.

forms for them to fill out, are likely to reduce filing rates to the extent the costs of complying with these requirements are passed on to taxpayers.<sup>96</sup>

Another type of policy that can affect the cost of APMs are tax credits or deductions for the cost of such services. Until recently, taxpayers could deduct their tax preparation fees on the subsequent year's tax return (although the fact that this benefit was limited to taxpayers who itemized their deductions limited its importance to most of those who would qualify for the EITC). A tax credit for APM costs, especially one that was refundable, would more effectively reduce the cost of filing for EITC-eligible non-filers.<sup>97</sup> On the other hand, policies that subsidize the use of APMs would likely entail significant revenue costs and could induce preparers or software companies to raise their prices.

As with policies that affect filing by raising the perceived benefit, so too can policies affect filing by altering the perceived rather than the actual costs of APMs. One way to accomplish this goal is to increase awareness of free methods of tax preparation. As described above, the majority of taxpayers qualify for free in-person assistance at a VITA or TCE site, and free online software preparation through the Free-File program. Take-up rates for both of these programs is quite low, suggesting that raising awareness of them among non-filers may lead to increased utilization of the program, and hence filing. In a related vein, policies that expand the number of VITA/TCE sites or expand their capacity would also allow more taxpayers to use their services, reducing the cost of filing.

Finally, apart from the monetary costs of filing, policies that reduce the hassle or effort required to file a return can also increase the filing rate. As described above, although an APM reduces certain types of complexity associated with filing a return, it does not eliminate the informational complexity of a return; taxpayers must still keep track of and supply the information upon which benefit amounts and tax liability depend. And although (as discussed above) much of the information required by the EITC is also required by other parts of one's tax return, the fact that this information is required at all contributes to the overall informational complexity associated with filing the tax return. Hence, policies that reduce the informational complexity of filing a return can raise the filing rate, and hence EITC take-up.

Policies might reduce the informational complexity of filing a return in at least two ways. First, reforms might narrow the information upon which one's tax liability or benefit amount could potentially depend. Such changes often require changing the substantive tax laws, and treating alike two

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<sup>96</sup> Of course, the extent to which such regulations would actually translate into higher prices for consumers is an empirical question, and one that has been hotly debated. For a discussion of the issue, see Jay A. Soled & Kathleen Delaney Thomas, *Regulating Tax Return Preparation*, 58 Boston College L. Rev. 151, 188-190 (2017).

<sup>97</sup> Francine J. Lipman, *The Working Poor Are Paying for Government Benefits: Fixing the Hole in the Anti-Poverty Purse*, WISCONSIN LAW REVIEW 461 (2003).

situations that were previously treated as distinct.<sup>98</sup> For example, a change in the rules for claiming a dependent that eliminated the support test for dependents would reduce the informational complexity of filing but would change the taxpayers who benefited from the provision.

A second way that reforms might reduce the informational complexity of filing would be to leave the existing informational requirements of the tax code in place, but make changes that reduce the costs of providing that information on the return. Such changes might include automatically pre-populating the tax return using the taxpayer's data from prior years or automatically importing the data from information returns, as some software companies are beginning to do. A more radical change from current policy would be for prepopulated returns to be sent directly to the taxpayer already filled out, so that all that would be required would be the taxpayer's verification of the information reported on it.<sup>99</sup> Such policies would likely raise the filing rate substantially for EITC-eligible taxpayers who would receive a refund from filing, but would require either expanded information collection efforts, changes to simplify the laws on which the benefits depend, or could only include a limited set of information.

*B. Efforts to Raise EITC Awareness Are Unlikely to Increase Take-Up Unless They Increase Filing*

As described above, the dominant approach today to increasing EITC take-up is efforts to raise awareness of the credit. Nonprofit organizations and governments frequently sponsor EITC awareness campaigns and outreach events to raise awareness of the credit. Each year near the start of filing season, the IRS and a team of nonprofits promote EITC Awareness Day.<sup>100</sup> A number of state governments have enacted expansive legislation requiring employers to notify their employees about the EITC's existence; today, approximately 46 million employees (about 29% of the US employee workforce) fall under the ambit of these laws.<sup>101</sup>

Despite the prevalence of EITC awareness efforts, the theory of tax benefit complexity described above suggests a limited potential for such efforts to be successful at raising take-up. Mechanically, interventions that raise awareness can affect take-up through two channels: (1) by raising take-

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<sup>98</sup> For models of complexity along such lines, see, e.g., Louis Kaplow, *A Model of the Optimal Complexity of Legal Rules*, 11 J. L. ECON. ORG. 150 (1995); Henrik Kleven & Wojciech Kopczuk, *Transfer Program Complexity and the Take-Up of Social Benefits*, 3 AM. ECON. J: ECON. POL 54 (2011).

<sup>99</sup> See Joseph Bankman, *Using Technology to Simplify Individual Tax Filing*, 61 National Tax Journal 773 (2008); Austan Goolsbee, *The 'Simple Return': Reducing America's Tax Burden Through Return-Free Filing*, BROOKINGS DISCUSSION PAPER 2006-04 (2006).

<sup>100</sup> See IRS, *EITC Awareness Day*, online at <https://www.eitc.irs.gov/partner-toolkit/eitc-awareness-day/eitc-awareness-day-2> (accessed Dec. 2017).

<sup>101</sup> Cranor & Goldin (2017), *supra* note \_.

up among current filers who would otherwise fail to claim the credit, or (2) by increasing the number of EITC-eligible individuals who file a return.

With respect to the first channel, there are several barriers to increased awareness raising take-up. First, as discussed above, most of the taxpayers using an APM to prepare their return are already receiving the EITC if they are eligible to do so. Hence, there is relatively little scope for increases in take-up among taxpayers in this group. Relatedly, taxpayers using an APM do not need to be aware of a benefit in order to claim it; they can simply provide the information solicited by the APM, and will be automatically assigned the benefit based on their answers. Finally, even among non-APM filers, increasing awareness of the credit can only increase take-up if the taxpayer remembers the existence of the credit when filling out his or her return; this is perhaps unlikely given that the taxpayer in question has missed the other prompts on the return regarding the EITC, such as the references to it in the instructions. To the extent that a taxpayer has missed these other prompts, it seems unlikely that a reminder about the credit's existence that is temporally removed from the filing process itself would cause the taxpayer to claim it.

Turning to the second channel through which awareness campaigns can increase take-up, it is theoretically possible that such campaigns could induce EITC-eligible non-filers to file a return by raising their perceived benefits from filing a return, as discussed above. However, there are a number of reasons to expect such effects to be small in magnitude.

First, what matters to taxpayers is not only the availability of the credit, but the overall amount of the refund. Some taxpayers might expect to qualify for a positive amount of EITC, but nonetheless owe a net balance due upon filing their return. This could be because they owe back taxes, child support, or did not withhold enough of their wages during the year. Awareness of the EITC might not affect the taxpayer's (potentially accurate) assessment in this regard.

Second, even if presented with information about the EITC's existence, it is difficult for would-be filers to predict whether they would be eligible for the credit and how much benefit they would receive if they were to file. This difficulty is a direct result of the EITC's computational complexity; the prevalence of APMs reduces the importance of such complexity during the return preparation process, but such complexity remains important in people's ability to predict how much their benefit would be if they were to file. Documents like the federal Notice 797 (see Appendix) that attempt to increase awareness about one's potential EITC benefits are likely too complicated for many recipients to digest. The less certainty an awareness campaign is able to provide a would-be filer about his or her potential EITC benefit, the less motivational force there is to file.

Although I have argued from a theoretical perspective that awareness campaigns are unlikely to significantly raise EITC take-up, the question is ultimately an empirical one, and different awareness campaigns can have

more or less success, depending on the context and the target audience. Two recent empirical papers shed light on this question.

The first such paper is Cranor and Goldin (2017), which studies the effect on EITC take-up of the mandated employer notification laws described earlier in this section, drawing on variation in the year that the laws were adopted. The paper finds evidence against the hypothesis that the adoption of the laws was associated with an economically significant increase in the filing rate in the jurisdictions adopting them. And, consistent with the theory described here, that lack of an increase in filing rates translated into a lack of increase in EITC claims.

The second recent paper that provides evidence on the effect of EITC awareness on take-up is Guyton et al. (2016), which reports evidence from an IRS field experiment.<sup>102</sup> The experimental intervention consisted of sending either a postcard or a brochure with information about the EITC to prior-year non-filers who were likely to be eligible for the credit. The authors observed a small but statistically significant increase in filing caused by the informational treatment, and a corresponding increase in EITC claims. Consistent with the theory described here, the increase in EITC was driven by an increase in the filing rate rather than a change in the fraction of those filing a return who claimed the credit.<sup>103</sup> Given that the study population was carefully selected to consist of non-filers and those likely to be EITC eligible, the magnitude of the observed effects likely represent an upper bound on the effectiveness of informational interventions like those tested here. In contrast, generalized outreach campaigns or employee notification laws cannot be so easily targeted; many of the recipients are likely to be current filers who are already claiming the EITC or who are ineligible to do so.

### *C. Promoting APM Usage Among Non-APM Filers*

The final approach I will consider here for raising EITC take-up based on the theory described above are efforts to switch non-APM filers to APMs. Because using the APM reduces the computational complexity and need to be aware of the EITC when filing, some of the eligible non-claimers may begin claiming the credit if they were to alter their preparation method.<sup>104</sup>

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<sup>102</sup> John Guyton, Day Manoli, Brenda Schafer, and Michael Sebastiani, *Reminders & Recidivism: Evidence from Tax Filing & EITC Participation Among Low-Income Nonfilers*. Working Paper (2016).

<sup>103</sup> *Id.*

<sup>104</sup> One empirical finding consistent with this prediction is reported in Wojciech Kopczuk & Cristian Pop-Eleches, *Electronic filing, tax preparers and participation in the Earned Income Tax Credit*, 91 J. PUB. ECON. 1351 (2007), which finds that the introduction by states of electronic filing requirements was associated with an increase in both electronic filing rates and EITC claims. However, it is also possible that the increase in EITC claiming observed in that paper was driven by a shift from

On the one hand, policies along these lines are promising given that they require a smaller amount of behavior change to be successful; that is, they only require a change in preparation method, rather than a change in whether or not one files a return in the first place. On the other hand, the overall potential of such approaches is limited by the fact that such a high fraction of tax filers already uses an APM (over 96% in 2015, as described in Section III). That being said, the small fraction of non-APM filers still represents almost 6 million taxpayers. Hence, there are substantial potential gains from inducing taxpayers in this group to switch preparation methods, assuming they can be induced to do so in a cost-effective manner.

How might non-APM filers be convinced to switch to APM filing methods? Many of the interventions described in Section V.A will be effective here as well, such as policies that increase the salience of free preparation methods like VITA or Free-File or policies that reduce the cost of paid preparers or software. The more effective such policies are at increasing APM usage, the larger their likely effects will be on EITC take-up.

## V. CONCLUSION

Although my focus in this paper has been on how tax benefit complexity affects take-up of tax benefits, the framework developed here sheds light on other issues as well. First, one of the main arguments for administering social welfare benefits through the tax code is that they yield higher take-up rates than when administered on their own. To the extent that a benefit program relies on the same informational requirements as are already required to be reported on one's taxes, the program's informational complexity can be reduced by administering it through the tax code. Similarly, by administering the other benefit through the tax code, taxpayers who use an APM can avoid the other benefit's computational complexity.

Second, I have taken no stance on whether the growing use of APMs is net beneficial to society. In addition to their beneficial aspects I have focused on here, it is likely they obscure the link between a taxpayer's characteristics and his or her ultimate tax liability or refund, which might undermine the extent to which taxpayers hold Congress accountable for poorly designed tax policies.<sup>105</sup> In addition, the fees associated with the use of APMs can undermine the ability of tax benefits to redistribute resources to the poor.

Finally, I have assumed throughout this paper that increasing the take-up of tax benefits is a worthy social goal. However, to the extent that tax benefit complexity screens out those who need the benefit least, incomplete take-up could actually be desirable. Evaluating the level of benefit take-up that is

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non-filers to filers, or a change in tax preparer behavior that drove more aggressive claiming of the EITC.

<sup>105</sup> Lawrence A. Zelenak, *Complex Tax Legislation in the TurboTax Era*, 1 *Columbia Journal of Tax Law* 91 (2010).

optimal depends on which individuals the complexity is screening out; there is little reason to believe that the EITC's complexity is channeling the benefit to those who need it most.<sup>106</sup>

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<sup>106</sup> See, e.g., Saurabh Bhargava & Dayand Manoli, *Psychological Frictions and the Incomplete Take-Up of Social Benefits: Evidence from an IRS Field Experiment*, 105 AM. ECON. REV. 3516-17 (2015) (finding that complex EITC reminder notices reduce take-up by at least as much among those with high potential benefits and low earnings as among those with low potential benefits and relatively higher earnings).

Appendix: IRS Notice 797



Department of the Treasury  
Internal Revenue Service

Notice 797

(Rev. December 2015)

**Possible Federal Tax Refund Due to the  
Earned Income Credit (EIC)**

**What Is the EIC?**

The EIC is a refundable tax credit for certain workers.

**Who May Claim the EIC?**

You may be able to claim the EIC for 2015 if you worked and all four of the following conditions apply.

1. You (and your spouse, if filing a joint return) have a valid social security number (SSN) issued by the Social Security Administration. For more information on valid SSNs, see Pub. 596, Earned Income Credit (EIC).

2. Your 2015 earned income and adjusted gross income are both under \$39,131 (\$44,651 if married filing jointly) if you have one qualifying child; under \$44,454 (\$49,974 if married filing jointly) if you have two qualifying children; under \$47,747 (\$53,267 if married filing jointly) if you have three or more qualifying children; or under \$14,820 (\$20,330 if married filing jointly) if you don't have a qualifying child. For a definition of earned income, see the 2015 instructions for Form 1040, 1040A, or 1040EZ.

3. Your filing status on your 2015 tax return is any status except married filing a separate return.

4. You were not a qualifying child of another taxpayer in 2015.

If you **do not** have a qualifying child, you must also meet these conditions.

a. You, or your spouse if filing a joint return, were at least age 25 but under age 65 at the end of 2015. (You meet this condition if you, or your spouse if filing a joint return, were born after December 31, 1950, and before January 2, 1991.) If your spouse died in 2015, see Pub. 596.

b. You can't be claimed as a dependent on someone else's 2015 tax return.

c. Your home, and your spouse's if filing a joint return, was in the United States for over half of 2015. If you are in the military on extended active duty outside the United States, your home is considered to be in the United States during that duty period and you may be able to claim the EIC.

You **cannot** claim the EIC if any of the following conditions apply.

1. Your 2015 investment income (such as interest and dividends) is over \$3,400. See Pub. 596 for more information.

2. You file either Form 2555 or Form 2555-EZ (relating to foreign earned income).

3. You were a nonresident alien for any part of 2015 unless you were married to a U.S. citizen or resident and elected to be taxed as a resident alien for the entire year. See Pub. 519, U.S. Tax Guide for Aliens, for more information.

*(Continued on back)*

**Who Is a Qualifying Child?**

Any child who meets all four of the following conditions is a qualifying child.

1. The child is your son, daughter, stepchild, foster child, brother, sister, half brother, half sister, stepbrother, stepsister, or a descendant of any of them (for example, your grandchild, niece, or nephew). An adopted child is always treated as your own child. An adopted child includes a child lawfully placed with you for legal adoption. A foster child is any child placed with you by an authorized placement agency or by judgment, decree, or other order of any court of competent jurisdiction.

2. At the end of 2015, the child was under age 19 and younger than you (or your spouse, if filing jointly); or under age 24, a student, and younger than you (or your spouse, if filing jointly); or any age and permanently and totally disabled.

3. The child lived with you in the United States for over half of 2015. If the child didn't live with you for the required time, there are exceptions if the child was born or died during the year, the child is presumed to have been kidnapped by someone who is not a family member, or there was a temporary absence.

4. The child does not file a joint income tax return for 2015.

There are additional rules if a child is married or is the qualifying child of more than one person. For details, see the 2015 instructions for Form 1040, 1040A, or 1040EZ.

**How Do You Claim the EIC?**

If you are eligible, claim the EIC on your 2015 income tax return. If you have a qualifying child, you must also fill in Schedule EIC and attach it to your Form 1040 or Form 1040A.

If eligible, you can claim the EIC to get a refund even if you have no tax withheld from your pay or owe no tax. For example, if you had no tax withheld in 2015 and owe no tax but are eligible for a credit of \$800, you must file a 2015 income tax return to get the \$800 refund.

**More Information**

This notice provides the basic requirements to qualify for the EIC. Refer to the instructions for Form 1040, 1040A, or 1040EZ; Pub. 596; or [www.irs.gov/eitc](http://www.irs.gov/eitc) for details. You can get IRS forms and publications at [IRS.gov](http://IRS.gov) or by calling 1-800-829-3676.

Notice 797 (Rev. 12-2015)