

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

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ABSTRACT

Millions of low-income Americans fail to claim tax benefits for which they are eligible, possibly because the rules governing the benefits are extraordinarily complex. I consider efforts to increase tax benefit take-up in light of this complexity. A key fact is that the vast majority of tax filers today prepare their taxes with assisted preparation methods (APMs) like software or professional assistance. APMs eliminate some – but not all – of the barriers to claiming tax benefits for which one is eligible. With respect to claiming the Earned Income Tax Credit (EITC), I argue that most of the relevant complexity is the type that is eliminated by APMs. Consequently, efforts to increase EITC take-up should focus on inducing EITC-eligible individuals to file a tax return using an APM. In contrast, efforts aimed at increasing awareness of the credit (of the type widely employed by governments and nonprofits today) are less likely to be successful, except to the extent they themselves induce an increase in tax filing. Reforms that appear unrelated to a tax benefit may dramatically affect the benefit's take-up by altering incentives to file a return. I develop 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 low-income tax benefits like the Earned Income Tax Credit (EITC) and the Child Tax Credit 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.¹ 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.²

¹ See Section III.B, *infra*.

² See Section I.C, *infra*.

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.³ The complexity of the EITC’s rules is one of the leading explanations for why there are so many EITC-eligible non-claimants.⁴

To study tax benefit complexity and take-up in light of the prevalence of APMs, I distinguish between two types of complexity that can prevent a taxpayer from claiming a benefit for which she is eligible. A benefit’s *informational complexity* refers to the difficulty of obtaining the informational inputs that determine a taxpayer’s eligibility for the benefit, and, if eligible, the benefit amount. In turn, a benefit’s *computational complexity* refers to the difficulty a taxpayer faces in determining eligibility and benefit amount, on the basis of the required information.⁵ 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. And because the vast majority of tax filers do use an APM to prepare their taxes, in practice there is a tight link between the filing of a tax return and the claiming of the EITC if one is eligible.

I use this insight to draw lessons for policy efforts to increase EITC take-up.⁶ The most important takeaway is that in the modern world of APMs, the key determinant of whether a person

³ See Section I.B, *infra*.

⁴ For example, the National Taxpayer Advocate writes, “The law related to EITC eligibility is complex. At the same time, the EITC is directed toward a population of taxpayers who are least able to navigate its complexity.” National Taxpayer Advocate, *Annual Report to Congress* 246 (2015).

⁵ I borrow the term computational complexity from Lawrence A. Zelenak, *Complex Tax Legislation in the TurboTax Era*, 1 Columbia Journal of Tax Law 91 (2010).

⁶ Throughout, I assume that increasing the take-up of tax benefits is a worthy social goal. To the extent that eligibility for the tax benefit cannot be perfectly conditioned on need (i.e., to the extent substantive eligibility for the benefit is overbroad), incomplete take-up could actually be desirable. In that case, the optimal degree of complexity depends on which individuals the complexity is screening out. See Henrik Kleven & Wojciech Kopczuk, *Transfer Program*

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 doing so is entirely unrelated to, or opposite from, the policy’s intended consequences. For example, by significantly increasing the income threshold at which taxpayers are legally required to file a return,⁷ the recently enacted Tax Cuts and Jobs Act (TCJA) may end up reducing the filing rate among those who are eligible for the EITC, and hence take-up of the credit.

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 if they qualify for it – even if the individual never becomes aware of the credit’s existence. Because so few taxpayers prepare their

Complexity and the Take-Up of Social Benefits, 3 AM. ECON. J: ECON. POL 54 (2011). In the context of the EITC, however, there is little reason to believe that the EITC’s complexity is channeling the benefit to those who need it most. Indeed, it seems more likely that the opposite would be true. 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).

⁷ Public Law 115-97, Sections 11021 and 11041(e).

taxes without an APM, the scope for awareness efforts to raise take-up among current filers is limited.

Understanding the link between complexity and take-up 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.⁸ Most important among these benefits is the EITC, which provides an average credit of about \$2500 to over 25 million households each year.⁹ Other refundable tax credits also provide important support to low-income taxpayers, such as the 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.¹⁰ While my focus in this article is primarily on the EITC, the rise of APMs also has lessons for the take-up of other tax benefits, depending on the benefit's mix between informational and computational complexity.

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.¹¹ To the extent that the complexity of a tax benefit obscures the

⁸ See, e.g., Christopher Howard, *The Hidden Welfare State: Tax Expenditures and Social Policy in the United States*, Princeton University Press (1997); Susannah Tahk, *Everything is Tax: Evaluating the Structural Transformation of U.S. Policymaking*, 50 HARVARD JOURNAL ON LEGISLATION 67 (2013).

⁹ IRS, *About EITC*, online at <https://www.eitc.irs.gov/eitc-central/about-eitc/about-eitc> (accessed Dec. 2017).

¹⁰ See generally Internal Revenue Code sections 24 and 36B.

¹¹ 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 so on.” David F. Bradford, *Untangling the Income Tax* (1999), 266-7. I 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

incentives the benefit creates, it can mute taxpayers' behavioral responses to it and make tax planning more costly.¹² 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 the tax's effect on other aspects of behavior, such as tax planning. The desirability of such behavioral 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 reduce social welfare – i.e. when behavioral change represents deadweight loss – benefit complexity can be efficient.¹³ Such issues are important to consider when

because most of the interpretive ambiguities in the rules that apply to taxpayers in the EITC context have been resolved.

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).

¹² 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).

¹³ To illustrate this dynamic in the EITC context, raising awareness of the credit could strengthen the effectiveness of the credit's intended 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, *Scheduling*, Working Paper (October 2004); Brian Galle, *Hidden Taxes*, 87 Wash. U. L. Rev. (2005); 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).

evaluating policy reforms that would affect the complexity of a tax benefit, but are not directly related to my focus here.

The remainder of the article proceeds as follows. Section I provides 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 policy efforts to raise EITC take-up. Section V concludes.

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 take-up is measured and on current policy efforts to raise the take-up rate.

Design of the EITC

The EITC is a refundable tax credit for low-income, working taxpayers.¹⁴ Over 27 million households received the EITC during 2016 – representing 20 percent of all taxpayers and 44 percent of taxpayers with children.¹⁵ 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

¹⁴ Internal Revenue Code Section 32.

¹⁵ IRS Statistics of Income, SOI Tax Statistics Publication 1304 for Tax Year 2015, 120, 123-30 (2017).

with three or more qualifying children.¹⁶ It is estimated that without the EITC, the number of children growing up in poverty would be 25 percent greater than it is today.¹⁷

Eligibility for the credit depends on a taxpayer's income and the number of EITC qualifying children the taxpayer claims.¹⁸ 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.¹⁹ Earned income primarily captures compensation for employment and net earnings from self-employment.²⁰ 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.²¹ In this sense, the EITC induces negative marginal tax rates, with tax liability declining with each additional dollar 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.²² 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.²³

¹⁶ These dollar amounts correspond to tax year 2016. Rev. Proc. 2015-53.

¹⁷ 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 (2016).

¹⁸ I.R.C. § 32(b).

¹⁹ I.R.C. § 32(a)(1).

²⁰ I.R.C. § 32(c)(2).

²¹ I.R.C. § 32(a), (b).

²² I.R.C. § 32(b)(2).

²³ 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).

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.²⁴ 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.²⁵ 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.²⁶

Both the income limits that govern EITC eligibility as well as the EITC schedules that govern benefit amount depends on the number of EITC qualifying children a taxpayer claims.²⁷ 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.²⁸ Second, the individual must satisfy a residency test: he or she must live with the taxpayer for more than half of the tax year.²⁹ Third, the individual must satisfy a

²⁴ 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.

²⁵ I.R.C. § 32(a)(2)(B).

²⁶ I.R.C. § 32(i).

²⁷ I.R.C. § 32(b).

²⁸ I.R.C. §§ 32(e)(3); 152(c)(1)(C).

²⁹ I.R.C. §§ 32(e)(3); 152(c)(1)(B).

relationship test: he or she must be the taxpayer's child, grandchild, sibling, niece, or nephew.³⁰

Finally, note that unlike other child-related benefits in the tax code, an individual is not required to provide less than half of his or her own support to be a qualifying child for purposes of the EITC.³¹

If two or more taxpayers would be eligible to claim the child, a series of tiebreaker rules come into play to determine whose qualifying child the individual is. Most significantly, the tiebreaker rules prioritize the claims of parents over non-parents.³² As between multiple claimants who are each a parent, priority is determined first, based on the duration of residence with the child during the tax year and second, based on the taxpayer's income.³³ For multiple non-parents claiming a child, priority depends only on income.³⁴ Even when a parent opts not to claim a child, another taxpayer may claim the child only when his or her income exceeds the income of the parent.³⁵

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.³⁶ 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.³⁷ Second, the taxpayer must not be a dependent of a different taxpayer.³⁸ Third, the taxpayer must be between the ages of 25 and 65 during the entire year for which the credit is claimed.³⁹

³⁰ I.R.C. §§ 32(e)(3); 152(c)(1)(A).

³¹ I.R.C. § 32(e)(3)(A).

³² I.R.C. § 152(c)(4)(A)(i).

³³ I.R.C. § 152(c)(4)(B).

³⁴ I.R.C. § 152(c)(4)(A)(ii).

³⁵ I.R.C. § 152(c)(4)(C).

³⁶ I.R.C. § 32(b).

³⁷ I.R.C. § 32(c)(1)(A)(ii)(I).

³⁸ I.R.C. § 32(c)(1)(A)(ii)(III).

³⁹ I.R.C. § 32(c)(1)(A)(ii)(II).

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.⁴⁰ 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.⁴¹ Third, the taxpayer must be either a U.S. citizen or U.S. resident alien.⁴² Fourth, the taxpayer must either be single, or, if married, must file a joint return with his or her spouse.⁴³ 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.⁴⁴

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 if eligible taxpayers fail to claim the EITC, this could indicate that at least some individuals are not aware of the pro-work incentives the credit creates, and hence, work less than they would if they were to take the credit's incentives into account.

⁴⁰ I.R.C. § 32(c)(1)(B).

⁴¹ I.R.C. § 32(k).

⁴² I.R.C. § 32(c)(1)(D).

⁴³ I.R.C. § 32(d).

⁴⁴ I.R.C. § 32(c)(1)(E), (c)(3)(D), (m).

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 benefits administered through the tax system, like the Child Tax Credit.⁴⁵

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 perceived hassle or effort required to sign

⁴⁵ 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, and the ability for hospitals in some states to enroll patients in Medicaid/CHIP coverage upon need, see CMS, *Presumptive Eligibility for Medicaid and CHIP Coverage*, online at <https://www.medicaid.gov/medicaid/outreach-and-enrollment/presumptive-eligibility/index.html>.

Finally, EITC take-up is still estimated to exceed take-up of WIC, TANF, and the CTC, although as with the other comparisons, there are differences in the methodologies used for estimation. 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% WIC participation in 2014); Stacy Dickert-Conlin, Katie Fitzpatrick, and Andrew Hanson, *Utilization of Income Tax Credits by Low-Income Individuals*, 58 NATIONAL TAX JOURNAL 743 (2005) (describing higher utilization of EITC compared to CTC and TANF).

up, or lack of awareness that the benefit exists.⁴⁶ When an individual's failure to claim a tax benefit reflects an accurate 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.⁴⁷

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.⁴⁸ 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,

⁴⁶ See Janet Currie, *The Take-Up of Social Benefits* (2006).

⁴⁷ 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 behavioral frictions, policies that raise participation make the new participants better off by a more substantial amount (where the size of the welfare gain 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 (2018).

⁴⁸ 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. In the discussion below, I use "household" to refer to the tax-filing unit.

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 a taxpayer who is 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 Survey, and the American Communities Survey.⁴⁹ 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.⁵⁰ 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 in the survey is then extrapolated to estimate the number of EITC-eligible households in the U.S. population (which provides the denominator in the EITC take-up rate).⁵¹

Once the set of EITC-eligible households has been identified, the next step in measuring EITC take-up is determining which of those households actually received the credit. Simply counting the total number of households in the U.S. population that claimed the EITC on their tax returns does not answer this question, since some of the households that claim the credit are not

⁴⁹ See U.S. Census, *Annual Social and Economic Supplement (ASEC) of the Current Population Survey (CPS)*, online at <https://www.census.gov/programs-surveys/saipe/guidance/model-input-data/cpsasec.html>, and U.S. Census, *American Community Survey (ACS)*, online at <https://www.census.gov/programs-surveys/acs>.

⁵⁰ Id.

⁵¹ 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).

actually eligible to do so. A different approach would be to survey the EITC-eligible households identified from the survey 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.⁵²

Researchers have gotten around the problems described in the prior paragraph by directly 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 households that were identified as eligible by the survey that actually claimed the credit.⁵³

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

⁵² See, e.g., Dickert-Conlin et al, *supra*, at 746.

⁵³ 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.

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.

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%.⁵⁴ In absolute terms, this estimate implies that of the approximately 24 million households ~~individuals~~ who are eligible to claim the EITC, almost 5 million fail to do so.⁵⁵ Thus although the clear majority of those who are eligible to claim the EITC appear to 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%.⁵⁶ 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. The average credit amount that EITC-eligible non-claimants would receive if they were to file is approximately \$1,554.⁵⁷

⁵⁴ 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).

⁵⁵ *Id.*

⁵⁶ IRS, TY2013 IRS-CPS ASEC Exact Match (2013).

⁵⁷ This figure is calculated based on four reported quantities for tax year 2014 referenced above: the estimated EITC household take-up rate, EITC dollar take-up rate, the total estimated households eligible for the EITC, and the average EITC dollar amount among all claimants. Ideally, the last of these quantities should be calculated based on the average EITC dollar amount among eligible claimants, but to my knowledge that figure is not available.

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.⁵⁸ In addition, take-up rates appear similar by race among White, Black, and Asian households, but appear substantially lower among American Indians.⁵⁹ Finally, households with no EITC-qualifying children are much less likely to claim the credit than are households that do have EITC-qualifying children.⁶⁰ Consistent with the evidence cited above, this last fact may be partially explained by the fact that the typical EITC benefit is much smaller for households without any qualifying children.

For purposes of assessing barriers to take-up, it is helpful to divide EITC-eligible non-claimants into two categories: those who file a tax return (but fail to claim the EITC) and those who do not file a tax return at all. Overall, almost two-thirds (64%) of EITC-eligible non-claimants are non-filers.⁶¹ Because one must file a tax return in order to claim the EITC, the take-up rate among non-filers is, by definition, zero. Among those who do file a tax return, in contrast, the take-up rate is 91.5%.⁶² These raw statistics foreshadow the policy conclusions in Section IV relating to the importance of inducing EITC-eligible taxpayers to file a return.

Finally, it is important to note that some degree of EITC non-participation is probably intentional. 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

⁵⁸ The take-up rate is 89% for households headed by taxpayers under the age of 25 compared to 73% for those headed by taxpayers over the age of 55. *Id.*, Table 4.

⁵⁹ *Id.* The reported take-up rates by race are 79% (White), 82% (Black), 82% (Asian), 71% (American Indian), and 82% (Other categories). For an interesting discussion of the omission of race in most analyses of tax policy, see Jeremy Bearer-Friend, *Should the IRS Know Your Race? The Challenge of Colorblind Tax Data*, 73 Tax Law Review (forthcoming).

⁶⁰ 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.

⁶¹ *Id.*, Table 6.

⁶² *Id.*, Table 5.

qualifying children (whether or not the other taxpayer is legally eligible to do so).⁶³ Other filers may prefer not to claim the credit due to the higher audit risk faced by EITC claimants as compared to other taxpayers, or a desire to avoid drawing attention to a legally ambiguous immigration status of themselves or a family member. For EITC-eligible non-filers, the decision not to file might be due to a (possibly accurate) perception that even with the EITC, filing a return would still result in a net balance due to the IRS (especially after taking tax preparation fees into account). Alternatively, a non-filer might expect to receive a net refund, but still choose not to file based on a belief that the refund will be diverted to an offset program to cover a liability like back taxes, child support, or student loans.⁶⁴

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. Both governments and non-profits devote substantial resources to awareness campaigns designed to increase take-up of the credit.⁶⁵ These campaigns involve flyers and direct mailings with

⁶⁴ When EITC non-participation is mostly voluntary, there is a typically weaker normative case for efforts to raise take-up. And, as discussed in Section 4, below, the set of policies that are effective at raising take-up is likely quite different when non-participation is intentional.

⁶⁵ See, e.g., Minneapolis Fed, *Expanding the success of the Earned Income Tax Credit* (2008) (summarizing efforts to increase EITC take-up by some non-profits); National Conference of State Legislatures, *Tax Credits for Working Families: Earned Income Tax Credit* (2018) (describing examples of EITC outreach efforts by states and non-profit organizations). For some specific examples, see Bhargava & Manoli, *infra* (reporting that Congress appropriated \$716 million in 1997 over five years for EITC outreach and enforcement); State of California-Health and Human Services Agency, *Notice of Funding Availability (NOFA) California Earned Income Tax Credit Education and Outreach Grant* (2017) (allocating \$2 million towards EITC education and outreach); Maryland Center on Economic Policy, *Maryland CASH Campaign 1099-G Flyer Information* (describing program in which MD pays to include EITC flyers in information sent to unemployment recipients).

information about the EITC distributed throughout low income communities, social media communications, and even “street teams” organized to canvass low-income neighborhoods to spread EITC awareness.⁶⁶ For example, each year the IRS and a team of nonprofits promote EITC Awareness Day near the start of filing season.⁶⁷

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.⁶⁸ 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.⁶⁹ 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,

⁶⁶ See, e.g., City of Philadelphia, Department of Revenue. Earned Income Tax Credit for Philadelphians, Report for Tax Year 2015 (July 2016).

⁶⁷ See IRS, *EITC Awareness Day*, online at <https://www.eitc.irs.gov/partner-toolkit/eitc-awareness-day/eitc-awareness-day-2> (accessed Dec. 2017).

⁶⁸ 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.

⁶⁹ See MD Code § 10-913 (Maryland); NJSA 54A:7-2 (New Jersey); CA Revenue and Taxation Code §19853 (California); 820 ILCS 170/15 (Illinois); Texas Labor Code Chapter 104 (Texas); LA R.S. 23:1018.2 (Louisiana); VA Code Ann. § 40.1-28.7:3 (Virginia); Philadelphia Code, Chapter 19-4000 (Philadelphia).

or something close to it. Two additional states (Louisiana and Virginia) require employers to post notices regarding EITC in locations visible to their employees.⁷⁰ Considering just these state- and city-level requirements, approximately 46 million employees are required to receive EITC-related information from their employers each year.⁷¹

Tax Benefit Complexity

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 hurdle: (1) obtaining the required informational inputs on which the benefit depends, and (2) determining eligibility and benefit amount based on the required information. I describe both forms of complexity in general terms and in the context of the EITC. Distinguishing between the two types of complexity is useful here because, as I argue below, only one of the two is significantly alleviated by the use of APMs.⁷²

To frame the discussion that follows, one can think of a tax benefit as a function that maps certain information related to a taxpayer to a benefit amount. That is, the “inputs” to the function are all of the pieces of information upon which benefit eligibility and benefit amount could possibly 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

⁷⁰ 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).

⁷¹ Cranor & Goldin, *supra* note 70.

⁷² My focus in this article is on the role of informational and computational complexity in benefit claiming. Conceptually, it is useful to distinguish such complexity in the filing process – “filing complexity” – from complexity in the process by which taxpayers adjust their behavior in response to the tax – “planning complexity.” The EITC’s informational and computational complexity are relevant to planning complexity as well, as I discuss below.

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.

Informational Complexity

The first form of complexity I consider is *informational complexity*, which refers to the difficulty in acquiring the information upon which a tax benefit depends.⁷³ In this section I first discuss informational complexity in general terms and then apply the concept in the context of the EITC.

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 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 informational inputs is large. Conversely,

⁷³ To head off a potential source of confusion: as I use the term, informational complexity is not about whether some piece of information is difficult to comprehend. A tax benefit is informationally complex (in my usage) if the required informational inputs are easy to comprehend but difficult to obtain.

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.⁷⁴

A related point is that what matters for assessing how informational complexity shapes benefit take-up decisions is the difficulty in obtaining the information *at the time of filing*. For example, it might be reasonably easy to record one's charitable giving over the course of the year as the giving occurs, but relatively difficult to obtain information about one's giving after the fact, once the year has concluded (especially if some of the payments were in cash).⁷⁵ Along these lines, information reporting, such as annual income information reported by employers to employees on Form W-2, tends to reduce informational complexity by making it easier for the taxpayer to gather the required information about their behavior over the course of the year.

A third factor shaping a tax benefit's contribution to informational complexity is whether the information it requires is otherwise required elsewhere on the taxpayer's return. For instance, a tax credit requiring information about gross income would not contribute to informational complexity (above and beyond filing a tax return in the first place) because gross income must already be reported on the return to determine taxable income. In contrast, a tax benefit that requires more detailed income information than what is otherwise required (such as a breakdown

⁷⁴ 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).

⁷⁵ In an extreme case, in which it is quite easy for the taxpayer to record the required information contemporaneously but quite difficult to obtain the information after the fact, there may well be a stronger case for promoting benefit awareness, since learning about the benefit may motivate the taxpayer to keep track of the required information.

of whether the income is earned in a rural versus urban area) would add to the overall informational complexity associated with the return.

Finally, the manner in which a particular informational input 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 the eligibility of a taxpayer with higher income for the same credit might turn on the number of children the taxpayer 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 single benefit can vary between taxpayers.

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.⁷⁶ 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

⁷⁶ 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).

own support.⁷⁷ 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.⁷⁸ 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.⁷⁹ Thus, information about whether a child provides more than half of her own support is potentially relevant for determining one's EITC eligibility.⁸⁰

Table 1 presents a fairly complete 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, as described above, EITC qualifying children must generally be 18 or

⁷⁷ 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.

⁷⁸ I.R.C. § 32(c)(1)(A).

⁷⁹ I.R.C. § 32(c)(1)(B).

⁸⁰ The preceding example illustrates how the EITC's computational complexity can make it difficult to identify the full range of the EITC's informational inputs, but the reasoning is fairly straightforward. Assessing whether other information is potentially required necessitates more extreme mental gymnastics. Consider a related example, involving the question 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. 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 – need not 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.

younger during the year they are claimed, but a child up to the age of 23 can be claimed if she was 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.

Table 1: Informational Requirements of the EITC and Other Tax Provisions

<i>EITC-Required Information</i>	<i>Source of Requirement</i>	<i>Also Required for Determining:</i>		
		<i>Child Tax Credit</i>	<i>Dependent Exemption⁸¹</i>	<i>Taxable Income or Tax Liability</i>
<i>Information About Taxpayer</i>				
<i>Age</i>	§32(c)(1)(A)(ii)(II); §152(c)(3)(A)	X	X	X
<i>Marital status</i>	§32(b)(2)(B)	X		X
<i>Filing status</i>	§32(d)	X	X	X
<i>Months spent in U.S.</i>	§32(c)(1)(A)(ii)(I)			X
<i>Earned income</i>	§32(a)	X		X
<i>Adjusted gross income</i>	§32(a)(2)(B)	X	X	X
<i>Investment income</i>	§32(i)			X
<i>Subject to 2-year or 10-year EITC ban</i>	§32(k)			
<i>Nonresident alien status</i>	§32(c)(1)(D)			X
<i>Months as full-time student</i>	§32(c)(1)(B); §152(c)(3)(A)(ii)		X	X
<i>Disability status</i>	§32(c)(1)(B); §152(c)(3)(B)		X	X
<i>SSN valid for employment</i>	§32(m)			

⁸¹ Under the recently enacted TCJA, the dependent exemption is set to zero for tax years 2018-2025. Even for these years, however, the definition of a dependent remains in effect and continues to determine eligibility for related tax provisions such as the Child and Dependent Care Credit under § 21 and the exclusion for employer-provided childcare under § 129.

Information About

Qualifying Children

<i>Child's name</i>	§32(c)(3)(D)(i)	X	X
<i>Child's age</i>	§152(c)(3)(A)	X	X
<i>Child's SSN / TIN</i>	§32(c)(3)(D), (m)	X	X
<i>Relationship to taxpayer</i>	§152(c)(2)	X	X
<i>Length of residence with taxpayer</i>	§152(c)(1)(B)	X	X
<i>Whether child's SSN is valid for employment</i>	§32(c)(3)(D), (m)		
<i>Months as a full-time student</i>	§152(c)(3)(A)(ii)	X	X
<i>Disability status</i>	§152(c)(3)(B)	X	X
<i>Marital status</i>	§32(c)(3)(B)	X	X
<i>Country of principal abode</i>	§32(c)(3)(C)	X	X
<i>Whether child provides half of own support</i>	§32(c)(3)(B), §152(c)(1)(D)	X	X

Information About

Each Other

Taxpayer the Child

Lived with During

Year

<i>Duration of shared residence</i>	§152(c)(4)(B)(ii); §152(c)(1)(B)	X	X
<i>Relationship to other taxpayer</i>	§152(c)(4); §152(c)(2)	X	X
<i>Income of other taxpayer</i>	§152(c)(4)(A)(ii), (c)(4)(B)(ii), (c)(4)(C)	X	X
<i>Age of other taxpayer</i>	§152(c)(3); §152(c)(4)	X	X
<i>Whether other taxpayer is claiming child</i>	§152(c)(4)	X	X

Information About

Each Other

Taxpayer the

Taxpayer Lived with

During Year

<i>Duration of shared residence</i>	§32(c)(1)(B); §152(c)(1)(B)	X	X
<i>Relationship to other taxpayer</i>	§32(c)(1)(B); §152(c)(2)	X	X
<i>Age of other taxpayer</i>	§32(c)(1)(B); §152(c)(3)	X	X

Table 1 makes clear the large quantity of information that can potentially be relevant for determining 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.⁸²

Second, the EITC's *incremental* contribution to informational complexity is tempered by the fact that much of the information required by the EITC is also required by other provisions in the tax code.⁸³ 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 Child Tax Credit (CTC) and as the taxpayer's dependent.⁸⁴ 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.⁸⁵ Even the disaggregation of income into earned versus unearned income is relevant for

⁸² Admittedly, it could be that the quantity of potential informational requirements does contribute to incomplete take-up for the subset of taxpayers for whom more of the requirements are relevant, such as taxpayers with married children. Assessing the practical importance of this concern would be aided by more finely grained EITC participation statistics than are currently available (such as whether taxpayers who face fewer informational requirements claim the credit at higher rates). A piece of evidence suggesting variation in informational complexity is not the only factor driving incomplete take-up is that estimated participation rates are lowest for taxpayers without any qualifying children – a group that is not required to provide many of the most difficult pieces of information (such as information for resolving the tie-breaker tests). IRS, TY2013 IRS-CPS ASEC Exact Match (2013).

⁸³ As discussed below, even if an informational requirement does not contribute to the EITC's *incremental* informational complexity relative to other parts of the tax return, the existence of the informational requirement might nonetheless discourage some EITC-eligible individuals from filing a tax return at all. However, it is the credit's incremental contribution to informational complexity that is relevant for assessing whether the complexity constitutes a barrier to claiming the credit for APM-filers – the key step in the argument below.

⁸⁴ I.R.C. § 24(c)(1); § 151(c); § 152(c)(1)(C).

⁸⁵ See, e.g., I.R.C. § 7701(a)(30).

assessing the amount of one's CTC that is refundable.⁸⁶ Thus, among individuals who already plan to file a tax return, and especially among individuals who already plan to claim other child-related benefits, the informational requirements of the EITC are unlikely to significantly reduce take-up.⁸⁷

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. From the Table, 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 also 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 their informational inputs significantly reduces the EITC's incremental contribution to informational complexity, and hence the likelihood that informational complexity will prevent a filer from claiming the credit.

Turning to the EITC's informational inputs that relate to the taxpayer, here too much 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.⁸⁸ This overlap matters because taxpayers who can be

⁸⁶ 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.

⁸⁷ Whether a potential EITC-claimant would claim other child-related benefits absent the EITC is relevant here because taxpayers who would not otherwise provide the information for some other benefit will face the full burden of providing it if they claim the EITC 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.

⁸⁸ See generally I.R.C. § 152.

claimed as a dependent of another person are able to claim only a reduced standard deduction for themselves;⁸⁹ hence, this information would be required even absent its role in determining eligibility for the EITC.

The third factor mitigating the EITC's informational complexity is that most of the EITC's informational inputs are easy for taxpayers to obtain. This is apparent from reviewing the required information listed in Table 1. 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. Unlike, say, the charitable deduction, the EITC's informational inputs are straightforward to obtain at the time of filing even if the taxpayer did not put special effort into information-gathering over the course of the year.

To be sure, some of the EITC's informational requirements are not so straightforward. Some of the challenging informational inputs involve questions 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.⁹⁰ Depending on the circumstances, this type of information may be difficult for taxpayers to acquire.

Although the tie-breaker rules can result in significant informational complexity for some taxpayers, several factors mitigate the importance of informational complexity for take-up here as well. First, as with the EITC's other informational inputs, the information required by the tiebreaker tests is also required for other child-related tax benefits. This overlap makes it less likely that the informational complexity will deter taxpayers from claiming the EITC, since doing so would mean forgoing the other child tax benefits as well. Second, in many cases the required

⁸⁹ I.R.C. § 61(c)(5).

⁹⁰ I.R.C. § 152(c)(4)(C).

information will not be difficult to obtain because both potential claimants will try to claim the child, and but only one 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 more or less than A's.

In summary, although determining EITC eligibility potentially requires a substantial quantity of information, the overall informational complexity of the credit is quite low. This is because many of the informational requirements apply only to a minority of taxpayers; many of the informational inputs overlap with other provisions in the tax code; and most of the required information is easy for taxpayers to keep track of and provide when preparing their returns.

Computational Complexity

Once the informational inputs to a benefit are acquired, a second source of complexity in claiming the benefit is determining, on the basis of the acquired information, how much (if any) benefit the taxpayer is eligible to claim. *Computational complexity* thus refers to the difficulty of determining one's eligibility for a benefit as well as computing the dollar value of the benefit that one can claim. Computational complexity also reflects the hurdles to knowing a tax benefit exists, or knowing which forms must be submitted before a benefit is allowed. Whereas informational complexity is about the "inputs" to the tax benefit function, computational complexity is about the rules that map the informational inputs into the function's output – i.e., the amount of benefit the taxpayer is entitled to claim. The following subsections consider the EITC's computational

complexity, focusing in turn on complexity with respect to eligibility determinations, computation of credit amount, and knowing that a credit exists.

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, all else equal, the more requirements for eligibility there are, the more complicated the eligibility determination will be. 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 analyses that are already required for other parts of the tax code. For example, a credit that depends on the number of dependents a taxpayer claims requires determining who 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.⁹¹

⁹¹ See I.R.C. § 5000A.

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 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 the relevant tests imply 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;⁹² no such requirement exists for a child to be claimed for the EITC.⁹³ Similarly, unmarried parents can transfer the right to claim a child for

⁹² I.R.C. §§ 24(c)(1); 152(c)(1)(D).

⁹³ I.R.C. § 32(c)(3)(A).

certain tax benefits – such as the dependent exemption – to the other parent.⁹⁴ However, the EITC rules do not provide this form of flexibility.⁹⁵ 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.

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.

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.⁹⁶ 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

⁹⁴ I.R.C. § 152(e).

⁹⁵ I.R.C. § 32(c)(3)(A).

⁹⁶ See I.R.C. § 36B for the rules described in this paragraph.

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.⁹⁷

An additional 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.⁹⁸ 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.⁹⁹

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

⁹⁷ 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.

⁹⁸ IRS, *Publication 974: Premium Tax Credit* (2017) at 34.

⁹⁹ See generally I.R.C. § 55.

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-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.¹⁰⁰

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.¹⁰¹

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.¹⁰² 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.¹⁰³

¹⁰⁰ I.R.C. § 32(f).

¹⁰¹ I.R.C. § 32(a)(2)(B).

¹⁰² § 32(c)(2)(B)(vi)

¹⁰³ 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).

Finally, the EITC introduces computational complexity by requiring taxpayers to determine which portions of their total income falls into the category of 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.¹⁰⁴ Although this step reduces the complexity associated with determining EITC amount, it does not simplify the determination of EITC eligibility or determination of the number of EITC qualifying children the taxpayer may claim.

Hurdles in Knowing a Tax Benefit Exists

A third component 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.

¹⁰⁴ IRS, Instructions to Form 1040 (2017) at 57.

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.¹⁰⁵

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.¹⁰⁶ 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.

Assisted Tax Preparation and Complexity

In this section I briefly describe the use of assisted tax preparation methods (APMs) in the United States.¹⁰⁷ I then consider how the various sources of tax benefit complexity are (or are not) alleviated by the use of APMs.

¹⁰⁵ I.R.C. § 152(e)(2).

¹⁰⁶ See IRS, Instructions to Form 1040 (2017) at 59.

¹⁰⁷ I take no stance on whether the growing use of APMs is net beneficial to society. In addition to their beneficial aspects I focus 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. Zelenak, *supra* note

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.

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.¹⁰⁸ Others can prepare returns for compensation but cannot represent taxpayers before the IRS without supervision.¹⁰⁹

Low-income taxpayers often rely on retail tax preparation stores, such as Jackson-Hewitt, Liberty Tax, and H&R Block, as well as smaller, independent tax preparers that often lack IRS certification.¹¹⁰ At these stores, the taxpayer provides information to an employee, who uses the information to prepare and file the tax return. In almost all cases, the expert uses tax preparation

5. In addition, the fees associated with the use of APMs can undermine the ability of tax benefits to redistribute resources to the poor. See Elaine Maag, *Paying the Price? Low-Income Parents and the Use of Paid Tax Preparers*, Urban Institute Report B-64 (2005).

¹⁰⁸ Treasury Dept., *Circular 230* §10.4.

¹⁰⁹ Id. I use the phrase “expert APM” to refer to all paid preparers, even those who lack certification or substantial training.

¹¹⁰ Nina Olson, *Testimony of the National Taxpayer Advocate, 2014 Annual Report to Congress* (2014), online at https://www.irs.gov/pub/tas/Testimony_House_Oversight_NTA_report-4-15-2015.pdf. See also Elaine Maag, *Paying the Price? Low-Income Parents and the Use of Paid Tax Preparers*, Urban Institute (2005); Chi Chi Wu, *Taxpayer Beware: Unregulated Tax Preparers and Tax-Time Financial Products Put Taxpayers at Risk*, National Consumer Law Center (2015).

software to complete the return.¹¹¹ 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.¹¹²

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.¹¹³ The VITA and TCE programs are administered by the IRS, but the individual sites are typically operated by nonprofit organizations. VITA provides 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).¹¹⁴ The TCE program also provides free tax preparation services, and is aimed at taxpayers over the age of 60.¹¹⁵ Despite widespread eligibility to participate in VITA and TCE, the number of taxpayers using these services is dwarfed by the number relying on paid experts.¹¹⁶

¹¹¹ 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 5, at 94.

¹¹² Since 2012, tax return preparers who prepare over 10 returns a year are required to file electronically. I.R.C. § 6011(e)(3).

¹¹³ See IRS, *Free Tax Return Preparation for Qualifying Taxpayers* (2018), online at irs.gov/vita.

¹¹⁴ IRS, *Free Tax Return Preparation for Qualifying Taxpayers*, online at irs.gov/vita (accessed Dec. 2017).

¹¹⁵ *Id.*

¹¹⁶ There are a number of factors that might explain why so few taxpayers use VITA and TCE. First, taxpayers might perceive the free, volunteer-run sites to be of lower quality than paid sites. Second, VITA sites are often under-funded and are not always well-run. During busy parts of the filing season, sites may be under-staffed and have long delays to be seen. Third, sites are often only open a couple of days per week, making it hard for working taxpayers to find a time to go. Fourth, sites may not have language services available in the taxpayer's native language. Fifth, VITA sites typically require more documentation than paid preparers, potentially discouraging some taxpayers from using them. For qualitative evidence relating to several of these theories, see Sarah Halpern-Meehin et al., *It's Not Like I'm Poor: How Working Families Make Ends Meet in a Post-Welfare World* (2015).

Apart from VITA and TCE, most expert tax preparation is not provided for free. The cost of preparing a return typically varies 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.¹¹⁷ 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.¹¹⁸

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

¹¹⁷ See, e.g., Michael Cohn, *Average Tax Prep Fee Inches Up to \$273*, Accounting Today (2015) (reporting results of a survey conducted by the National Society of Accountants); Paul Weinstein Jr. and Bethany Patten, *The Price of Paying Taxes II: How Paid Tax Preparer Fees are Diminishing the Earning Income Tax Credit (EITC)*, Progressive Policy Institute (2016) (reporting an average fee of about \$400 for EITC returns at national tax preparation chains).

¹¹⁸ 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).

between the IRS and about 12 commercial software preparation providers (the exact number of participating software companies varies by year).¹¹⁹ 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).¹²⁰ Depending on the company, taxpayers who use Free-File to prepare and file their federal tax returns may face a fee for filing their state tax returns 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.¹²¹

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 trending up in the last couple of years.¹²² 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.

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.¹²³

¹¹⁹ IRS, *Free File: Do Your Federal Taxes for Free*, Online at irs.gov/freefile (accessed Dec. 2017).

¹²⁰ *Id.*

¹²¹ Jacob Goldin, Participation in the IRS Free-File Program, Tax Notes (2017).

¹²² See, e.g., Forbes, Credit Karma Takes On TurboTax, H&R Block With Free Tax Filings (Dec. 7, 2016).

¹²³ 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).

Figure 1

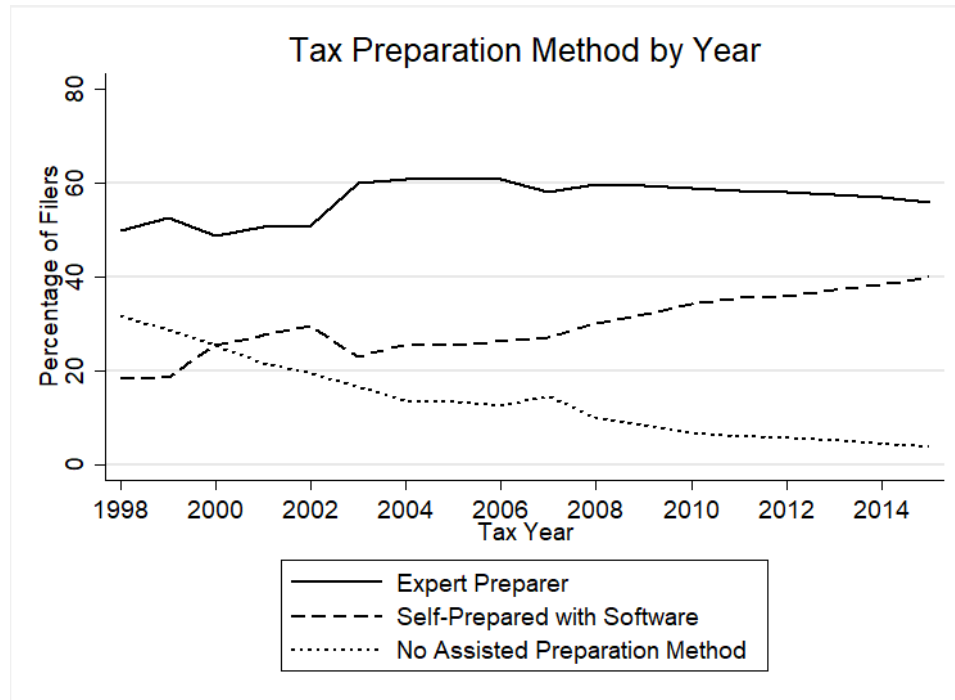


Figure 1 plots the use of alternative types of preparation methods by year, from 1998 to 2015. In tax year 1998, at the start of the sample, approximately 50% of taxpayers prepared their taxes with the help of an expert, 18 percent used software, and 32 percent prepared their return on their own without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

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).¹²⁴

¹²⁴ 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 possible), growing use

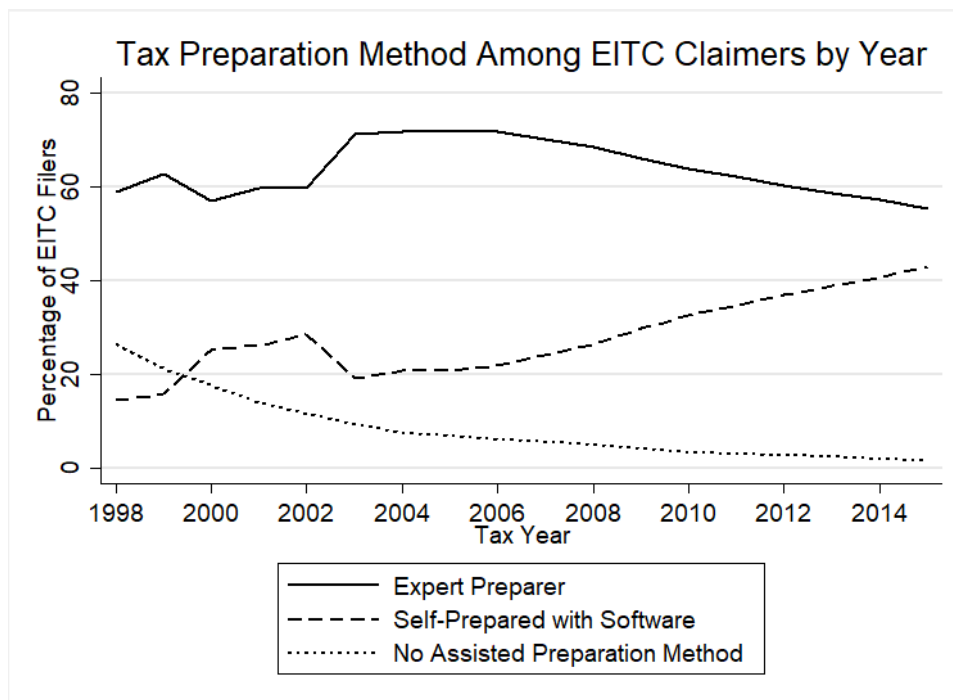
Figure 2 restricts the sample to taxpayers who claim the EITC. The patterns and trends in Figure 2 are quite similar to those in Figure 1. This similarity is striking, because previous research that had focused on earlier tax years had found that the rise in APMs was primarily concentrated on higher-income and better-educated taxpayers.¹²⁵ 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).¹²⁶

Figure 2

of self-preparation software plays an even larger role in the rise of APM than otherwise suggested by the figure.

¹²⁵ Austan Goolsbee, *The TurboTax Revolution? Evaluating the Ability of Technology to Solve the Tax Complexity Dilemma*, Working Paper (2002).

¹²⁶ 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.



The Effect of Assisted Preparation Methods on Tax Benefit Complexity

APMs dramatically reduce the computational 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. 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.¹²⁷

¹²⁷ In practice, of course, not all APMs operate in this idealized fashion. A poorly trained expert preparer might incorrectly determine a taxpayer's eligibility for a benefit. As another 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 Goolsbee, *supra* note 125; Zelenak, *supra* note 5; and (presumably) the millions of taxpayers who choose to purchase such software to prepare their taxes.

In contrast, APMs generally do not eliminate a tax benefit's informational complexity, since the relevant information must still be communicated to the expert preparer or inputted into the tax preparation software. That said, although APMs cannot entirely eliminate informational complexity, they can lessen it in several ways. 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 taxpayer is 70, the APM would not need to solicit any other information to determine whether the taxpayer qualifies 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, APMs can 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 directly input wage information into the tax return during the filing process. Not only does this reduce the risk of data entry errors, it reduces informational complexity by reducing the amount of information the taxpayer is required to keep track of and 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.¹²⁸

How does the use of APMs affect the overall complexity of claiming the EITC? As discussed in Section II, the EITC's complexity is primarily computational; the credit requires few informational inputs that are not already required of filers, and what new informational inputs it

¹²⁸ 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).

does add will often be 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 for it and wish to receive its benefits.

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.¹²⁹ 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 high (although not 100%¹³⁰) 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 this section, I have argued that taxpayers claiming the EITC is complex for taxpayers who do not use an APM, but that taxpayers who do file their tax return using an APM face few hurdles to claiming the credit. The basis for this conclusion (and for the policy implications that follow from it) is that the EITC has high computational complexity and low informational complexity. Hence, once computational complexity is eliminated with an APM, the informational complexity that remains does not pose a major barrier to take-up. In contrast, this conclusion would not hold for other tax benefits – specifically, those for which the balance between computational and informational complexity looked different.

¹²⁹ IRS, TY2013 IRS-CPS ASEC Exact Match (2015), Table C-4.

¹³⁰ 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, as discussed in Section I.B.

Table 2. *Varying Profiles of Complexity*

		<i>Informational Complexity</i>	
		High	Low
<i>Computational</i>	High	I	II
<i>Complexity</i>	Low	III	IV

Table 2 presents a simple diagram highlighting this point. Each box corresponds to a different combination of informational and computational complexity. As I have argued, the EITC falls into Box II. In contrast, a tax benefit with substantial informational and computational complexity, such as the Premium Tax Credit,¹³¹ would fall into Box I; even with an APM, the information it requires constitutes a significant hurdle to claiming its benefits. Box III corresponds to tax benefits that are the mirror of the EITC, in that they have high informational complexity but low computational complexity. An example of a benefit in this category would be charitable deduction – the benefit is (relatively) easy to calculate, but claiming it requires keeping track of the contributions one makes during the course of the year. Hence, one might expect that a sizable number of taxpayers who would benefit from claiming the charitable deduction might fail to do so, even when using an APM.¹³² Finally, some tax benefits have low informational and computational

¹³¹ With respect to the PTC’s computational complexity, refer to the discussion of that credit in Section II.B.2. With respect to informational complexity, note that the PTC requires information about (among other things) a taxpayer’s dependents, individuals on the taxpayer’s health plan who are not dependents, national and regional health insurance plan costs, employer offers of health insurance for each individual insured on the taxpayer’s plan as well as actuarial information about the offered plans (to determine if they are affordable), as well as information about months of coverage and actual plan premiums incurred.

¹³² In the context of the charitable deduction, failing to claim the benefit is made more appealing by the existence of the standard deduction, which taxpayers may claim as a substitute. For empirical evidence consistent with this hypothesis, see Youssef Benzarti, *How Taxing Is Tax Filing? Leaving Money on the Table Because of Hassle Costs*, Working Paper (2015) (providing evidence that taxpayers fail to claim itemized deductions even when the financial benefits of

complexity (Box IV), such as the additional standard deduction for taxpayers over the age of 65.

One would expect that take-up of such benefits to be quite high, even for taxpayers that do not use an APM.

In summary, although the EITC is far from the only complicated tax benefit, the nature of its complexity is such that the barriers to claiming it are significantly lessened when a taxpayer uses an APM. The next section considers, in light of this claim, how various policies might affect EITC take-up – either intentionally or otherwise.

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 most of the conclusions apply to other tax benefits as well.

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

The pervasiveness of APM usage along with 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.¹³³ Moreover, because so many filers today prepare their taxes using an APM, simply

itemizing would outweigh the costs, and finding that this effect persists among taxpayers using software or a paid preparer to file).

¹³³ More precisely, my claim is that there is a near mechanical relationship between using an APM to file one's taxes, and claiming the EITC if one is eligible to do so *and wishes to do so*. As discussed in Section I.B, it is likely that some fraction of the EITC-eligible non-claimants do not wish to claim the credit. Using an APM would not raise take-up for non-claimants in this group.

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 returns. If these eligible non-filers begin to file, they are likely to use an APM to prepare their returns, 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 actual net benefit to filing (e.g., by reforming the substantive provisions) or individuals' perceptions of the net benefit (e.g., through education or outreach campaigns). Policies might also raise the filing rate by reducing other hurdles (psychological or monetary) to filing. An added benefit 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.

Raising the Actual or Perceived Benefit to Filing

Policies can raise the filing rate by increasing the actual or perceived benefit to filing a tax return. For example, policies might increase the perceived benefits to filing through education or outreach campaigns that attempt to raise awareness of existing tax benefits. Emphasizing the existence and availability of credits like the EITC and CTC could increase the perceived benefit to filing, especially for taxpayers who were previously unaware that the credits existed and who would

In addition, although most of my discussion in this section groups different types of APMs together, it is often preferable for individuals to file using software or a certified preparer, as opposed to an unenrolled agent. The reason is that unenrolled agents are more likely to make mistakes when preparing a return, resulting in eligible taxpayers failing to claim the credit or in ineligible taxpayers claiming the EITC on their return (which can result in costly penalties or in being banned from claiming the credit in future years). See I.R.C. §§ 6662; 32(k).

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 taxpayers to file as spreading awareness about the EITC itself, especially if awareness of the EITC is already relatively high.¹³⁴ 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 the potential filer would have any positive tax liability.

More substantively, policies might affect EITC take-up by changing the economic benefits to filing a return, not just people's perceptions of them.¹³⁵ 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,¹³⁶ or a stick, such as expanding the range of individuals who face penalties for failing to file a return.¹³⁷

¹³⁴ 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.

¹³⁵ Of course, changes in substantive benefits will only be effective at shaping take-up behavior to the extent they are perceived by taxpayers. More generally, the effect on social welfare of inducing new EITC claims by raising the benefits to filing depends on the reason why take-up was incomplete in the first place. If the claimants induced to file by the new policy were previously close to indifferent between filing and not filing, the (net) welfare gains from inducing them to file will be limited. In contrast, if the new claimants previously underestimated the gains from filing (or overestimated the costs), the welfare benefits of the policy could be substantial. See Jacob Goldin & Daniel Reck, *Rationalizations and Mistakes: Optimal Policy with Normative Ambiguity*, American Economic Journal: Papers & Proceedings (2018).

¹³⁶ 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).

¹³⁷ At the federal level, taxpayers whose income exceeds 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 136, finds that filing rates among EITC-eligible households are over 50 percentage points higher above the filing threshold than below it.

Similarly, Congress, Treasury, or the IRS could amplify the incentive to file a return by reforming various features of tax administration. One policy that would accomplish this goal would be to alter the withholding schedule so that EITC-eligible non-filers are owed a larger refund at year's end. 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 2008 Economic Stimulus Act (ESA) tax credit. Congress created this temporary credit, which provided a one-time benefit of \$300-\$600 to individual taxpayers (\$600-\$1200 for married couples), to stimulate consumer spending. A recent study by Shanthi Ramnath and Patricia Tong documents that eligibility for the credit resulted in an increase in the filing rate among persistent non-filers.¹³⁸ 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 ESA credit to file a tax return claimed the EITC on that return.¹³⁹ Thus although the ESA 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.

¹³⁸ Shanthi Ramnath & Patricia Tong, *The Persistent Reduction in Poverty from Filing a Tax Return*, 9 American Economic Journal: Economic Policy 367 (2017). Interestingly, the study finds that the positive effect on filing persists for several tax years.

¹³⁹ *Id.*, at Online Appendix Table A4.

In addition to creating new substantive tax benefits like the ESA credit, 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 taxpayers. Aggressive marketing to 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.¹⁴⁰ 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.¹⁴¹

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.

¹⁴⁰ The desirability of tax preparation services like Refund Anticipation Loans is quite controversial. On the one hand, as a form of credit, RALs are quite expensive, often costing hundreds of dollars to speed up a refund by only a few days to a few weeks. On the other hand, taxpayers might benefit from these products to the extent they speed up refund receipt and hence ease taxpayer liquidity constraints, preventing them from turning to other high-cost sources of credit. See Paige Skiba, *Tax Rebates and the Cycle of Payday Borrowing*, 16 AMER. LAW AND ECON. REV. 550 (2014). Even if taxpayers incorrectly perceive RALs to be welfare-enhancing, their availability may still be beneficial if they induce more individuals to file tax returns, thus offsetting a different costly mistake the taxpayer might make. For a good discussion of the issue, see Hayashi (2018), *supra* at ____.

¹⁴¹ 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 have 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.

Because this reform would reduce the legal obligation of many individuals to file, it is likely that some of those whose incomes were above the old filing threshold but below the new filing threshold will now 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.¹⁴²

Reducing the Real or Perceived Costs of Filing

Policies that reduce the perceived cost of filing are also likely to raise EITC take-up. One obvious cost of filing is the monetary fee associated with use of an APM, so policies that 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 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.¹⁴³

¹⁴² Under the assumption that individuals are perfectly rational in their decisions about whether or not to file, raising the filing threshold can only make taxpayers better off. This is because raising the filing threshold has the effect of reducing (to zero) the penalty attached to non-filing for certain taxpayers. After the reform, those taxpayers for whom filing would be beneficial (even absent the penalty) would continue to do so. The only taxpayers who cease filing because of the policy change would be those who would be better off from doing so.

However, this reasoning fails when at least some taxpayers make mistakes with respect to their decisions not to file. In particular, to the extent that taxpayers over-weight the costs of filing relative to the benefits, lowering the penalty could reduce welfare by increasing the number of taxpayers who (sub-optimally) choose not to file a return.

¹⁴³ 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

Other instruments 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 fees, especially one that was refundable, would more effectively reduce the cost of filing for EITC-eligible non-filers because it would provide an incentive to non-itemizers with low or negative tax liabilities.¹⁴⁴ 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 assisted 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,¹⁴⁵ 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 and increase their appeal, reducing the cost of filing.

issue, see Jay A. Soled & Kathleen Delaney Thomas, *Regulating Tax Return Preparation*, 58 Boston College L. Rev. 151, 188-190 (2017). If successful, preparer regulations could also reduce the rate of errors on returns claiming the EITC (which can translate into penalties and bans on claiming the credit for the taxpayers making these errors). For statistics relating to the high error rate among EITC returns prepared by unenrolled agents, see IRS, *Compliance Estimates for the Earned Income Tax Credit Claimed on 2006-2008 Returns* (2014), online at <https://www.irs.gov/pub/irs-soi/EITCComplianceStudyTY2006-2008.pdf>.

¹⁴⁴ Francine J. Lipman, The Working Poor Are Paying for Government Benefits: Fixing the Hole in the Anti-Poverty Purse, *Wisconsin Law Review* 461 (2003).

¹⁴⁵ See footnote _.

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 eliminate some of the informational inputs upon which tax liability or benefit amount depend. Such changes would require changing the substantive tax laws. For example, a change in the rules for claiming a dependent that eliminated the support test would reduce the informational complexity of filing but would change which taxpayers 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 could 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 dramatic 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.¹⁴⁶

Finally, raising the filing rate among EITC-eligible non-filers requires better information about why these individuals are choosing not to file a return in the first place. Expanding the available data linkages between the Census Bureau and the IRS would help shed light on this issue because it would allow researchers to estimate EITC-eligible non-filers' total potential refund or balance due if they were to file. Qualitative or survey evidence about their decision-making process would also help researchers and policymakers understand which interventions are most likely to be effective. For example, if the main barrier to filing turns out to be that individuals perceive tax filing fees to be too high, campaigns that raise awareness of free APMs like VITA or Free-File may be effective. In turn, if the main barrier to filing is that the non-filers don't expect to receive much (if any) refund, a potential intervention would be to provide those who would receive a refund with personalized estimates of their refund amount (whether from the EITC, over-withholding, or other credits). And to the extent the non-filers' views about a lack of refund turn out to be correct, there may not be as strong of a social welfare case for inducing them to file in the first place.

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

¹⁴⁶ 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).

If adopted, such policies seem likely to dramatically raise the filing rate for all taxpayers (including those who are EITC-eligible) who would stand to receive a refund from filing. One caveat is that incorporating EITC estimates into pre-populated returns would require either expanded information collection efforts (e.g., residency information for potential EITC qualifying children) or changes to reduce the informational inputs on which the EITC depends.

As described in Section I.C, above, the dominant approach today to increasing EITC take-up involves raising 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.¹⁴⁷ 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.¹⁴⁸

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-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. As discussed above, most of the taxpayers using an APM to prepare their returns 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.

A second barrier to increasing take-up by raising EITC awareness among current filers is that such taxpayers would have already missed a number of other prompts relating to the EITC. For example, non-APM filers would have received prompts relating to the EITC on the

¹⁴⁷ See IRS, *EITC Awareness Day*, online at <https://www.eitc.irs.gov/partner-toolkit/eitc-awareness-day/eitc-awareness-day-2> (accessed Dec. 2017).

¹⁴⁸ Cranor & Goldin (2017), *supra* note 70.

instructions to the Form 1040 and on the “EIC” line of the Form 1040 itself. And all filers – whether they use an APM or not – who are identified by the IRS as apparently eligible for the EITC but who fail to claim it on their return – are subsequently mailed a notice and simplified form for claiming the credit.¹⁴⁹ To the extent that a taxpayer has missed these other prompts and reminders, it seems unlikely that receiving additional information about the credit’s existence in a way that is temporally removed from the filing process itself would cause the taxpayer to start claiming the credit.

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. 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

¹⁴⁹ See Dean Plueger, *Earned Income Tax Credit Participation Rate for Tax Year 2005*, IRS Res. Bull., 151 (2009), for a description of these notices and of the filters used by the IRS to identify potentially EITC-eligible but non-claiming taxpayers. Note that the EITC take-up estimates discussed above count as EITC-claimants those taxpayers who claim the credit through this program. For a randomized evaluation of the IRS’s EITC notice program, see Saurabh Bhargava & Dayanand Manoli, *Psychological Frictions and the Incomplete Take-Up of Social Benefits: Evidence from an IRS Field Experiment*, 105 AM. Econ. Rev. 3489, (2015). Although one might interpret the success of the notice program as evidence of the efficacy of EITC information campaigns, note that the notices reduce computational complexity in a way that generalized outreach campaigns do not by informing recipients of their apparent EITC eligibility and by providing a simplified form for claiming the credit. In addition, the fact that the effects of receiving a notice quickly fade over time suggests the effect of the program is due to providing a simplified process for claiming the credit rather than to the conveying of information that the credit exists. See Day Manoli & Nick Turner, *Do Notices Have Permanent Effects on Benefit Take-Up?* 70 Tax L. Rev. 439 (2017).

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 797¹⁵⁰ that attempt to increase awareness about one's potential EITC benefits are likely too complicated for many recipients to digest. The financial lives of low-income Americans are often extremely complicated; absorbing and applying complicated EITC rules -- communicated prior to the actual filing of one's tax return -- is likely to require more bandwidth than many eligible non-filers will devote to the issue.¹⁵¹

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 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.¹⁵² The paper finds evidence against the hypothesis that the adoption of the laws was

¹⁵⁰ Reprinted in the Appendix.

¹⁵¹ *See generally*, Sendhil Mullainathan & Eldar Shafir, SCARCITY: Why Having Too Little Means So Much (2013).

¹⁵² Taylor Cranor & Jacob Goldin, Does Informing Employees About Tax Benefits Increase Take-up? Evidence from Earned Income Tax Credit Notification Laws, Working Paper (2017).

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 reports evidence from an IRS field experiment.¹⁵³ 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.¹⁵⁴ Given that the study population was carefully selected to consist of non-filers likely to be EITC eligible, the magnitude of the observed effects probably represents an upper bound on the effectiveness of informational interventions like the one tested. 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.

Finally, one potential downside to shifting EITC take-up efforts away from awareness-based outreach approaches is that awareness-based approaches might do a better job promoting the behavioral goals the EITC was designed to support than approaches that attempt to increase EITC take-up by raising the filing rate. Apart from redistribution, the EITC's primary goal is to

¹⁵³ John Guyton, Day Manoli, Brenda Schafer, and Michael Sebastiani, *Reminders & Recidivism: Evidence from Tax Filing & EITC Participation Among Low-Income Nonfilers*, Working Paper (2016).

¹⁵⁴ *Id.*

encourage employment.¹⁵⁵ By raising the return to employment for low-income workers, the credit provides an incentive to enter the labor force and to stay in it. To the extent taxpayers – either EITC claimants or non-claimants – are unaware of the credit, they will not take the credit’s incentives into account when deciding whether and how much to work, undermining this goal.

Although theoretically possible, there are a number of reasons why this concern has limited force. First, there is little reason to expect that awareness efforts will do much to amplify the credit’s pro-work incentives. As described above, the credit’s computational complexity and the limited attention that many low-income taxpayers will likely devote to the intervention make it difficult to communicate who qualifies for the credit, and hence, how the credit should affect decisions about employment. Taxpayers who know the EITC exists but do not know whether they would qualify for it if they were to start working will be less motivated to do so.¹⁵⁶

Second, the available empirical evidence does not support the view that EITC awareness-based outreach is effective at encouraging employment. In the Cranor and Goldin study discussed above, there was no evidence of an increase in employment following a state’s adoption of a law requiring employer notifications about the EITC.¹⁵⁷

Third, it is possible that taxpayers’ employment decisions may still be shaped by the EITC, *even without direct knowledge that it exists*. This can occur when individuals make their decisions about employment based on their perceived return to working, and their perceived return to

¹⁵⁵ For a nice discussion of the goals of the initial EITC bill and the various legislative amendments, see Margot Crandall-Hollick, *The Earned Income Tax Credit (EITC): A Brief Legislative History*, Congressional Research Service (2018).

¹⁵⁶ This is not to say that well-designed outreach efforts are unable to boost a tax incentive’s motivational force. The point is simply that such efforts are more likely to be effective when the incentive being communicated is a simple one – which is not the case for the incentive associated with the EITC.

¹⁵⁷ Cranor & Goldin, *supra* note 70, at 8.

working depends on their prior experience.¹⁵⁸ Thus a taxpayer who knows that her employment translated into \$2000 a month plus a \$4000 refund at tax time may not know which (if any) portion of these amounts is attributable to the EITC, but may still account for this overall income profile when deciding whether or how much to work in the future. Similarly, an individual who is not currently working may base her decision of whether to work in the future on how much she expects to earn if she does work. And this expectation may be informed by the financial condition of other people she knows in similar circumstances with similar jobs. Thus, to the extent the EITC improves those working people's financial conditions, it can indirectly shape the incentives of the non-worker as well.

Last, it is not clear that increasing awareness of the incentives generated by the EITC is desirable. Although the credit creates an incentive for non-workers to enter the workforce, it also creates an incentive for current workers to reduce their labor supply to avoid losing the credit. That is, for taxpayers in the EITC's phase-out range, the credit generates high marginal tax rates that distort labor supply and generate deadweight loss. Determining whether it is better, on net, for taxpayers to become aware of and account for these high marginal tax rates is a difficult question to answer in the abstract, and requires comparing the change in deadweight loss from the distortion to labor supply against the amount by which taxpayers are better off from better optimizing how much they choose to work.¹⁵⁹

Promoting APM Usage Among Non-APM Filers

¹⁵⁸ For a formal model along these lines, see David Laibson, *Private Paternalism, the Commitment Puzzle, and Model-Free Equilibrium*, Am. Econ. Rev.: Papers & Proceedings (Forthcoming).

¹⁵⁹ For a discussion of these issues, refer to the articles cited in note 13.

The final approach I will consider here for raising EITC take-up based on the theory described above is the effort 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.¹⁶⁰

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).¹⁶¹ That being said, the small fraction of non-APM filers still represents almost 6 million taxpayers.¹⁶² 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.

¹⁶⁰ 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 non-filers to filers, or a change in tax preparer behavior that drove more aggressive claiming of the EITC.

¹⁶¹ See the discussion in Section III.B.

¹⁶² Rizwan Javaid et al., *Can IRS Move Paper Filers to Assisted Tax Preparation*, IRS White Paper (2018).

Conclusion

In this paper I have evaluated efforts to increase tax benefit take-up in light of the modern-day prevalence of APMs in tax filing. To assess the role of APMs, I distinguished between informational and computational complexity in the benefit take-up setting – only the latter of which is reduced by APMs. Applying this framework to the EITC, I argued that most of the EITC’s complexity is computational rather than informational, and hence that using an APM would eliminate most of the barriers to claiming the EITC among eligible taxpayers. Finally, I developed a number of policy implications to this line of argument, the most important of which is that efforts to increase EITC take-up should focus on inducing EITC-eligible individuals to file a tax return.

Although my focus in this paper has been on how tax benefit complexity affects the take-up of tax benefits, the framework developed here sheds light on other issues as well. For example, 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 some non-tax benefit program relies on the same informational requirements as are already required to be reported on one’s taxes, the analysis here suggests that the program’s informational complexity can be reduced by administering it through the tax code, so that the required information can be collected once rather than twice. That programs requiring overlapping information should be run through the same agency for efficiency reasons has been widely recognized; the point here is that reducing each program’s incremental informational complexity in this way can raise one or both program’s take-up.¹⁶³ More importantly, by administering the other benefit through the tax code, taxpayers who use an APM can avoid the other program’s computational complexity, further

¹⁶³ See, e.g., David Weisbach & Jacob Nussim, *The Integration of Tax and Spending Programs*, 113 Yale L.J. 997-1023 (2004) (evaluating the case for incorporating SNAP into the tax code).

lessening the barriers to take-up.¹⁶⁴ In this way, the growing prevalence of APMs bolsters the case for administering other social welfare benefits through the tax code.¹⁶⁵

¹⁶⁴ For a related point, see Susannah Tahk, *Everything Is Tax: Evaluating the Structural Transformation of U.S. Policymaking*, 50 Harv. J. on Legis. 67, 93-95 (2013) (arguing that embedding a social welfare benefit in the tax code can result in eligible individuals becoming aware of the benefit when they would otherwise fail to do so).

¹⁶⁵ An interesting application for this line of reasoning is the Premium Tax Credit (PTC) – the health insurance subsidy created as part of the Affordable Care Act. Although the PTC is administered through the tax code, the vast majority of individuals who receive it actually sign up through a separate agency (the exchange in which they purchase their health insurance) rather than as part of their tax return. In practice, what a taxpayer claims on her return is generally a reconciliation between (1) the subsidy she received over the course of the year based on her estimated yearly income, and (2) the amount of credit the taxpayer is entitled to, based on her actual income for the year. Hence, even though taxpayers can take advantage of an APM to reduce complexity associated with the PTC reconciliation process, the effect of the APM on PTC take-up is likely muted, relative to a credit in which the entire claiming process occurs through the tax return. For additional discussion of the decision to embed the PTC within the tax code, see Lawrence Zelenak, *Choosing Between Tax and Nontax Delivery Mechanisms for Health Insurance Subsidies*, 65 TAX L. R. 723 (2012); Tahk, *supra* note 164.



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.

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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 for details. You can get IRS forms and publications at IRS.gov or by calling 1-800-829-3676.

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