

BRINGING THEORY TO PRACTICE: USING OPTIMAL TAX ANALYSIS TO GUIDE REAL-WORLD TRANSFER PROGRAM REFORM

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INTRODUCTION

In 2014, Senators Mike Lee and Marco Rubio released a broad-strokes tax reform plan that would, among other things, “end[] high effective marginal tax rates for the poor.”¹ To some, this may sound like an odd proposal. Why would marginal tax rates on the poor be high given our progressive income tax system? The key is to understand that when Lee and Rubio say that marginal tax rates on the poor are too high, they are not referring to the statutory rates set out in § 1 of the Internal Revenue Code. Rather, they are referring to *effective* marginal tax rates. While the rates in § 1 tell us how much federal income tax a person would pay on her next dollar of income, this provides only a limited picture, as earning an additional dollar may also trigger additional payroll tax liability, additional state income tax liability, and reductions in means-tested benefits such as food stamps² and the earned income tax credit (EITC).³ A person’s effective margi-

1. MIKE LEE & MARCO RUBIO, ECONOMIC GROWTH AND FAMILY FAIRNESS TAX REFORM PLAN 21 (2013), http://www.rubio.senate.gov/public/_cache/files/2d839ff1-f995-427a-86e9-267365609942/4B239D28A4487E61FF5E26CC07C5EEF1.3.3.2015-tax-plan.pdf.

2. The food stamp program—known officially as the Supplemental Nutrition Assistance Program (SNAP)—provides low-income families with Electronic Benefits Transfer (EBT) cards, which can be used to purchase food at authorized grocers. SNAP benefits are “means tested” in that the amount of money a household receives on its EBT card depends on the household’s monthly income, with poorer households generally receiving more support. *See generally* CTR. ON BUDGET & POL’Y PRIORITIES, POLICY BASICS: INTRODUCTION TO SNAP (2016), <http://www.cbpp.org/sites/default/files/atoms/files/policybasics-foodstamps.pdf>.

3. The EITC is a federal tax credit for low-income households. Unlike most other tax credits, the EITC is “refundable”—meaning that if the amount of the credit exceeds a taxpayer’s federal income tax liability, the taxpayer receives a check from the federal government for the net amount. Like SNAP, the EITC is also means tested. After a certain income level, the size of the credit phases down as income rises. *See generally* CTR. ON BUDGET & POL’Y PRIORITIES, POLICY BASICS: THE EARNED IN-

nal tax rate—defined as “the percentage of an additional dollar of earnings that is unavailable to a worker because it is paid in taxes or offset by reductions in [means-tested] benefits”⁴—is thus a more complete measure of the economic impact of earning an additional dollar.

As economists and tax scholars have long understood, effective marginal tax rates (“marginal tax rates”) on low- and moderate-income households can be extremely high. This is because transfer programs⁵ often phase out⁶ at steep rates, and the phaseouts of different transfer programs often overlap. As a result, earning an additional dollar may result in a significant cumulative benefit reduction. Indeed, in some cases earning an additional dollar can trigger more than a dollar in lost benefits.⁷ In such a case, we would say that the taxpayer’s marginal tax rate exceeded 100%.

Lee and Rubio are not alone in expressing concern over high marginal tax rates on the poor. Indeed, the issue has been cited as a problem by a wide variety of authors and institutions, including the House Budget Committee,⁸ the Heritage Foundation,⁹ the Cato Insti-

COME TAX CREDIT (2016), <http://www.cbpp.org/sites/default/files/atoms/files/policybasics-eitc.pdf>.

4. CONG. BUDGET OFFICE, EFFECTIVE MARGINAL TAX RATES FOR LOW- AND MODERATE-INCOME WORKERS, at iv (2012), <https://www.cbo.gov/sites/default/files/112th-congress-2011-2012/reports/11-15-2012-MarginalTaxRates.pdf>.

5. Throughout this paper, I use the term “transfer programs” to refer to federal and state programs that provide cash or in-kind assistance to low- and moderate-income households on a means-tested basis. Thus, in using the term “transfer program,” I mean not only traditional safety net programs, such as Temporary Assistance for Needy Families (TANF or “welfare”), the Housing Choice Voucher Program (“housing vouchers” or “Section 8”), the Supplemental Nutrition Assistance Program (SNAP or “food stamps”), Medicaid, and the Children’s Health Insurance Plan (CHIP), but also certain tax credits, such as the Earned Income Tax Credit (EITC) and the Child Tax Credit (CTC).

6. To say that a transfer program “phases out” is simply to say that with each additional dollar of income, households are eligible for less support. For example, to say that a cash assistance program like TANF “phases out” at a rate of 50% is simply to say that with each additional dollar of income, a household is eligible for fifty cents less in assistance.

7. Daniel N. Shaviro, *Effective Marginal Tax Rates on Low-Income Households*, 84 Tax Notes 1191, 1191 (1999).

8. STAFF OF H. BUDGET COMM., 133TH CONG., THE WAR ON POVERTY 50 YEARS LATER 3 (2014), http://budget.house.gov/uploadedfiles/war_on_poverty.pdf.

9. Salim Furth, *Effective Marginal Tax Rates for Low-Income Workers Are High*, HERITAGE FOUND. (Jan. 8, 2013), <http://www.heritage.org/research/reports/2013/01/effective-marginal-tax-rates-for-low-income-workers-are-high>.

tute,¹⁰ the Brookings Institution,¹¹ tax law scholars Daniel Shaviro¹² and Edward McCaffery,¹³ as well as economist Gregory Mankiw.¹⁴

Unfortunately, eliminating high marginal tax rates on the poor would involve difficult tradeoffs. For example, the Center on Budget and Policy Priorities estimates that reducing the phaseout of the EITC by just ten percentage points would require either \$17 billion per year in additional revenue, or a 20% reduction in the maximum EITC, which would mean a benefits reduction of more than \$1100 for families making as little as \$10,750 per year.¹⁵ While it has been suggested that, all else being equal, lower marginal tax rates are preferable to higher ones,¹⁶ given that all is *not* equal, how do we know when marginal tax rates are too high? Or to put the question slightly differently, how do we know whether the benefits of reducing high marginal tax rates outweigh the costs?

Following Daniel Shaviro¹⁷ and Louis Kaplow,¹⁸ this paper argues that the best way to evaluate marginal tax rates is by reference to the findings of optimal tax analysis. Given that marginal tax rates must accommodate both equity and efficiency, we need some way of identifying the rates that strike the ideal balance. Optimal tax analysis does just that. Founded by Nobel Prize-winning economist James Mirlees in 1971, optimal tax analysis is a school of public economics that seeks to identify the tax-and-transfer system that maximizes social welfare. By using the optimal tax literature as a guide, we can evaluate the extent to which actual rates are too high, and begin to move towards reform. In Part IV, this paper draws several broad lessons from

10. Charles Hughes, *CBO: Tangled Web of Welfare Programs Creates High Tax Rates on Participants*, CATO INST. (Nov. 20, 2015), <http://www.cato.org/blog/cbo-tangled-web-welfare-programs-creates-high-tax-rates-participants>.

11. Melissa Kearney & Benjamin Harris, *A Dozen Facts About America's Struggling Lower-Middle Class*, BROOKINGS INST. (Dec. 4, 2013), <https://www.brookings.edu/research/a-dozen-facts-about-americas-struggling-lower-middle-class/>.

12. Shaviro, *supra* note 7.

13. Edward J. McCaffery, *Americans' 90% Tax Rate*, CNN (Feb. 8, 2013), <http://www.cnn.com/2013/02/08/opinion/mccaffery-marginal-tax-rates/>.

14. N. GREGORY MANKIW, *PRINCIPLES OF ECONOMICS* 444–45 (3d ed. 2004).

15. SHARON PARROTT & ROBERT GREENSTEIN, CTR. ON BUDGET & POL'Y PRIORITIES, *POLICYMAKERS OFTEN OVERSTATE MARGINAL TAX RATES FOR LOWER-INCOME WORKERS AND GLOSS OVER TOUGH TRADE-OFFS IN REDUCING THEM* 14 (Dec. 3, 2014), <http://www.cbpp.org/sites/default/files/atoms/files/12-3-14tax.pdf>.

16. *See, e.g., id.* at 13 (“All else being equal, policymakers and analysts of all political stripes appropriately prefer lower marginal tax rates.”).

17. Daniel N. Shaviro, *The Minimum Wage, the EITC, and Optimal Subsidy Policy*, 64 U. CHI. L. REV. 405, 469–73 (1997).

18. Louis Kaplow, *Optimal Income Transfers* (Nat'l Bureau of Econ. Research, Working Paper No. 12284, 2006), <http://www.nber.org/papers/w12284>.

the optimal tax literature about the kinds of reform that would be justified, suggesting that transfer programs should be expanded, and that marginal tax rates higher up in the income distribution should be raised.

Yet putting these general lessons aside, it is hard to glean more specific guidance from the optimal tax literature, as there are realities about our current tax-and-transfer system that make optimization difficult.¹⁹ This paper identifies two practical challenges to operationalizing optimal tax analysis, and suggests a way to mitigate those challenges moving forward.

The first challenge results from the fact that marginal rate schedules vary significantly from state to state. Such variation occurs because the parameters of transfer programs such as the Supplemental Nutrition Assistance Program (SNAP) and Temporary Assistance for Needy Families (TANF) are set at the state level. In light of such variation, federal-level reforms that render marginal rates optimal in one state will inevitably render them too high or too low in another. Thus, without a coordinated effort by all fifty states, optimizing the marginal rate structure on a national level is impossible.

The second challenge results from the fact that few households participate in all the transfer programs for which they are eligible. As a result, policymakers must decide what level of program participation to assume in attempting to optimize marginal rate schedules. If policymakers assume full participation, they risk optimizing a schedule that applies to very few people, while leaving the majority of transfer recipients with suboptimal rates. If policymakers assume less than full participation, the challenge becomes determining which programs to include.

Both of these problems could be mitigated by consolidating several existing transfer programs into one larger system where parameters are set at the federal level. Allowing the federal government to control program parameters would eliminate the problem of state-by-state variation, and consolidation would reduce variation in program participation. A first step towards such consolidation might involve, for example, replacing a state-level program like TANF with an expansion to a federal-level program like the EITC.

This paper proceeds as follows. Part I provides background on the mechanics of cumulative marginal tax rate calculations. It then discusses the current debate over high marginal tax rates. Part II motivates the need for determining the optimal marginal rate structure. Part

19. See *infra* Part V.

III explains how optimal tax analysts attempt to estimate the structure that maximizes social welfare. It also surveys the main findings of the optimal tax literature. Part IV attempts to compare actual marginal tax rates to those recommended by the optimal tax literature. In addition, it makes some general points about the kinds of policy reforms that would be appropriate. Part V discusses the challenges policymakers may face in moving toward a more optimal structure, and suggests incrementally unifying the transfer system as a way of mitigating those challenges.

I.

UNDERSTANDING THE PROBLEM

A. *Cumulative Marginal Tax Rates in the Abstract*

Economists²⁰ and tax scholars²¹ have long understood that when a household participates in a significant number of means-tested transfer programs, the resulting cumulative marginal tax rates can be extremely high. This point is easy enough to understand intuitively; the more programs in which one participates, the more benefits one stands to lose by earning an additional dollar. However, for present purposes, a somewhat more-detailed understanding of cumulative marginal tax rate mechanics will be helpful. In what follows, I will discuss how different kinds of transfer programs affect cumulative marginal tax rates. To avoid mucking through the complex mechanics of individual programs, I will frame the discussion in terms of three abstract transfer “schemes.” These three schemes reflect the key structural components of most real-world transfer programs.

In writing for a generalist audience, my goal in what follows is to provide a foundation for understanding marginal tax rate mechanics. The details of specific programs—which at any rate may change over time as policies are reformed—are less important than the more general points made below.

1. *NIT Programs*

The classic transfer scheme analyzed in most economics textbooks provides a “guaranteed income” to those with zero earnings and phases benefits out as earnings rise.²² Programs that implement this

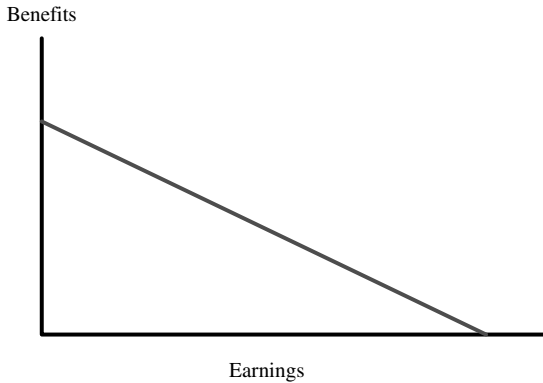
20. See, e.g., MANKIW, *supra* note 14.

21. See, e.g., Daniel N. Shaviro, *Welfare, Cash Grants, and Marginal Rates*, 59 S.M.U. L. REV. 835, 835–36 (2006).

22. Yonatan Ben-Shalom, Robert Mofitt, & John Karl Scholz, *An Assessment of the Effectiveness of Anti-Poverty Programs in the United States* 23 (Nat’l Bureau of

scheme are sometime called “negative income tax” (NIT) programs.²³ In the United States, most traditional safety net programs—including TANF, SNAP, Disability Insurance, and Social Security Income—are modeled as NIT programs.²⁴ Figure 1 illustrates the basic structure of an NIT.²⁵

FIGURE 1: NIT PROGRAM



An NIT program that phases out at a rate of x percent will increase the marginal tax rate within the phaseout range by x percentage points. For example, suppose there is a jurisdiction where there are

Econ. Research, Working Paper No. 17042, 2011), <http://www.nber.org/papers/w17042>.

23. See, e.g., Emmanuel Saez, *Optimal Income Transfer Programs: Intensive Versus Extensive Labor Supply Responses*, 117 Q. J. ECON. 1039, 1040 (2002). The term “negative income tax” was famously used by Milton Friedman, whose tax reform proposal bearing that name would have effectively created a transfer program embodying the NIT structure. See MILTON FRIEDMAN, *CAPITALISM AND FREEDOM* 191–95 (2d ed. 1982) (1962). Under Friedman’s proposal, if a taxpayer’s personal exemptions and deductions exceeded her gross income, she would receive a cash payment from the government. *Id.* The amount of the payment would equal the amount of the excess multiplied by some fraction, called the “subsidy rate” (which Friedman suggested could be 50%). *Id.* The effect of this program would be to provide a guaranteed income (equal to the amount of the personal exemption) that is phased out at the subsidy rate. Unlike the NIT-type programs we have in this country, Friedman’s negative income tax was not a discrete transfer program, but rather was integrated into the income tax system. Sometimes, the term “negative income tax” is used to refer to any transfer mechanism that is so integrated. See, e.g., Shaviro, *supra* note 17. For present purposes, I will not use the term in this manner. Instead, I will use the term NIT to refer to discrete transfer programs whose general shape mirrors the one proposed by Friedman.

24. See Saez, *supra* note 23, at 1040.

25. Note that while the program illustrated above has a uniform phaseout rate, an NIT program might phase out at different rates over different ranges. For example, an NIT program with a guaranteed income level of \$10,000 might phase out at a rate of 25% between \$0 and \$5000, and a rate of 70% thereafter.

only two programs affecting marginal tax rates: an income tax and an NIT program. Assume this jurisdiction taxes income between \$0 and \$10,000 at a rate of 15%, and income above \$10,000 at a rate of 30%. Furthermore, suppose the NIT program provides a \$10,000 guaranteed income and includes a uniform 50% phaseout rate. In this hypothetical jurisdiction, the cumulative marginal rate schedule would be as follows:

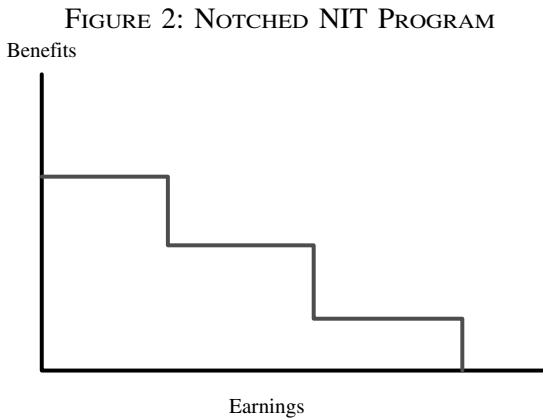
Income Range (\$)	Income Tax Rate (%)	Transfer Phaseout Rate (%)	Cumulative Marginal Tax Rate (%)
0 – 10,000	15	50	65
10,000 – 20,000	30	50	80
Above 20,000	30	N/A – phaseout complete	30

Between \$0 and \$10,000, the 50% phaseout on top of the 15% income tax creates a cumulative marginal tax rate of 65%. In the \$10,000 to \$20,000 range, the phaseout plus the 30% income tax rate generates an 80% marginal rate. After \$20,000, the transfer program has phased out completely and the only thing affecting rates is the income tax. Thus, after \$20,000, the marginal tax rate is just the income tax rate of 30%. As this example illustrates, an NIT program, by virtue of the phaseout, increases marginal tax rates by an amount equal to the phaseout rate.

2. *Notched NIT Programs*

An alternative scheme—a variant of the NIT scheme—also provides a guaranteed income, but instead of phasing benefits out gradually, this scheme reduces benefits in large chunks at various intervals. For example, a program that implemented this basic scheme might provide a guaranteed income of \$9000, which is reduced in the following way: when earnings reach \$2500, benefits drop from \$9000 down to \$6000; when earnings reach \$5000, benefits drop from \$6000 to \$3000; and when earnings reach \$7500, benefits drop to \$0. I will refer to programs that implement this kind of scheme as “notched NIT programs.” The notched NIT structure is typically used for the provision of certain in-kind benefits that would be difficult to phase out gradually. For example, Medicaid and CHIP, which provide low-income individuals with health insurance, generally embody the notched

NIT design.²⁶ Figure 2 illustrates the general structure of a notched NIT program.



Technically speaking, because marginal tax rates are measured according to the next dollar earned, a notched NIT program will not increase a person’s marginal tax rate unless she is on the edge of a notch—that is, unless earning an additional dollar would trigger a reduction in benefits. A person who finds herself on the edge of a notch will typically face an astronomically high marginal tax rate. For example, if earning an additional dollar would subject someone to a notch loss of \$200, the notch would increase that person’s marginal tax rate by 2000 percentage points.

Describing the situation in this way, however, obfuscates the way in which notched NIT programs affect incentives. While the term “marginal tax rate” is defined in terms of the next dollar earned, in the real world, when people increase their earnings, they tend to do so in increments of more than just one dollar. Thus, when considering whether or not to take on additional work, what is ultimately important is not one’s marginal tax rate, defined narrowly as the rate of tax on the next dollar earned, but rather the *average* marginal rate applied to the entire earnings increase. When analyzing a transfer program with a notch, it is important to keep this point in mind.

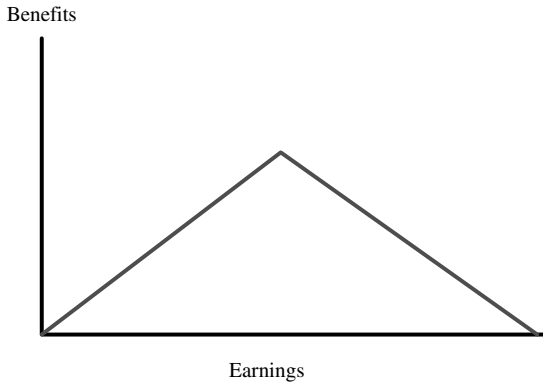
3. *Earnings Subsidies*

A third kind of transfer scheme is an earnings subsidy. The standard earnings subsidy provides no support to those with no income,

26. In addition, both TANF and SNAP feature notches at the end of their phaseout ranges.

but pays earners a bonus equal to a fixed percentage of their annual earnings. An earnings subsidy will only subsidize earnings below a certain threshold. After the threshold, the subsidy will phase out. Within this phaseout range, the program resembles an NIT. Figure 3 illustrates a traditional earnings subsidy transfer program.

FIGURE 3: EARNINGS SUBSIDY



Generally speaking, the EITC embodies this basic structure.²⁷ The major difference between the EITC and the earnings subsidy depicted above is that the EITC includes a small “plateau” region between the subsidy range and the phaseout range, where the amount of the credit remains the same irrespective of income.

Within the “phase-in” range, an earnings subsidy actually decreases cumulative marginal tax rates. An earnings subsidy that phases in at a rate of x percent over a particular income range will decrease the marginal tax rate over that range by x percentage points.²⁸ This means that earnings subsidies can bring marginal tax rates below zero. For example, consider a jurisdiction with an income tax and an earnings subsidy. Suppose this jurisdiction taxes income between \$0 and \$10,000 at a rate of 15%, and income above \$10,000 at a rate of 30%. Furthermore, suppose the earnings subsidy phases in at a rate of 30% until income reaches \$10,000, at which point the subsidy is phased out at a rate of 20%. In this hypothetical jurisdiction, the cumulative marginal rate schedule would be as follows:

27. Saez, *supra* note 23, at 1041.

28. For example, if earning an additional dollar means paying twenty cents in tax and receiving a fifteen cent subsidy, one will pay a net of five cents on an additional dollar earned, meaning one’s effective marginal tax rate is 5%.

Income Range (\$)	Income Tax Rate (%)	Phase-in Rate (%)	Phaseout Rate (%)	Cumulative Marginal Rate (%)
0 – 10,000	15	30	N/A – benefits still phasing in	15
10,000 – 25,000	30	N/A – phase in complete	20	50
Above 25,000	30	N/A –phase in complete	N/A – phaseout complete	30

Between \$0 and \$10,000, the 15% income tax combines with the 30% phase-in rate to generate a cumulative marginal tax rate of *negative* 15%. In this range, the after-tax return on an additional dollar of earnings is \$1.15. After \$10,000, the income tax rate jumps to 30%, and the subsidy begins phasing out at a rate of 20%. As a result, the marginal tax rate between \$10,000 and \$25,000 (where the phaseout completes) is 50%. Above \$25,000, the earnings subsidy is completely phased out and the marginal rate is just the income tax rate of 30%.

4. Combining Multiple Transfer Programs and Tax Systems

Thus far, we have seen two illustrations of the cumulative marginal tax rates that result from combining a single transfer program and a single tax system. Yet in reality, almost all households are subject to more than one tax system, and some low-income households participate in more than one transfer program. Thus, it is worth illustrating the marginal tax rates that result from combining multiple tax regimes and multiple transfer programs together.

Consider a jurisdiction where there are four policies affecting marginal tax rates: a federal income tax, a state income tax, an NIT-style transfer program, and an earnings subsidy. Suppose the following: (1) the federal income tax system imposes a 15% rate between \$0 and \$10,000, and a 30% rate thereafter; (2) the state income tax imposes a rate of 3% from \$0 to \$20,000, and a 5% rate thereafter; (3) the NIT program provides a \$10,000 guaranteed income and includes a uniform 50% phaseout rate; and (4) the earnings subsidy phases in at a rate of 30% until income reaches \$10,000, at which point the subsidy is phased out at a rate of 20%. In this hypothetical jurisdiction, the cumulative marginal rate schedule would be as follows:

Income Range (\$)	Federal Income Tax Rate (%)	State Income Tax Rate (%)	Earnings Subsidy Phase-in Rate (%)	Earnings Subsidy Phaseout Rate (%)	NIT Phaseout Rate (%)	Cumulative Marginal Tax Rate (%)
0 – 10,000	15	3	30	N/A – benefits still phasing in	50	38
10,000 – 20,000	30	3	N/A – phase in complete	20	50	113
20,000 – 25,000	30	5	N/A – phase in complete	20	N/A – phaseout complete	55
Above 25,000	30	5	N/A – phase in complete	N/A – phaseout complete	N/A – phaseout complete	35

As this chart illustrates, the cumulative marginal tax rate at any given income level will equal the sum of the federal income tax rate, the state income tax rate, the earnings subsidy phaseout rate (if applicable), and the NIT phaseout rate, *less* the earnings subsidy phase-in rate (if applicable). Note that in the income range where both the earnings subsidy and the NIT program are phasing out—that is, between \$10,000 and \$20,000—the marginal tax rate is extremely high, at 113%. While this is just a stylized illustration using hypothetical tax-and-transfer programs with made-up parameters, these rates are indicative of the cumulative marginal tax rates that result from combining various tax systems and transfer programs in the real world.

B. Cumulative Marginal Tax Rates in the Real World

Calculating real-world marginal tax rates is no easy task. Indeed, as Harvard professors Jeffrey Liebman and Richard Zeckhauser once noted, “even economists have a hard time computing effective marginal tax rates.”²⁹ This is true for a number of reasons. For one, the internal rules of individual programs are often extremely complex. For another, the rules of different programs can interact in complex ways, making analysis of multiple program use especially complicated. Finally, as discussed in greater detail in Part III, different rules often apply to different households, based on a variety of factors—for example, state residence and household makeup.

29. Jeffrey B. Liebman & Richard J. Zeckhauser, Schmeduling 9 (Oct. 2004) (unpublished manuscript), <http://www.hks.harvard.edu/jeffreyliebman/schmeduling.pdf>.

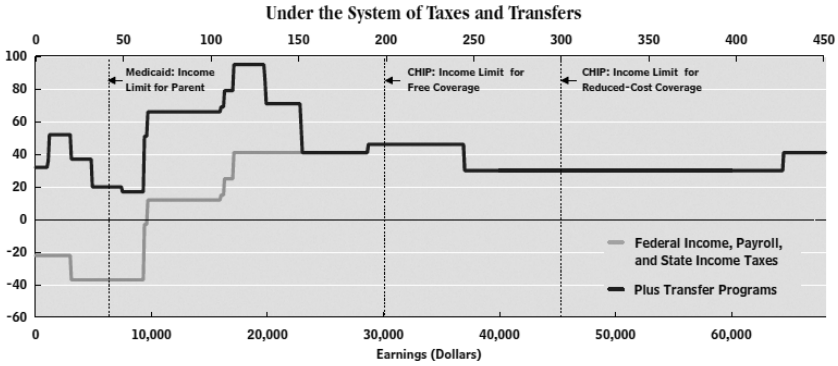
Despite these difficulties, a number of studies have attempted to calculate the cumulative marginal tax rates that result from participation in the major transfer programs available to low-income households in the United States. To deal with the fact that program parameters often vary by household makeup, most marginal tax rate studies proceed in the following way. First, researchers posit a hypothetical household with stipulated characteristics. For example, many studies posit a household consisting of one parent and two children, as such families generally qualify for more benefits and thus face higher marginal tax rates.³⁰ Second, researchers determine the set of transfer programs in which the hypothetical household will participate. Often this is all or most of the major transfer programs for which the household would be eligible.³¹ Finally, researchers apply the rules on the books to determine the marginal tax rates that would apply to the hypothetical household at various income levels.

Probably the most widely-reported marginal tax rate study of this kind was published by the Congressional Budget Office (CBO) in 2012.³² The CBO's study analyzed the cumulative marginal tax rates that would apply to a one-parent, one-child household as a result of the federal income tax, federal payroll taxes, state income taxes, the EITC, the child tax credit (CTC), SNAP, TANF, and the Housing Choice Voucher Program (Section 8). To deal with the fact that the parameters of some programs vary by state, the CBO assumed that its hypothetical household resided in Pennsylvania. Applying the laws on the books as of 2012, the CBO calculated the following cumulative marginal rate schedule:

30. See, e.g., Elaine Maag, C. Eugene Steuerle, Ritadhi Chakravarti, & Caleb Quakenbush, *How Marginal Tax Rates Affect Families at Various Levels of Poverty*, 65 NAT'L TAX J. 759 (2012); Stephen D. Holt & Jennifer L. Romich, *Marginal Tax Rates Facing Low- and Moderate-Income Workers Who Participate in Means-Tested Transfer Programs*, 60 NAT'L TAX J. 253 (2007); Shaviro, *supra* note 7, at 1191.

31. See, e.g., Maag et al., *supra* note 30, at 766 (calculating effective marginal tax rates for households participating in Medicaid/CHIP, the EITC, the CTC, SNAP, and TANF); Holt & Romich, *supra* note 30, at 255–60 (calculating marginal tax rates for households participating Medicaid/CHIP, the EITC, the CTC, the child and dependent care tax credit (CDCTC), the Wisconsin State EITC, SNAP, and subsidized child-care); Shaviro, *supra* note 7, at 1193–99 (calculating marginal tax rates for households participating in Medicaid, the EITC, SNAP, TANF, and federal housing subsidies).

32. CONG. BUDGET OFFICE, PUB. NO. 4149, EFFECTIVE MARGINAL TAX RATES FOR LOW- AND MODERATE-INCOME WORKERS (2012), <https://www.cbo.gov/publication/43709> [hereinafter "CBO STUDY"].



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This schedule lists cumulative marginal tax rates³⁴ along the vertical axis. As one can see, over some income ranges, cumulative marginal tax rates are extremely high. The highest rate—which applies to income between \$17,100 and \$19,700—is 95%.³⁵ This is in line with the top marginal tax rates found in other studies.³⁶

C. Reducing High Marginal Tax Rates and the Tradeoffs Involved

Marginal tax rate studies—the CBO’s in particular—have led many to conclude that marginal tax rates on low-income households are too high and must be lowered. For example, Senators Mike Lee and Marco Rubio have recently argued that “the EITC must be reformed in conjunction with means-tested welfare programs with the express goal of eliminating high marginal tax rates.”³⁷ Meanwhile, the Cato Institute’s Charles Hughes has concluded that marginal tax rates are too high and that “[t]he current system . . . needs comprehensive

33. CBO STUDY, *supra* note 32, at 44 fig.2.

34. While marginal tax rates are traditionally measured in terms of the next dollar earned, the CBO measures marginal tax rates according to “the change in tax liability and transfer benefits associated with a \$100 increase in annual earnings.” CBO STUDY, *supra* note 32, at 9.

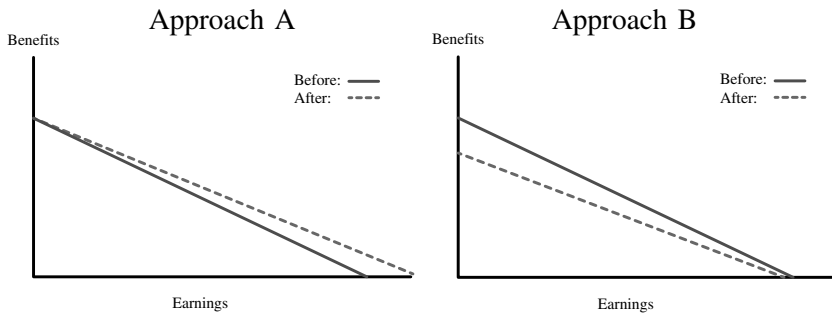
35. CBO STUDY, *supra* note 32, at 14. It is worth noting that while CBO did not include reductions in Medicaid or CHIP in its marginal rate calculations, Figure 2 highlights the point at which “notch” losses in those programs occurred under 2012 law. The Affordable Care Act’s Medicaid expansions—which began taking effect in 2014 for states that did not opt out—shifted the location of some of these notch thresholds. Also, the Affordable Care Act’s exchange subsidies significantly reduced the “cliff” effect of these thresholds—essentially converting the notch losses into smoother phasedowns. For a helpful illustration of how the exchange subsidies reduce the “cliff” effect of the Medicaid and CHIP notches, see Maag et al., *supra* note 30, at 765 fig.1.

36. See, e.g., Maag et al., *supra* note 30, at 767; Holt & Romich, *supra* note 30, at 261; Shaviro, *supra* note 7, at 1195–96.

37. LEE & RUBIO, *supra* note 1.

reforms.”³⁸ Tax scholar Edward McCaffery has also weighed in, concluding that “[i]t is time to fix this situation.”³⁹ In addition, the Heritage Foundation’s Salim Furth has stated that “[w]ith the tax code ripe for reform, policymakers should remember: Marginal tax rates are dangerously high for some on the lower end of the pay scale.”⁴⁰

Any reform aimed at lowering marginal tax rates on the poor should focus on the structure of transfer programs. After all, the phaseouts of such programs produce the high marginal rates. There are essentially two ways to reduce the phaseout rate of a transfer program. One option (“Approach A”) is to make benefits available at higher income levels so that the phaseout is more gradual. The other option (“Approach B”) is to reduce the maximum benefit level so there is less to phase out. The figure below illustrates both approaches as applied to a traditional NIT program:



As this figure helps illustrate, either approach would involve difficult tradeoffs. By expanding the overall size of the transfer program, Approach A would require additional revenue, which would have to be funded by tax increases at higher income levels or by cuts elsewhere in the budget. Meanwhile, Approach B would reduce the amount of aid available to poor families, with the poorest families taking the biggest hit. A recent study by the Center on Budget and Policy Priorities estimates that reducing the phaseout of the EITC by just ten percentage points would require either \$17 billion per year in additional revenue, or a 20% reduction in the maximum EITC, which would mean a benefits reduction of more than \$1100 for families making as little as \$10,750 per year.⁴¹

38. Hughes, *supra* note 10.

39. McCaffery, *supra* note 13.

40. Furth, *supra* note 9, at 4.

41. PARROTT & GREENSTEIN, *supra* note 15.

Merely recognizing that these tradeoffs exist does not lead to any particular policy conclusion. It simply indicates that the right path will involve balance. High marginal tax rates on the poor are widely considered to be a problem, but to what level should they be lowered? To put the same point slightly differently, how do we identify the point where the costs of reducing high marginal tax rates outweigh the benefits? Part II discusses this question in depth.

II.

TOWARDS A FRAMEWORK FOR EVALUATING MARGINAL TAX RATES

A. *What's Wrong with High Marginal Tax Rates?*

Before we can determine the point at which marginal tax rates on low-income households are too high, we first need to know why high marginal tax rates are a problem. To avoid confusion, let's begin by pointing out that marginal tax rates need not be low at the bottom of the income distribution (or high at the top) for the overall tax system to be progressive.⁴² A progressive tax system is "one in which the average tax rate—the proportion of income paid in taxes—increases with income."⁴³ And as economists and tax scholars have long understood, one can design a progressive tax system with flat, or even declining, marginal rates.⁴⁴ Indeed, the tax-and-transfer system currently in place in the United States imposes high (effective) marginal tax rates on the poor, and yet still is generally progressive, with the poorest families generally facing low or even negative average tax rates.⁴⁵ In short, high marginal tax rates at the bottom of the income distribution are compatible with progressivity. This is a point on which people are often confused.⁴⁶ In the discussion that follows, avoiding such confusion will be essential, so as to focus on the real concern with high marginal tax rates.

42. This is a slightly different point than the one made in the introduction, which noted that effective marginal tax rates on the poor can be high even if the statutory marginal tax rates in I.R.C. § 1 are low.

43. David C. Kamin, Note, *What Is a Progressive Tax Change?: Unmasking Hidden Values in Distributional Debates*, 83 N.Y.U. L. REV. 241, 243 (2008).

44. See Lawrence Zelenak & Kemper Moreland, *Can the Graduated Income Tax Survive Optimal Tax Analysis?*, 53 TAX L. REV. 51, 56 (1999).

45. PARROTT & GREENSTEIN, *supra* note 15, at 2 ("While families with incomes modestly above the poverty line can face high *marginal* tax rates, they typically face very low or even negative *average* tax rates.").

46. See Shaviro, *supra* note 21, at 835–36 (discussing the commonly-believed "falsism" that graduated marginal rates are essential to progressivity).

Properly understood, high marginal tax rates are a concern because of their effect on marginal work incentives.⁴⁷ When someone faces a high marginal tax rate, she receives a low after-tax payoff from an additional dollar earned. As a result, she may consider a small or moderate-sized earnings increase not worth the extra effort.⁴⁸ Thus, in observing that marginal tax rates on low-income households are relatively high, the key point to take away is that low-income households have relatively less incentive to earn marginally more.

Why is this a problem? A reason sometimes given for wanting people to work more is the so-called “moral value of work.” The idea here is that the less people engage in paid work, the more likely they will be to develop vices, such as laziness and dependence.⁴⁹ In observing that marginal tax rates on low-income households are high, those who believe in the moral value of work may be concerned that such households will be discouraged from working more, and, as a result, will “drift into lives of indolence and despair.”⁵⁰

The “moral value of work” view is questionable on multiple grounds. First, as an empirical matter, it is far from clear that a margi-

47. As the CBO explains, “A person’s marginal tax rate influences many different decisions about working: whether to increase or decrease the number of hours worked, bargain for wages or non-taxable fringe benefits, get or quit a second job, or enter or leave the labor force.” CBO STUDY, *supra* note 32, at 2.

Some have argued that, beyond their effect on work incentives, high marginal tax rates are objectionable because “people ‘deserve’ to retain at least a certain proportion of the earnings gained by extra effort.” A.B. ATKINSON, PUBLIC ECONOMICS IN ACTION: THE BASIC INCOME/FLAT TAX PROPOSAL 79 (2003); *see also* Holt & Romich, *supra* note 30, at 257 (noting that “[b]eyond economic effects, high [marginal tax rates] may be problematic on moral grounds” because they mean that some will receive minimal “rewards for increasing their efforts”); *cf.* Shaviro, *supra* note 7, at 1192 (noting that households subject to high marginal tax rates are significantly deprived of work’s rewards). Could desert-based concerns place an upper limit on the kinds of marginal tax rates that are permissible? Perhaps, but drawing the line on a principled basis could be difficult. Assuming that some level of taxation is permissible, when is the after-tax return on an additional dollar earned too low? Furthermore, if desert is our concern, should we really be troubled when an earnings increase triggers a loss in unearned benefits? These are difficult questions that proponents of the desert-based argument must address.

48. PARROTT & GREENSTEIN, *supra* note 15, at 11 (“By lowering the net benefit from working an additional hour, a higher marginal tax rate could lead someone to work less than he or she otherwise would.”).

49. This concern is often expressed in connection with the potential of transfer programs to create “income effects,” which occur when people are discouraged from working more because the transfer program increases their disposable income. *See, e.g.*, John Aziz, *Does Welfare Make People Lazy?*, THE WEEK (Mar. 18, 2014), <http://theweek.com/articles/449215/does-welfare-make-people-lazy>.

50. *Taxing Hard-Up Americans at 95%*, THE ECONOMIST (Sept. 7, 2013), <http://www.economist.com/news/united-states/21585010-americas-welfare-state-not-working-nearly-well-it-should-taxing-hard-up-americans>.

nal reduction in work hours is likely to lead to laziness or dependence.⁵¹ Second, as a normative issue, the notion that discouraging laziness or dependence ought to be an end of tax-and-transfer policy is controversial.⁵² Thus, while the “moral value of work” view may resonate with some, it is open to serious criticism.

A more widely-accepted reason for wanting people to work more is economic efficiency. Scholars on both the right⁵³ and left⁵⁴ generally agree that economic efficiency is an appropriate goal of public policy. Furthermore, it is well understood that when high marginal tax rates induce people to work less, this produces an efficiency loss.⁵⁵ The basic idea can be explained as follows: When a person decides to work less because her marginal tax rate is too high, she is essentially foregoing what would have been a mutually beneficial exchange between her and her employer. Without the tax, the worker would have been willing to work more, and the employer would have been willing to pay her for the additional labor.⁵⁶ This indicates that the exchange would have produced value for both the worker and the employer. This lost value is what we mean when we say that the tax caused an efficiency loss.⁵⁷

Indeed, economists believe that the efficiency loss associated with a tax generally increases with the square of the marginal rate. This means, for example, that compared to a 30% marginal tax rate, a marginal tax rate of 90% is not three but rather *nine* times as ineffi-

51. For instance, a parent who decides to work marginally less may invest the extra time in child rearing—no doubt a productive activity requiring significant effort. This point is sometimes overlooked in debates about tax-and-transfer policy. See Anne Alstott, *The Earned Income Tax Credit and the Limits of Tax-Based Welfare Reform*, 108 HARV. L. REV. 533, 546 n.49 (1995).

52. For example, from the perspective of liberalism, it is not the government’s role to tell the idle how to live. See Anne Alstott, *Work vs. Freedom*, 108 YALE L.J. 967, 981 (1999) (“[I]n a truly liberal regime even the slackers have an equal right to their fair share of resources to fulfill their own vision of the good life.”). Similarly, the welfarist will have no objection to laziness in and of itself (although welfarism may provide distinct grounds for encouraging productive activity).

53. See, e.g., Richard A. Epstein, *Why Restrain Alienation?*, 85 COLUM. L. REV. 970, 988–90 (1985) (arguing on efficiency grounds against restraints on property alienation).

54. See, e.g., Oren Bar-Gill & Elizabeth Warren, *Making Credit Safer*, 157 U. PA. L. REV. 1, 58–64 (2008) (arguing on efficiency grounds for more stringent regulation of consumer credit markets).

55. See, e.g., MANKIW, *supra* note 14, at 248–53.

56. This is not assuming anything. It is just what it means to say that the tax caused the individual to work less. But for the tax, the exchange would have taken place.

57. See generally MANKIW, *supra* note 14, at 248–53.

cient.⁵⁸ This suggests that the efficiency costs of the high marginal tax rates discussed in Part I are significant.

B. *The Equity-Efficiency Tradeoff*

Efficiency is only one objective of tax-and-transfer policy. Another widely-held goal is equity. Given the declining marginal utility of income, tax policy experts of all stripes generally agree that equity requires a tax-and-transfer system with some level of progressive redistribution to assist those at the bottom.⁵⁹ The problem is that, in order to target those who are most in need, programs that redistribute resources must phase out as income rises.⁶⁰ Such phaseouts increase marginal tax rates.⁶¹ Thus, while efficiency pushes in favor of lower marginal tax rates at the bottom of the income distribution, equity generally pushes in the opposite direction.⁶²

C. *Drawing Lessons from Optimal Tax Analysis*

In light of the equity-efficiency tradeoff, we cannot conclude that a given marginal tax rate is too high without knowing what the *optimal* rate would be—that is, without knowing what rate strikes the ideal balance between equity and efficiency. How do we determine the marginal tax rates that are optimal? This was the question asked by economist James Mirrlees in his Nobel Prize-winning article, *An Exploration in the Theory of Optimal Income Taxation*.⁶³ Using sophisticated mathematical techniques, Mirrlees showed how a utilitarian, making certain economic assumptions, could determine the tax-and-transfer structure that maximized aggregate utility.⁶⁴ The basic thrust is to allow for progressive redistribution up to the point where the efficiency losses outweigh the utility gains. Mirrlees's work spawned an entire literature, known as optimal tax analysis (“optimal tax” for short). Subsequent optimal tax research asked how Mirrlees's results

58. Shaviro, *supra* note 7, at 1197–98.

59. Cf. David C. Kamin, *Poverty, Not Inequality: What Changes in a Tax System Can Achieve*, 66 TAX L. REV. 593, 594 (2013) (noting that “many, of different ideological stripes, agree that poverty matters can and should be reduced”).

60. Alstott, *supra* note 52, at 564.

61. See *supra* Part II.A.

62. Alstott, *supra* note 52, at 564.

63. James Mirrlees, *An Exploration in the Theory of Optimal Income Taxation*, 38 REV. ECON. STUD. 175 (1971).

64. In moral philosophy, the term “aggregate utility” refers to the figure you would get if you could measure each individual's level of well-being along a common scale, and then add all the individual measures together. The theory of utilitarianism holds that morality requires us to try to maximize aggregate utility. See generally Amartya Sen, *Utilitarianism and Welfarism*, 76 J. PHIL. 463 (1971).

would change under different economic assumptions, and upon using various equity weightings⁶⁵ to calculate aggregate utility.⁶⁶

As law professors Daniel Shaviro⁶⁷ and Louis Kaplow⁶⁸ have both acknowledged, the findings of optimal tax analysis should be of great help to those who wish to normatively evaluate the actual marginal rate structure in the United States. By providing estimates of the marginal tax rates that would be ideal, the optimal tax literature should be useful, for example, in determining the extent to which the rates observed in studies like the CBO's are too high. This, in turn, should help policymakers determine the reforms that would be appropriate, given that—as discussed in Part I-C above—lowering marginal tax rates will inevitably involve difficult tradeoffs.

Despite this, evaluations of the current marginal rate structure have generally ignored the findings of optimal tax analysis. For example, in his testimony before the House Ways & Means Committee, economist and Urban Institute chair C. Eugene Steuerle argued that marginal tax rates on low- and moderate-income households should be lowered.⁶⁹ Yet nowhere in his testimony did Steuerle reference the findings of optimal tax analysis. Indeed, Steuerle's testimony provided no basis at all for determining when marginal tax rates are too high. Accordingly, in reporting that marginal rates on low-income households “commonly reach[] 50%,”⁷⁰ Steuerle provided the committee members with no way of determining whether this finding represents a significant problem. This is notable because the optimal tax literature suggests that a 50% marginal tax rate at the bottom of the income distribution may indeed be optimal (or close thereto).⁷¹

Why have serious economists like Steuerle ignored the optimal tax literature when analyzing cumulative marginal tax rates? One possibility is that optimal tax studies operate within a welfarist normative framework—meaning the sole end is to find the rate structure that maximizes the sum (or weighted sum) of every individual's utility⁷²—

65. Equity weightings place greater value on the utility of those who are worse off. See Joseph Bankman & Thomas Griffith, *Social Welfare and the Rate Structure: A New Look at Progressive Taxation*, 75 CAL. L. REV. 1905, 1916, 1949 (1987).

66. Shaviro, *supra* note 17, at 466–67.

67. Shaviro, *supra* note 17.

68. Kaplow, *supra* note 18.

69. *Marginal Tax Rates, Work, and the Nation's Real Tax System: Joint Hearing Before the Subcomms. on Human Res. and Select Revenue Measures of the H. Comm. on Ways & Means*, 112th Cong. (2012) (statement of C. Eugene Steuerle, Institute Fellow and Richard B. Fischer chair, Urban Institute).

70. *Id.* at 1.

71. See *infra* Part III.

72. See Shaviro, *supra* note 17, at 467.

and not everyone accepts welfarism as a theory of distributive justice. Indeed, many believe that justice involves more than merely maximizing aggregate welfare. For example, philosopher and economist Amartya Sen argues that morality forbids certain behavior—for example, torture—even if that behavior maximizes aggregate utility, suggesting that the welfarist account of morality is at best incomplete.⁷³ This is a position with which many may agree.

But this kind of opposition to welfarism is no reason to ignore the findings of optimal tax analysis. Even if maximizing aggregate utility is not always what morality requires, few would hold that utility levels are morally unimportant. In other words, all else equal, most people would prefer a world where the level of aggregate utility is higher rather than lower. Thus, optimal tax studies—which seek to determine the tax-and-transfer policies that best promote aggregate utility—should be relevant to most, even if many do not accept a strictly welfarist theory of justice.⁷⁴ On this point, consider the following passage from philosophers Liam Murphy and Thomas Nagel:

The normative parameters of optimal tax analysis, which are those of welfare economics, are in our opinion too narrow to allow it to produce a full account of tax justice, *but its results nevertheless provide information essential for the implementation of any non-libertarian conception of justice.*⁷⁵

In other words, unless we are willing to conclude that utility does not matter (as a rights-based libertarian might), the findings of optimal tax analysis should be morally important. The question then becomes how to apply the lessons of optimal tax analysis to the real world. It is to this question that I now turn. Part III provides some background on the methods of optimal tax analysis and discusses the literature's main findings. Part IV draws some general lessons from the optimal tax literature that should inform policy proposals in the real world. Part V identifies two practical challenges to operationalizing optimal tax analysis, and discusses a reform that could help make optimization easier.

73. See, e.g., Sen, *supra* note 64, at 471–79.

74. See Shaviro, *supra* note 17, at 467 (“Welfarism is controversial as a basis for tax policy Nonetheless, Mirrlees’s basic formulation of the rate structure problem should have broader appeal.”).

75. LIAM MURPHY & THOMAS NAGEL, *THE MYTH OF OWNERSHIP: JUSTICE IN TAXATION* 56 (2002) (emphasis added).

III.

OPTIMAL INCOME TAXATION: GOALS, METHODS AND
FINDINGSA. *Goals and Methods*

The goal of this paper is to grapple with the problem of high marginal tax rates on low- and moderate-income households—in other words, to grapple with a particular perversion that arises from current tax-and-transfer policies. That is not the goal of optimal tax analysis. Optimal tax researchers generally do not evaluate real-world policies, but instead seek to determine the basic tax and transfer structures that would in theory maximize aggregate social welfare. To do so, they analyze hypothetical tax-and-transfer systems that in form look very different from anything we have in the United States. These systems consist of a single income tax, and they utilize demogrants to achieve redistribution. A demogrant is a refundable tax credit that does not phase out. A tax-and-transfer system that utilizes a demogrant essentially replaces the “hidden” marginal tax rate of a phaseout with an explicit marginal tax rate levied through the income tax.⁷⁶

While in form, a demogrant-based tax-and-transfer system looks quite different from the tax-and-transfer system we have in the United States, which uses discrete transfer programs with explicit phaseouts instead of a single demogrant whose “phaseout” is integrated into the income tax, no substantive differences necessarily follow. Given a demogrant-based tax-and-transfer system, one could design a substantively equivalent system using discrete transfer programs. The reason the optimal tax literature uses demogrant-based systems is because they are easier to analyze.⁷⁷

To determine the tax-and-transfer system that maximizes aggregate welfare, optimal tax researchers make a variety of assumptions. For instance, researchers must assume certain economic unknowns, such as the elasticity of earned income and the rate at which the marginal utility of money declines. In addition, researchers must also make normative certain assumptions—namely, whether to give any special weight to the welfare of those who are worse off, and if so, how much. Once these assumptions are made, optimal tax researchers use sophisticated mathematical models to analyze tax-and-transfer systems with different rate structures and demogrant sizes, and determine the one that maximizes the sum (or weighted sum) of individual utilities.

76. See generally Shaviro, *supra* note 21.

77. See *id.*

B. Findings

1. Tax Rates

What does the optimal tax literature tell us? How high should marginal tax rates on low-income households be? While the results of individual studies vary based on modeling assumptions, “the simulations rather uniformly support fairly high marginal rates at the lower end of the income distribution.”⁷⁸ The basic intuition behind this finding is that high marginal tax rates at the bottom of the income distribution have a relatively small impact on efficiency, meaning the equity side of the scale exerts more force. As Lawrence Zelenak and Kemper Moreland explain,

High tax rates impose an efficiency cost only when they apply at the margin—that is, at the point where a taxpayer actually is choosing between paid work and leisure. When a high tax rate applies to a taxpayers’ submarginal earnings, it raises revenue for utility-enhancing redistribution without substitution effect distortion. To that taxpayer, the high rate on submarginal income functions as a nondistorting lump sum tax.⁷⁹

In light of this fact, most optimal tax studies find that the optimal “low-income marginal rates tend to be in the forty to sixty percent range, although some specifications lead to their being below thirty percent or above eight[y] percent.”⁸⁰

While traditional optimal tax studies suggest that rates should be high throughout the low end of the income distribution, several more recent studies have argued that the optimal rate at the very bottom (roughly, below \$6000) may in fact be low or even negative.⁸¹ As these later studies demonstrate, low rates at the bottom are optimal if behavioral responses to taxes are concentrated less along the “intensive margin,” and more along the “extensive margin”—that is, if tax rates have a relatively small impact on the decision of how much to work, but a relatively large impact on the decision of whether or not to work at all.⁸²

Empirical research indicates that tax rates do indeed have such an impact, suggesting that low rates at the very bottom of the income

78. Kaplow, *supra* note 18, at 78.

79. Zelenak & Moreland, *supra* note 44, at 54.

80. Shaviro, *supra* note 21, at 850.

81. See Saez, *supra* note 23; Peter Diamond, *Income Taxation with Fixed Hours of Work*, 13 J. PUB. ECON. 101, 108–109 (1980).

82. Peter Diamond & Emmanuel Saez, *The Case for a Progressive Tax: From Basic Research to Policy*, 25 J. ECON. PERSP. 165, 175–77 (2011).

distribution may in fact be optimal.⁸³ There is no consensus regarding just how low such rates should be, but one optimal tax study found that if behavioral responses to taxes were perfectly inelastic along the intensive margin, and perfectly elastic along the extensive margin, the optimal average marginal rate between \$0 and \$6000 would be negative 23%.⁸⁴ This, of course, is not a realistic assumption, but it may provide a lower bound.

In sum, while the results of optimal tax studies vary, many simulations find that rates on low-income households should be between 40% and 60%, except, perhaps, for those at the very bottom of the income distribution (roughly, those earning below \$6000 per year), where rates should be lower or even negative.

2. *Benefit Levels*

While this paper is mainly concerned with tax rates, we cannot ignore what the optimal tax studies say about benefit levels—that is, about the optimal demogrant size. Indeed, 40% to 60% marginal tax rates at the bottom of the income distribution will only maximize social welfare if the demogrant is sufficiently large. The two are a package deal. In drawing lessons from the optimal tax literature, one of the biggest mistakes one can make is to assume that high rates are optimal even if benefit levels are low. This is simply not the case. For example, Zelenak and Moreland estimate that if benefit levels were fixed at zero—that is, if redistribution were not an option—then the welfare-maximizing rates at the bottom of the income distribution would in fact be quite low.⁸⁵

Just as studies vary with respect to the tax rates they find to be optimal, so too do they vary with respect to the optimal demogrant size. That said, one widely cited study finds that the optimal demogrant would equal 34% of the average income.⁸⁶ The average income in the United States for 2014 was \$75,738. Thirty-four percent of this figure would produce a demogrant of \$25,751. Other studies find that the optimal demogrant could be as high as 60% of average income.⁸⁷ Using the average income in the United State in 2014, this would produce a demogrant of \$45,442.

83. Saez, *supra* note 23, at 1060.

84. *Id.*

85. Zelenak & Moreland, *supra* note 44, at 54.

86. Kaplow, *supra* note 18, at 76.

87. N. Gregory Mankiw, Matthew Weinzierl, & Danny Yagan, *Optimal Taxation in Theory and Practice* (Nat'l Bureau of Econ. Research, Working Paper No. 15071, 2009).

IV.

COMPARING THE ACTUAL TO THE OPTIMAL

A. *Complications in Comparing the Actual to the Optimal*

As we observed in Part I-B, marginal tax rate studies like the CBO's routinely observe low-end rates at or near 100%. Compared to the 40% to 60% rates recommended by many optimal tax studies, 100% marginal tax rates are obviously too high. But using the rates recommended by standard optimal tax studies as a baseline may actually understate the problem. There are two reasons why this may be the case.

First, standard optimal tax studies assume that we cannot apply separate tax-and-transfer schedules to households with different earning abilities. However, as Louis Kaplow demonstrates,⁸⁸ relaxing this assumption suggests that lower-ability households should face lower rates—that is, rates that are lower than what the standard models recommend. This suggests that the 40% to 60% rates recommended by the standard models may be too high a baseline for analyzing the rate schedules applicable to single-parent households, whose ability to earn may be limited by time constraints.

Second, as previously mentioned, low-end marginal tax rates between 40% and 60% are only welfare-maximizing if benefits are sufficiently generous. If, on the other hand, benefits are fixed at a below-optimal level, then the welfare-maximizing marginal rate schedule would likely feature lower rates at the bottom. This point is significant. As I discuss in greater detail in subpart B below, current transfer policies appear to be less generous than the optimal tax literature would recommend, even when viewed in aggregate. Furthermore, significantly increasing the generosity of the current transfer system may be foreclosed for political reasons. This suggests that we are in a world where the welfare-maximizing marginal tax rates will be lower than what the standard optimal tax models recommend.

These points shed light on a bigger issue. When it comes to determining the tax-and-transfer system that would be optimal in a real-world environment, the optimal tax literature still has much to accomplish. For instance, there is no optimal tax study that estimates the optimal tax-and-transfer schedule for one-parent, one-child households under the assumption that benefits are capped at current levels. Unfortunately, this may be what we need in order to analyze marginal rate estimates like the CBO's at any level of detail.

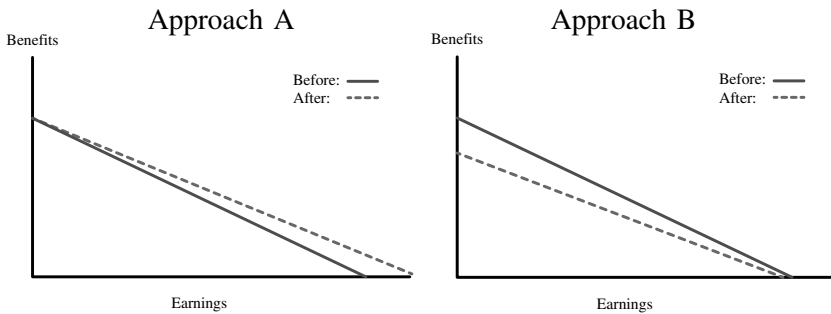
88. Kaplow, *supra* note 18, at 16.

B. Some General Lessons for Reform

Despite the complications noted above, all is not lost. As it currently stands, the optimal tax literature provides us with enough information to draw some rough but important conclusions about how the current tax-and-transfer system should be reformed. For instance, as the above analysis suggests, it seems relatively clear that low-end marginal tax rates near 100% are too high.⁸⁹ Thus, modest reform, aimed at lowering marginal tax rates slightly—say, by ten percentage points or so—would likely be a step in the right direction.

As mentioned, the Center on Budget and Policy Priorities has estimated that reducing marginal tax rates by ten percentage points could cost as much as \$17 billion annually, or, alternatively, result in significant benefit reductions to needy Americans. This is a significant tradeoff, but optimal tax analysis can help us grapple with it. Indeed, grappling with such tradeoffs is exactly what optimal tax analysis was designed to do.

In Part I-C, we noted that there are essentially two ways to reform a transfer program in order to reduce marginal tax rates. The first option (Approach A) is to extend benefits higher up the income distribution. The second option (Approach B) is to reduce maximum benefit levels. Again, those two approaches can be illustrated as follows:



One thing we can take away from the optimal tax literature is that benefit levels should probably not be reduced. Indeed, most optimal tax studies find that the optimal tax-and-transfer system would provide significantly more support to low- and moderate-income families than our current system actually provides. For example, a 2012 study by Maag et al. finds that, taking into account all universally available

89. This also aligns with common sense. Recall that a 100% marginal tax rate means that earning an additional dollar will result in exactly one dollar of cumulative taxes and benefit offsets, eliminating entirely the incentive to take on more work.

transfer programs, cumulative benefits peak at about \$16,000.⁹⁰ Meanwhile, as noted in Part III, the optimal tax literature suggests that benefits should be made significantly more generous—perhaps even as high as \$45,000. This suggests that if policymakers—Lee and Rubio, or others—wish to reduce marginal tax rates, they should *not* do so by taking Approach B.

This leaves us with Approach A. Given that—as the Center on Budget and Policy Priorities estimates—this approach would require significant revenue, how do we determine the best way to pay for the reform? As mentioned, optimal tax research attempts to determine the ideal rates for the entire income distribution. Thus, we can refer to the findings of optimal tax analysis to identify places higher along the income distribution where rates are too low. Increasing those rates will produce revenue, which in turn can be used to fund lowering rates at the bottom. While increasing rates higher up in the income distribution will generate an efficiency loss, if the optimal tax studies we use as our guide are accurate, then the entire reform—reducing rates at the bottom and increasing rates somewhere higher up—should produce a net welfare gain for society.

It is beyond the scope of this paper to analyze where along the income distribution rates should be increased to fund an Approach A-style reduction in rates at the bottom. We can get a sense of the kind of rate increase that would be needed, however, by looking at some real numbers. As mentioned, the Center on Budget and Policy Priorities estimates that reducing marginal tax rates on the poor by ten percentage points—which would be a modest but helpful step in the right direction—would cost roughly \$17 billion annually. According to estimates by the nonpartisan Joint Committee on Taxation, we could generate this amount of revenue by increasing the top marginal tax rate by as little as two percentage points.⁹¹

V.

OPERATIONALIZING OPTIMAL TAX ANALYSIS GIVEN VARIATIONS IN MARGINAL RATE SCHEDULES

If one wanted to implement the marginal tax rates and benefit levels recommended by a particular optimal tax study, it would be easier to start from scratch. Using a demogrant-based tax-and-transfer

90. Maag et al., *supra* note 30, at 765 fig.1.

91. See David Kamin, *How to Tax the Rich*, 146 TAX NOTES 119, 127 (2015) (“For each percentage point increase in the top ordinary income tax rate, those making more than \$1 million would pay about \$7 billion to \$10 billion per year in additional taxes in 2015.”).

system, we could take the parameters directly from the study and—perhaps with some adjustments to account for factors like those discussed in Part IV above—simply enact them into law. But, due to political realities, starting from scratch is likely not an option. If we want to apply the teachings of optimal tax analysis to the real world, it may be best to incrementally reform our current tax-and-transfer policies so that, on the whole, the actual system better approximates the ideal.

For multiple reasons, doing so will be complicated. In what follows, I discuss two sources of complication: state-by-state variation in tax-and-transfer schedules, and variation in program participation. I then suggest that incremental reform towards a more unified tax-and-transfer system could help mitigate these challenges.

A. *State-By-State Variation*

1. *Why State-By-State Variation Occurs*

Marginal rate schedules vary by state. This is partly due to differences in state income taxes—including the fact that some but not all states have a state-level EITC⁹²—but it is also in part due to state-by-state variation in programs such as TANF and SNAP.⁹³ Indeed, such variation can be significant. For example, consider how the parameters of TANF vary from state to state. In Wisconsin—the state in which TANF benefits tend to be the most generous—the maximum monthly benefit for a single parent of two is \$653,⁹⁴ and the income level at which benefits are cut off is \$1829 per month (\$21,948 per year).⁹⁵ By contrast, in Alabama—where TANF benefits tend to be the least generous—the maximum monthly benefit for a single parent of two is \$215,⁹⁶ and the income level at which benefits are cut off is \$268 per month (\$3216 per year).⁹⁷ As a result of such differences, TANF will have a much different effect on marginal tax rates in Wisconsin than it will in Alabama.

Because TANF is structured as a block grant program, states generally have more control over its parameters than they do over the

92. To be more specific, twenty-six states and the District of Columbia have their own EITCs.

93. See Maag et al., *supra* note 30, at 769.

94. GENE FALK, CONG. RESEARCH SERV., R43634, TEMPORARY ASSISTANCE FOR NEEDY FAMILIES (TANF) ELIGIBILITY AND BENEFITS AMOUNTS IN STATE TANF CASH ASSISTANCE PROGRAMS 8 (2014), <https://www.fas.org/sgp/crs/misc/R43634.pdf>.

95. *Id.* at 4.

96. *Id.* at 6.

97. *Id.* at 4.

parameters of programs such as Section 8 or SNAP.⁹⁸ But both Section 8 and SNAP count TANF benefits in their measures of income. As a result, the phaseout rates of those programs are often sensitive to state-by-state variations in TANF.⁹⁹

In light of such variation, marginal rate schedules differ significantly across states. To illustrate this point, consider a 2012 study by Elaine Maag, C. Eugene Steuerle, Ritadhi Chakravarti, and Caleb Quakenbush, the first such study to conduct a fifty-state analysis of cumulative marginal tax rates.¹⁰⁰ In contrast to most marginal tax rate studies, this analysis does not attempt to calculate the marginal tax rate applicable at each point along the income distribution. Instead, the study calculates the *average* marginal tax rate that would apply as a household moves between various levels of poverty. More specifically, the study calculates the average marginal tax rate that would occur as a household moves from 0% to 50% of the Federal Poverty Level (FPL), from 50% to 100% of FPL, from 100% to 150% of FPL, and from 150% to 200% of FPL.

One conclusion that we can draw from the Maag et al. study is that the same income jump that in one state would subject a household to an extremely high average marginal tax rate, may in another state subject a household to a rate that is relatively low. Consider two households, both of which consist of a single parent and two children, and both of which participate in the EITC, the CTC, SNAP, TANF, and Medicaid (but no other transfer programs). Suppose that one household lives in Hawaii while the other lives in Nevada. Now suppose that both households move from an annual income of \$17,600 in year one to an income of \$26,400 in year two. According to the Maag et al. study, while the Nevada household faces an average marginal tax rate of 26.6%, the Hawaii household faces a rate of 118.9%.

2. *Optimizing Given State-By-State Variation*

When tax-and-transfer schedules vary so significantly across states, optimization becomes difficult, because reforms at the federal level can have at most a very modest impact. This is because federal-level reforms will affect the rates in high-rate states and low-rate states simultaneously. At some point, the optimal rate will fall somewhere in between, meaning that federal-level reforms will bring one state's

98. CBO STUDY, *supra* note 32, at 35, 36.

99. *Id.* at 11, 14, 35, 36.

100. See Maag et al., *supra* note 30.

rates closer to optimal, only at the expense of pushing the other state's rates farther away.

Suppose we wanted to reduce the 118.9% rate in Hawaii by thirty percentage points. If we were to do so solely through federal-level reforms—for example, by adjusting the EITC and the federal income tax—a collateral consequence of our action would be to reduce the 26.6% rate in Nevada to below zero. On almost any assumptions, a negative marginal tax rate between \$17,600 and \$26,400 is too low—in other words, it suggests that there is some perversion in the way that benefits are being distributed, and that a schedule that featured higher marginal rates in this range would distribute benefits more optimally. Thus, by using federal-level reforms to bring the Hawaii rate schedule closer to optimal, we would have shifted the rates in Nevada away from the optimal level.

Of course, from the perspective of aggregate social welfare, it could be that the benefit of bringing the Hawaii rate down to 88.9% outweighs the cost of bringing the Nevada rate below zero. But at some point, the balance will shift. For example, reducing the Hawaii rate by seventy percentage points may distort the Nevada rate schedule so that, on net, the reform is not worth it.

This demonstrates that at some point, state-level reforms will be necessary if we want to significantly improve net social welfare on a national level. By reforming tax-and-transfer parameters at the state level, policymakers can reduce the rates in Hawaii while leaving the Nevada rates untouched. The problem is that we now need fifty sets of reforms instead of one.

B. Variation in Program Participation

1. Why Program Participation Rates Vary

Most marginal rate studies assume that households participate in a significant number of transfer programs simultaneously. For instance, as mentioned, the CBO study calculated marginal tax rates for households participating in the EITC, the CTC, TANF, SNAP, and Section 8. Other studies make similar assumptions about program participation.¹⁰¹ Given that one purpose of marginal tax rate studies is to determine just how high cumulative marginal tax rates can be, such

101. See Maag et al., *supra* note 30 (calculating effective marginal tax rates for households participating in Medicaid/CHIP, the EITC, the CTC, SNAP, and TANF); Holt & Romich, *supra* note 30 (calculating effective marginal tax rates for households participating Medicaid/CHIP, the EITC, the CTC, the CDCTC, the Wisconsin State EITC, SNAP, and subsidized childcare).

assumptions are reasonable. Nevertheless, research suggests that it may in fact be quite rare for a household to participate in a high number of transfer programs at once, even if it is poor enough to do so.

There are multiple reasons why a household that is poor enough to qualify for transfer benefits may not participate in the program. One reason is that certain programs have eligibility requirements other than income. For instance, TANF is generally only available to families with a child under the age of eighteen, and includes a requirement that adult recipients work a certain average number of hours per week.¹⁰² In addition, TANF is time limited, such that one may not receive TANF benefits for more than sixty months total in one's adult lifetime.¹⁰³ Thus, a household may meet the income requirements for TANF but nevertheless fail to qualify for the program.¹⁰⁴

Yet even when there are no extra requirements, households sometimes refrain from participating in programs for which they are income-eligible. The literature suggests three potential reasons for such nonparticipation. First, some households may wish to avoid the stigma attached to receipt of government benefits.¹⁰⁵ Second, some households may be unaware of certain transfer programs.¹⁰⁶ Finally, participation in transfer programs often comes with significant transaction costs—for example, lengthy in-person application processes or cumbersome periodic reporting requirements—and some households may conclude that these costs outweigh the benefits of participation.¹⁰⁷

In light of such reasons, it is quite rare for a household to participate in a high number of transfer programs simultaneously. While no study has conducted a comprehensive analysis of multiple program participation, a recent paper by Robert Moffitt analyzes the percentage of SNAP recipients who also participate in TANF, and finds that simultaneous participation in both programs is highly unusual—at least among nonelderly, nondisabled households.¹⁰⁸ According to Moffitt,

102. See 42 U.S.C. § 607(c)(1) (2012).

103. 42 U.S.C. § 608(a)(5) (2012).

104. Federal housing subsidies are also subject to non-financial requirements. In addition, many families that are fully eligible for federal housing subsidies are unable to receive them. There is a long waitlist for Section 8 vouchers, as need for the vouchers far exceeds their availability.

105. Janet Currie, *The Take-Up of Social Benefits* (Nat'l Bureau of Econ. Research, Working Paper No. 10488, 2004).

106. *Id.*

107. *Id.*

108. Robert Moffitt, *Multiple Program Participation and the SNAP Program* (Univ. of Ky. Ctr. for Poverty Research, Discussion Paper 2014-04, Feb. 2, 2014), http://uknowledge.uky.edu/cgi/viewcontent.cgi?article=1007&context=ukcpr_papers.

nonelderly, nondisabled families participating in TANF represent less than 7% of the total SNAP caseload.¹⁰⁹ Moffitt does not analyze the number of households that participate in SNAP, TANF, and Section 8, but data collected by the Cato Institute indicates that only 16% of TANF recipients also receive Section 8 benefits.¹¹⁰ This suggests that only a very small number of households participate in all three programs (SNAP, TANF, and Section 8) at once.

Of course, variation in program participation produces variation in tax-and-transfer schedules. We can illustrate this point using the marginal rate estimates from a 1999 study by Daniel Shaviro.¹¹¹ Unlike the estimates in more recent marginal rate studies, Shaviro's estimates are relatively easy to reproduce. This makes it easy to show the effect of eliminating a program from the calculation.

The chart below, which appears in the original study, allows us to compare the effective marginal rate schedules of two households that are identical in all respects, except for the fact that one household ("Household A") receives Section 8 assistance while the other ("Household B") does not. Below is a side-by-side comparison of the effective marginal rate schedule that each household faces.

Income Range (\$)	Marginal Rates (%) for Household A (Full Participation)	Marginal Rates (%) for Household B (No Section 8)
0 – 1550	(6.7)	(6.7)
1550 – 1650	21.2	(6.7)
1650 – 9800	52.4	24.5
9800 – 12,850	89.6	61.7
12,850 – 14,350	109.2	81.3
At 14,350	"Notch" loss of \$1800	"Notch" loss of \$1800
14,350 – 14,700	78	50.1
At 14,700	"Notch" loss of \$2250	"Notch" loss of \$2250
14,700 – 15,050	61.3	33.4
15,050 – 19,550	78.5	50.6
At 19,550	"Notch" loss of \$1000	"Notch" loss of \$1000
19,550 – 25,000	78.5	50.6

109. *Id.*

110. Ladonna Pavetti & Sharon Parrott, *Commentary: Cato Gets It Very Wrong: The Safety Net Supports, Rather Than Discourages, Work*, CTR. ON BUDGET & POL'Y PRIORITIES (Aug. 21, 2013), <http://www.cbpp.org/commentary-cato-gets-it-very-wrong-the-safety-net-supports-rather-than-discourages-work>.

111. Shaviro, *supra* note 7.

As this figure demonstrates, at any income level between \$1550 and \$19,550, Household B's effective marginal tax rate is 27.9 percentage points lower than Household A's. This is solely the result of excluding Section 8 from the calculation, which—according to Shaviro's model—phases out at a rate of 27.9%.

Shaviro did not calculate the effective marginal tax rate a household would face if it participated in neither Section 8 nor TANF, but such a rate is easy enough to derive using Shaviro's model. Below is the same side-by-side comparison as above, with the addition of a third household ("Household C"), which is identical to Household B in all respects, except that it does not participate in TANF.

Income Range (\$)	Marginal Rates (%) for Household A (Full Participation)	Marginal Rate (%) for Household B (No Section 8)	Marginal Rate (%) for Household C (No Section 8 or TANF)
0 – 1650	(6.7)	(6.7)	(6.7)
1550 – 1650	21.2	(6.7)	(6.7)
1650 – 9800	52.4	24.5	(6.7)
9800 – 12,850	89.6	61.7	30.5
12,850 – 14,350	109.2	81.3	50.1
At 14,350	"Notch" loss of \$1800	"Notch" loss of \$1800	"Notch" loss of \$1800
14,350 – 14,700	78	50.1	50.1
At 14,700	"Notch" loss of \$2250	"Notch" loss of \$2250	"Notch" loss of \$2250
14,700 – 15,050	61.3	33.4	33.4
15,050 – 19,550	78.5	50.6	50.6
At 19,550	"Notch" loss of \$1000	"Notch" loss of \$1000	"Notch" loss of \$1000
19,550 – 25,000	78.5	50.6	50.6

As this figure demonstrates, at any income level between \$1650 and \$14,350, Household C's effective marginal tax rate is 31.2 percentage points lower than Household B's. This difference reflects (1) the fact the Household C is not subject to the 53.1% TANF phaseout, and (2) that fact that—within the TANF phaseout range—the SNAP phaseout rate for Household B is reduced by 22.3 percentage points because the SNAP program includes TANF benefits in its measure of income.

One conclusion we can draw from the figure above is that variation in program participation can lead to a situation where some households face extremely high rates in the same income range where

other, relevantly similar households face relatively low rates. For example, between \$9800 and \$12,850, Household A faces a rate of 89.6%, while Household C faces a rate of 30%.

2. *Optimizing Given Variation in Program Participation*

Variation in program participation raises a difficult question for those who wish to optimize the marginal rate schedule: Which schedules do we attempt to optimize? In other words, even if we are focusing on, say, the rates that apply to one-parent, two-child households in Hawaii, should we try to optimize the schedule that assumes full program participation, or one that assumes participation in a smaller subset of programs? On the one hand, the assumption of full program participation would be unrealistic for the overwhelming majority of transfer recipients. On the other hand, an assumption of less than full participation requires us to decide which programs to include. We could base this decision on current participation rates, but this would mean that contingent shifts in participation behavior would require us to recalibrate the rate schedule.

C. Making Optimization Easier

The analysis above discusses two challenges facing policymakers who wish to optimize the marginal rate schedule through incremental reform. Both of these problems could be mitigated by moving toward a more unified transfer system where parameters are set at the federal level. This could be done by replacing transfer programs calibrated at the state level with expansions to the EITC. For example, by replacing TANF with an EITC expansion, policymakers could significantly reduce state-by-state variance in marginal rate schedules. Expansions to the EITC are promising not only because the parameters of the EITC are set at the federal level, but also because take-up rates of the EITC are quite high. Thus, transitioning to a system where the EITC plays a larger role could create more uniformity in program participation. In addition, reducing the number of transfer programs would have the effect of reducing variance in participation simply by virtue of reducing the number of options. Even if we cannot replace TANF entirely, shrinking the program and using the money to expand transfers through the EITC would help reduce the impact of variations in tax-and-transfer schedules. Thus, transitioning to a system where the EITC plays a larger role would help resolve both of the problems noted above.

CONCLUSION

Taken together, the two main conclusions of this paper may feel discouraging. On the one hand, the paper argues that we need a normative framework to help us evaluate the tradeoffs associated with reducing high marginal tax rates on the poor. On the other hand, this paper admits that the best available framework—that of optimal tax analysis—can provide only limited guidance, given the developing stage of the literature and the difficulty in applying theory to practice.

Yet, while operationalizing optimal tax analysis may be hard, that does not mean it is not worthwhile. As Louis Kaplow notes, the difficulties presented by optimal tax analysis “can only be hidden, not overcome, by other approaches.”¹¹² Indeed, given the equity-efficiency tradeoff, “there really does not seem to be a viable alternative to the suggested path, no matter how challenging that path proves to be.”¹¹³

There are several conclusions to draw from this. One is that, as this paper has argued, our tax-and-transfer system should be reformed to make applying the lessons of optimal tax analysis easier. Another more fundamental point, however, is that optimal tax analysis needs to be better understood by policymakers and analysts. The issue of high marginal tax rates on the poor, once a somewhat obscure topic, has over the past several years gained a great deal of attention in Washington. This is a good thing, but in order for progress to be made on this issue, a similar awakening needs to happen with regards to the basic tenants of optimal tax analysis. Only when policymakers have a better understanding of theory will they be able to design policies that work well in practice.

112. Kaplow, *supra* note 18, at 36.

113. *Id.*

