Corrective Progressivity

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Prof Eric Kades*
William & Mary Law School

Abstract

In these times of widening inequality, regressive taxation is about the last thing needed in the United States. Yet that is exactly what we observe in every single state: overall state tax regimes (various combinations of income, property, and sales taxes) impose their highest rates on the poor and lower and lower rates as income increases. This article describes Corrective Progressivity (CP), a federal income tax mechanism to undo all of this variegated regressive state taxation in one fell swoop. Under CP, federal income tax rates vary from state to state — in each state the federal income tax varies inversely with that state's overall state tax rates so that the total (state + federal) tax burden achieves a target level of progressivity. CP would make tax burdens in the states with the most regressive tax systems much more equitable, raising average tax rates by as much as 20% on top incomes and lowering them (into the negative/subsidy range) by a similar amount at the bottom of the income distribution. Although having federal income tax rates vary from state to state sounds like the epitome of a violation of the Constitution's Uniformity Clause, CP passes muster both as matter of the doctrine of that clause and its underlying policy purpose.

* Thanks to … .

I. Introduction

Regressive state (and local[1]) taxation is the disease. Corrective Progressivity (CP) is the cure.[2]

The federal income tax is and always has been progressive — the *percent* of *total* income paid in federal taxes rises with income. Although a flat tax rate structure (one tax rate for all levels of income) has advocates,[3] it is hard to find friends of regressive taxation (the opposite of progressive taxation; the higher one's income, the less one pays in taxes as a fraction of income). Yet *every single state* in the U.S. has a regressive overall tax rate structure. State *income* taxes are generally mildly progressive — for those states that have them. Highly regressive sales taxes and possibly regressive property taxes, however, overwhelm slightly progressive state income taxes. States that lack income taxes and rely almost exclusively on sales and property taxes have the most regressive overall tax systems. To give the starkest example: in the state of Washington, those in the bottom 20% of the income distribution pay about 17% of their income in taxes while those in the top 1% pay less than 3%.[4] That is a serious tax fairness disease.

This article proposes a novel and sweeping solution to regressive state taxation: Corrective Progressivity (CP). The basic idea of CP is disarmingly simple: vary federal income rates by state to counteract variable regressivity in state taxation. Taking each state's tax system as given, we calculate federal CP rates in two steps. First, define by theory or politics a *target* (presumptively) progressive tax rate structure for *summed* state and federal taxation. Second, *for each state* define CP tax rates for each income level as this ideal/target less the state's effective tax rate on those at that income level. Here, then, is the basic equation of CP:

Federal CP tax rate in state X for someone with income I =

[Target total (state + federal) tax rate for income I] –

[State tax rate for income I]

We will abbreviate this in the fundamental equation of CP:

$$CP_S(I) = T(I) - S(I).$$

where $CP_S(I)$ stands for the federal Corrective Progressivity (CP) tax rate in state S for a household with income I, T stands for *target total* (state + federal) tax rate, and S stands for state S's actual tax rate. This small bit of algebra highlights the essential mechanism of CP: federal tax rates vary from state to state in order to offset precisely regressivity in each state's tax rate structure.

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[1] We use "state taxation" as a shorthand for "state and local taxation."

[2] With apologies to the marketing tagline for the dreadful 1980s Sylvester Stallone action movie *Cobra* ("Crime is the disease. Meet the Cure.") http://www.imdb.com/title/tt0090859/taglines?ref_=tt_stry_tg.

[3] The most influential version of a flat tax proposed a flat tax on consumption — income less investment. ROBERT HALL & ALVIN RABUSHKA, THE FLAT TAX (Hoover 1995). Republican presidential candidate Steve Forbes did much to popularize the flat tax during the 1996 Republican primaries and continues to advocate for such a tax. Steve Forbes, *The Tax Code: Make It Flat* (http://www.forbes.com/sites/steveforbes/2014/03/07/the-tax-code-make-it-flat/) (visited Feb. 25, 2015).

[4] INSTITUTE ON TAXATION & ECONOMIC POLICY, WHO PAYS? A DISTRIBUTIONAL ANALYSIS OF THE TAX SYSTEMS IN ALL 50 STATES 119 (4th ed. 2003).

One of the most attractive features of CP is that in one fell swoop it cures a welter of regressive tax measures spanning all 50 states. Passing legislation to undo a regressive state tax regime in a single state is daunting enough; doing so in all 50 states is beyond all imagination. Compared to alternative measures to address regressive state taxation, CP offers extraordinary bang for the buck.

It is worth highlighting and emphasizing a couple of points about CP. First, just to be clear, CP means that federal tax rates will differ across the several states: someone making $200,000/year in the state of Washington likely will face a higher effective federal income tax rate than someone with identical income, deductions, and credits in Vermont (the state with the least regressive tax rate structure[5]). Second, to prevent states from raising their rates and reducing federal revenue dollar for dollar under the fundamental equation of CP, the federal government must implement CP under the constraint that each state's citizens pay their fair share (which we define in precise terms below) of federal revenue needed from the income tax.

CP is especially well-suited for America in 2015. Although even diligent readers of legal and even of law and economics scholarship may not have noticed, over the last 15-odd years there has been a veritable explosion of research on income inequality in the U.S. and around the globe — no doubt driven by the very real increases in income (and wealth, and health, and educational, …) inequality over the this same time period.[6] Regressive taxation, hard to defend in the best of times, is all the more objectionable when the gap between the rich and everyone else is expanding so dramatically.

Given the saliency of tax law in combatting inequality, section II documents this growing income inequality in the U.S., and then goes on to document the progressivity of the federal income tax and the regressivity of overall state taxes (basically, the sum of a state's income, sales, and property taxes). Section III then explains the workings of CP. It begins with a series of simple numerical examples, and then explains the implementation of CP in some detail. Section IV uses data to estimate CP rates that would prevail if the federal government implemented the idea today, and contrasts these with current tax rates. Section V briefly comments similarities and differences between CP and the current federal income tax deduction for state taxes. Section VI considers potential challenges to CP under the federal Constitution's Uniformity Clause and concludes that it almost certainly passes muster. Section VII sums up and concludes.

II. Income Inequality, Federal Tax *Progressivity*, & State Tax *Regressivity*

A. The Inequality Revolution Since 1980

Historically, economics has been concerned at least as much with inequality (the distribution of the pie) as it has been with efficiency (the size of the pie). Founding fathers of the discipline devoted at least as much attention to inequality as they did to efficiency and growth. Adam Smith wrote extensively on such topics as "Inequalities arising from the Nature of the

[5] *Id.* 5, 115-16.

[6] The literature on income (and other forms) of inquality is growing prodigiously. Perhaps the most pathbreaking work on the current inequality trend is Thomas Piketty & Emmanuel Saez, *Income Inequality in the United States, 1913-1998*, 118 Q. J. Econ. 1 (2003).

Employments Themselves,"[7] progressive taxation,[8] a fair wage,[9] the unfairness of dynastic wealth preserved through entails,[10] and the fairness of taxing rents on land owned by the idle rich.[11] David Ricardo attacked import duties on grain (the "Corn Laws") as much for their distributive benefits to the landed leisure class as for their inefficient protectionist effects,[12] and devoted considerable attention to modeling the distribution of income between landowners, capitalists, and laborers. Indeed, Ricardo placed the theory of income distribution front and center. His masterpiece *On the Principles of Political Economy and Taxation* opens with the following:

> The produce of the earth—all that is derived from its surface by the united application of labour, machinery, and capital, is divided among three classes of the community; namely, the proprietor of the land, the owner of the stock or capital necessary for its cultivation, and the labourers by whose industry it is cultivated. … To determine the laws which regulate this distribution, is the principal problem in Political Economy… .[13]

Interest in distribution (inequality) continued in the 19th century, with John Stuart Mill devoting considerable ink to the topic.[14] Karl Marx, of course, wrote of little else (and wrote quite a bit).[15] Even at the birth of the 'modern science' of economics, Alfred Marshall's extraordinarily influential *Principles of Economics* devoted one of six volumes (book VI) to "The Distribution of National Income."[16]

During the 1900s, however, distributional concerns faded into the background and efficiency issues came to predominate despite the growing inequalities coming out of the Gilded Age at the turn of the century. And no doubt the Great Depression (1929-1939) refocused the profession of issues of macroeconomic performance which have everything to do with the size of the pie and precious little to do with dividing it up. The sharp decline in income inequality in the wake of

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[7] ADAM SMITH, 1 WEALTH OF NATIONS Chapter X, pt 1.

[8] *Id.* Book 5, Chapter II, pt. II ("It is not very unreasonable that the rich should contribute to the public expense, not only in proportion to their revenue, but something more than in that proportion").

[9] *Id*. Book 1, Chapter VIII, "Of the Wages of Labour" ("It is but equity, besides, that they who feed, clothe, and lodge the whole body of the people, should have such a share of the produce of their own labour as to be themselves tolerably well fed, clothed, and lodged.").

[10] *Id.* Book 3, Chapter II, "Of the Discouragement of Agriculture in the Ancient State of Europe, After the Fall of the Roman Empire," ("Entails are thought necessary for maintaining this exclusive privilege of the nobility to the great offices and honours of their country; and that order having usurped one unjust advantage over the rest of their fellow-citizens, lest their poverty should render it ridiculous, it is thought reasonable that they should have another.").

[11] ("Both ground rents, and the ordinary rent of land are a species of revenue, which the owner in many cases enjoys, without any care or attention of his own. Though a part of this revenue should be taken from him, in order to defray the expenses of the State, no discouragement will thereby be given to any sort of industry. The annual produce of the land and labour of the society, the real wealth and revenue of the great body of the people, might be the same after such a tax as before. Ground rents, and the ordinary rent of land are, therefore, perhaps, the species of revenue, which can best bear to have a peculiar tax imposed upon them.").

[12] DAVID RICARDO, ESSAY ON THE INFLUENCE OF A LOW PRICE OF CORN ON THE PROFITS OF STOCK (1815)

[13] DAVID RICARDO, ON THE PRINCIPLES OF POLITICAL ECONOMY AND TAXATION, iii (3rd ed. London, John Murrray 1821) (available at http://www.econlib.org/library/Ricardo/ricPCover.html).

[14] For a useful summary of Mill's writing on inequality, see Hans E. Jensen, *John Stuart Mill's Theory of Wealth and Income Distribution*, 59 Rev. Soc. Econ. 491 (2001) (finding, *inter alia*, that Mill felt that legal and political institutions skewed economic outcomes in favor of the upper classes).

[15] Karl Marx, *Das Kapital*; … (get cites)

[16] Alfred Marshall, *Principles of Economics* (8th ed 1920 London Macmillan) (available at http://www.econlib.org/library/Marshall/marP.html)

the Great Depression and World War II (documented below) no doubt gave further impetus for economists to (in the main) ignore distributionary concerns. During the 1960s and 1970s inequality had declined to historic lows. It became a non-issue.

Anyone not living in cave, however, knows that times have changed — dramatically. Since about 1980, income inequality in America (and to a lesser extent in most developed economies) has exploded. The following graph by Piketty and Saez,[17] in any number of variations, has perhaps done more than anything else to revive scholarly and popular interest in the distribution of income.

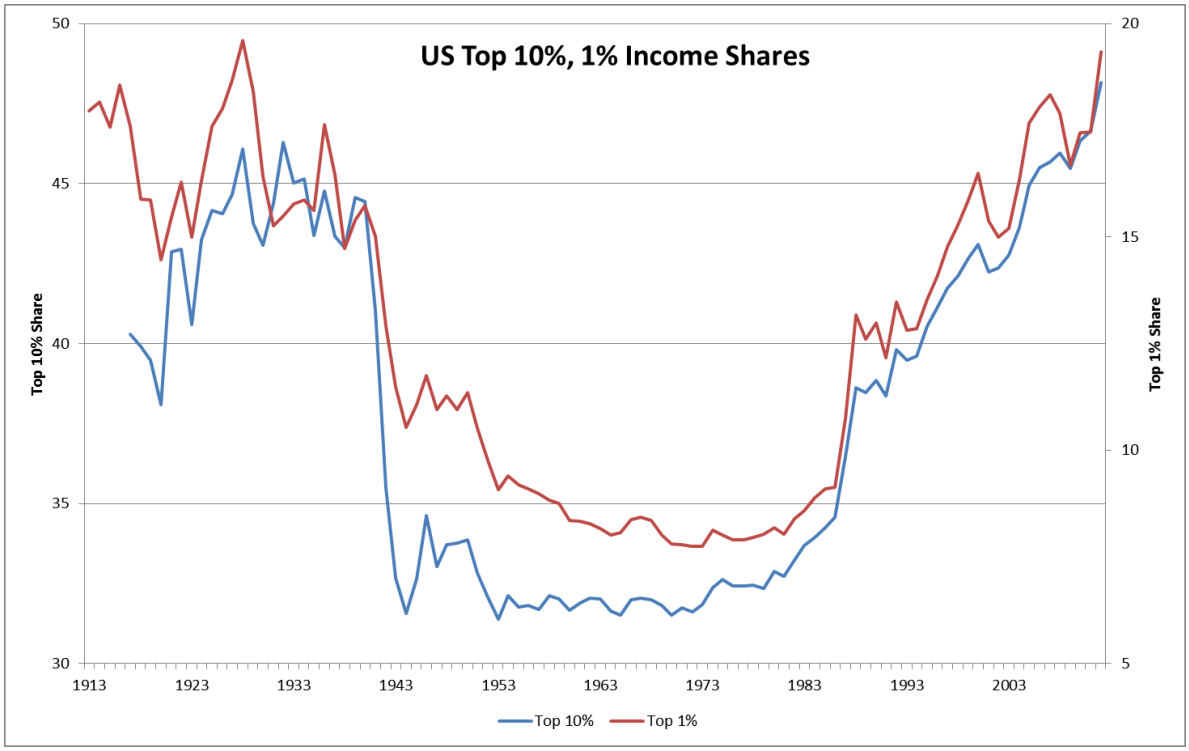

Figure 1

This figure shows that the share of national income accruing to the top 10% (the upper middle class and up, measured on the left vertical axis) and the top 1% (the truly rich, measured on the right vertical axis) have reached levels not seen for almost a century.

There are any number of ways to graph (and measure) inequality. For now, in laying out the explosion of income inequality since 1980, one more graph will suffice:

[17] Piketty & Saez, *supra* note 6, author's combination of Fig I at 11 & Fig. II at 12, updated with data available at http://eml.berkeley.edu/~saez/TabFig2013prel.xls (visited February 27, 2015).

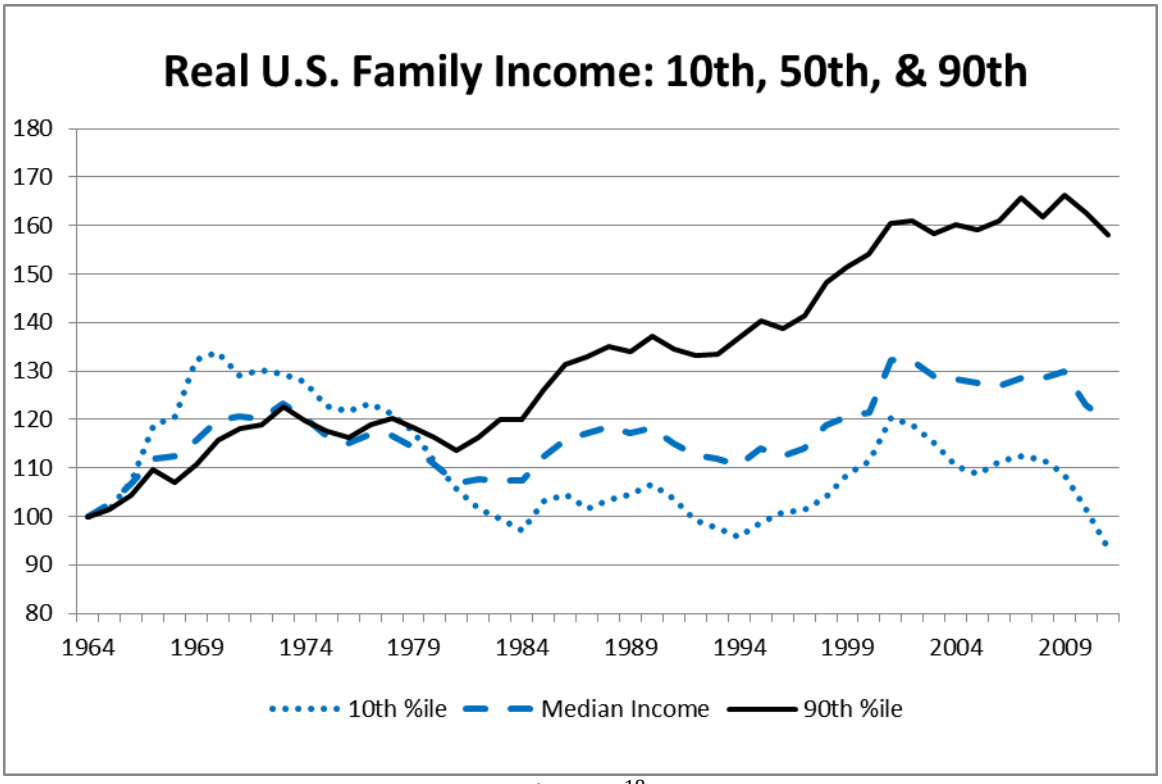

Figure 2[18]

Figure 2 confirms that something (or perhaps a number of things) happened around 1980. In the preceding decades, incomes of the poor (10th %ile), the middle class (50th %ile), and the upper middle class (90th %ile) evolved similarly if not in perfect lock-step. Since 1980, however, fortunes of the classes has diverged: poor and middle class households have experienced little if any income growth while wealthier Americans have enjoyed robust and consistent increases.

What forces are causing income inequality to increase so dramatically? It depends on what part of the income distribution we are considering. The stagnation in lower and middle incomes and the simultaneous rise in upper middle class incomes seems driven by what economists have labeled "skills-based technical change," or SBTC.[19] Computers have transformed the economy and the workplace; in particular SBTC proponents argue that computers have markedly increased the productivity and hence the value of workers best able to use this new tool. Labor markets have responded as one would expect, by bidding up the price of those with the education and the intellectual aptitude to make the most productive use of computers. This seems to explain why the upper middle class incomes (proxied by the 90th %ile income) has fared so well since about 1980.

SBTC cannot explain the more spectacular income increases enjoyed by the top 1% over the same period. Increased productivity when working with computers cannot explain the

[18] Daron Acemoglu, *Technical Change, Inequality, and the Labor Market*, 40 J. Econ Lit. 7, 16 (Fig. 2) (2002), updated with data available from the U.S. Census Bureau's Current Population Survey, Annual Social and Economic Supplement (March), http://www.census.gov/cps/.

[19] See generally David H. Autor, Lawrence F. Katz, and Melissa S. Kearney, *Trends in U.S. Wage Inequality: Revisiting the Revisionists*, 90 REV. ECON. & STATISTICS 300 (2008); CLAUDIA GOLDIN & LAWRENCE F. KATZ, THE RACE BETWEEN EDUCATION & TECHNOLOGY (2008).

stratospheric incomes now enjoyed by corporate executives, professional athletes, and entertainment stars (movies, television, music, comedy, …). The leading candidate is "winner-take-all" markets (WTA).[20]

Frank's example from the music industry nicely illustrates the WTA phenomenon. In 1900 Iowa had 1,300 opera houses.[21] Iowans of that age could enjoy music only locally. Performers of only modest talent in the national or international pool of singers or musicians could earn a (modest) living if they were at or near the top of their local labor market. The record industry, television, computers, and of course the internet have changed everything. Iowa no doubt has some local music venues, but surely nothing approaching 1,300 of them. Iowans, along with New Yorkers, Oklahomans, Californians, Japanese, Russians, and just about everyone else on Earth can now enjoy the very, very best in any genre of music or other entertainments. JZ doing rap, Taylor Swift doing country or pop, Tom Cruise acting, Aaron Rodgers throwing touchdown passes — all are but a couple of remote control or mouse clicks away. These "winners" rake in the lion's share of entertainment revenues, squeezing all but world-class talent out of these labor markets.[22]

The force of the two explanations for rising inequality, SBTC and WTA, seems unlikely to weaken any time soon. Computers and other innovations continue to enhance the value of smarts and training relative to less trained workers and those with lower aptitudes. Globalization continues apace, enabling tip-top talent to reach an ever-great share of all Earth's denizens. Thus we cannot expect market forces to reduce the currently high levels of income inequality and indeed it seems likely that SBTC and WTA will continue to widen income gaps. One of the most obvious and effective tools for reducing market incomes is tax policy in general and tax rates in particular.

B. The Normative Case for Progressive Taxation

The previous subsection presents us with one of the most critical social policy questions facing the United States: should the government intervene in some fashion to offset the effects of SBTC and WTA and reduce inequality from its historically high and still rising levels? Is income inequality a bad thing?

Asked in this bald, unqualified fashion the answer has to be "yes." Given a choice between social arrangements that yielded very little income inequality, who would choose a different regime that yielded much greater inequality *with no concomitant increase in societal wealth*? The following figure offers a cogent model of the thinking behind this intuition.

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[20] Robert Frank and Philip Cook popularized the term "winner take all" (WTA) in their best-selling book, THE WINNER TAKE ALL SOCIETY (1996). Some seminal contributions are Thomas C. Schelling, *Hockey Helmets, Concealed Weapons, and Daylight Savings: A Study of Binary Choices with Externalities*, 17 J. CONFLICT RESOLUTION 381-428 (1973); Edward P. Lazear & Sherwin Rosen, RANK-ORDER TOURNAMENTS AS OPTIMAL LABOR CONTRACTS, 89 J. POL. ECON. 841 (1981); Sherwin Rosen, *The Economics of Superstars*, 71 AM. ECON. REV. 845 (1981); Sherwin Rosen, *Prizes and Incentives in Elimination Tournaments*, 76 AM. ECON. REV. 701 (1986)

[21] U. CHI. L. SCHOOL ROUNDTABLE, 1999, Interdisciplinary Program Series, *The Wages of Stardom: Law and the Winner-Take-All Society: A Debate*, at 3.

[22] Winner-Take-All (WTA) only partly explains the skyrocketing pay of top corporate executives. There is evidence that the market of top executives has become increasingly global. Xavier Gabaix & Augustin Landier, *Why Has CEO Pay Increased So Much?*, 123 Q. J. ECON. 49 (2008). There is, however, other evidence suggesting that growing "agency problems" — too-cozy relationships between executives and the boards of directors that set their pay — explain a significant portion of rising compensation packages for corporate bigwigs. Lucian A. Bebchuk, K.J. Marijn Cremers, & Urs C. Peyer, *The CEO Pay Slice*, 102 J. FIN. ECON. 199 (2011).

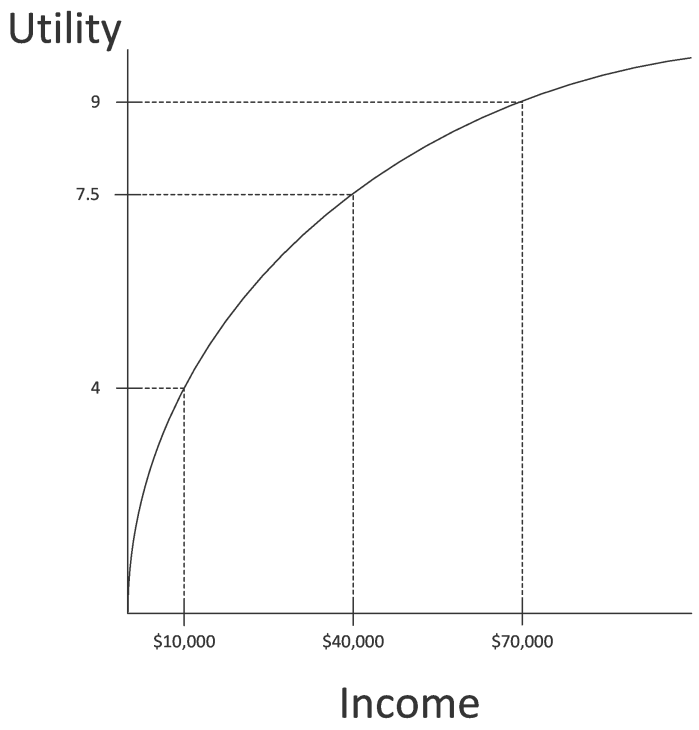

Figure 3

Graphing utility (or welfare) against income, the concave curve captures the key notion of the diminishing marginal utility of money. The idea is simple: people devote income first to those things of greatest value to them, and successively to less and less valuable purchases. The first dollars of income improve welfare tremendously, enabling a person to obtain shelter, food, and security. As income increases, standard economic assumptions about rationality imply that each purchase yields a lower increase in utility/welfare than all previous purchases.

Given this phenomenon, Figure 3 illustrates the inexorable logic behind redistribution. It models a simple world with two citizens and total income of $80,000 per year. Start by assuming that one citizen earns $70,000, the other $10,000. The former enjoys utility of 9, the latter 4, for a societal total of 13. By redistributing $30,000 from the high to the low income citizen, both earn $40,000. Now the sum of utilities is 7.5 + 7.5 = 15. It is easy to see what is going on: given the shape of the utility/income curve, when we shift $30,000 to the low earner we lose utility from the high earner along a gently-sloped part of the curve, but gain utility from the low earner along the steep part of the curve. The loss for the high earner is 7.9 – 9 = –1.5, while the increase in welfare for the lower earner is 7.5 – 4 = 3.5, for a net gain of 2.[23]

This, then, is the fundamental economic logic behind redistribution: transferring income so that there are fewer yachts and mansions but more simple sedans and modest homes yields a net increase in total social utility/welfare. It is, however, a radically incomplete story. If taken to its logical extreme, it calls for taxes and transfer payments that leave everyone in the economy with equal after-tax-and-transfer income. Such a system, of course, fundamentally undermines

[23] This simple presentation of course glosses over many details and assumptions, e.g. it assumes that all individuals attach the same value to all levels of income and more generally we are relying on interpersonal utility comparisons. Still, the basic insight illustrated in the text carries through to more sophisticated social welfare function models.

effort and risk-taking — the size of the equally-shared pie will be very small indeed. Starting with the path-breaking work of Nobel Prize winner James Mirrlees, however, economists have developed relatively sophisticated models to find the efficient trade-off between the benefits and the costs of redistributionary taxation.[24] As one might suspect, the optimal tax structure depends on assumptions about the proper weight to place on (relative) equality and on the disincentive effect of income taxes at different levels of income. The former is entirely a value judgment; the latter is in theory determinable by empirical work but in practice the range of estimates is quite wide. Thus there is nothing approaching a consensus about calculating optimal tax rate structures. That said, a significant body of work suggests that a flat tax rate *with a lump-sum transfer payment (a "demogrant")* of equal size to all taxpayers may closely approximate the tax system that best balances the tension between fairness and productivity. We will flesh out the nature of such a tax regime below in section and will use it to simulate the effects of implementing CP in the United States.

Accounting for the incentive effects of taxes and transfers weakens the "pure" case for redistribution embodied in Figure 3. Focusing only on income before and after taxes and transfers, however, is far too narrow a perspective. Examining a wider array of the deleterious effects of income inequality substantially buttresses the case for a more progressive tax system.

A burgeoning literature largely from epidemiologists argues that all citizens in regions and nations with higher income inequality — be they poor, middle income, or rich —experience poorer health outcomes than citizens from similar regions or nations (e.g. with similar *average* national income; similar urban/rural split; …) that exhibit less inequality.[25] This hypothesis (the "relative income" hypothesis) is controversial, and a number of studies by economists have cast some doubts about it.[26] If, however, there is any truth to this insight, the wealthy would have an affirmative reason to support redistributing some of their income to the less fortunate.

Even more disturbing than society-wide adverse health outcomes, increasing income inequality is stifling intergenerational economic mobility. Relatively wealthy parents are investing ever-growing sums to give their children a competitive advantage in school and in launching their careers; moreover, the gap between their outlays and what the middle class can afford have grown dramatically. In the early 1970s, parents in the top decile for incomes spent a smidgen more than two times what parents at the median spent on enriching their children's educations and experiences; by 2007 they were spending four times as much.[27] In our information age, education is the key to economic success (at least for those without winner-take-all talents that yield truly spectacular incomes). Recall that skills-based technical change (SBTC) increasingly tilts income in favor of those best educated to use the wondrous new tools that technology keeps generating. The growing gap in expenditures on children by income level is projecting today's inequality into future generations.

Thomas Piketty, in a recent book that has made a big splash on both sides of the Atlantic, raises another major concern with growing income inequality: fundamental economic forces have been favoring returns to wealth (some rate of return, r) over returns to labor (which are tied

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[24] . James A. Mirrlees, *An Exploration in the Theory of Optimal Income Taxation*, 38 REV. ECON. STUD. 75 (1971)

[25] For an accessible recent summary of this hypothesis, see Richard Wilkinson & Kate Pickett, THE SPIRIT LEVEL, WHY GREATER EQUALITY MAKES SOCIETIES STRONGER (2009). *See also* S.V. Subramanian & Ichiro Kawachi, *The Association Between State Income Inequality & Worse Health is not Confounded by Race*, 32 INT'L J. EPIDEMIOLOGY 1022 (2003).

[26] Angus Deaton, *Health, Inequality, and Economic Development*, 41 J. ECON LIT. 113 (2003).

[27] Sabino Kornitch & Frank Furstenberg, *Investing in Children: Changes in Parental Spending on Children, 1972-2007*, 50 DEMOGRAPHY 1, 4 (Table 2), 38 (Figure 2) (2012).

to the economic growth rate, g).[28] His nutshell inequality, r > g, means that those earning large incomes today and consequently accumulating great wealth will enjoy *investment* incomes that will grow at a faster rate than the labor incomes of the great majority who lack significant wealth. This is a prescription for overweening political power by a small circle of ever-wealthier families able to shape the law to protect their privileged position. When combined with the virtually complete elimination of the Rule Against Perpetuities[29] and the continued assault on the estate tax, America faces the possibility of dynastic wealth not seen for centuries. In a book project, I label this phenomenon "The New Feudalism."

There is widespread agreement among economists and tax scholars that income (and perhaps wealth[30]) taxation and transfer policies are far and away the best tool to reduce inequality.[31] Income taxation reaches all citizens and precisely targets the source of inequality: unequal incomes. Attempts to remedy inequality via other policy tools are much less suited to the task. Private law (contract, tort, property) reaches a relatively small portion of the population and shaping rules in these domains to redistribute income raises incentive concerns (inefficiencies) likely much more costly than the modest disincentives created by the income tax.[32] Minimum wage legislation and labor law might help bolster lower and middle incomes to some extent, but do nothing (directly, at least) to slow the explosion of income and wealth in the top 1% or top 10%.

Although it is possible to make modest inroads against inequality with a uniform ("flat") tax rate on all incomes, reducing inequality in any serious way requires *progressive* income (and/or wealth) taxation. Progressive means that the average (or "effective") tax rates increases with income: the more you make, the higher the *percent* of your income you pay in taxes. Progressive taxation can redistribute income (i.e. reduce inequality) without any transfer payments from rich to poor, by imposing the lion's share of the cost of public goods on the former. That said, transfer programs targeting the lower and middle classes (e.g. the Earned Income Tax Credit; Medicaid; the Supplemental Nutrition Assistance Program (SNAP); subsidized student loans available only to those below some income threshold) are a potent second policy tool for reducing income inequality.

C. Federal Tax Progressivity

This article, however, concentrates on the tax side of the redistribution toolkit. Before laying out the Corrective Progressivity ("CP") schema, we need to tell a tale of contrasting tax regimes: the *progressive* federal system and the *regressive* state tax systems. Although there are

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[28] THOMAS PIKETTY, CAPITAL IN THE TWENTY-FIRST CENTURY (trans. Arthur Goldhammer) (2014).

[29] As of 2012, almost half of the states in the U.S. had abolished the Rule Against Perpetuities, *Rule Against Perpetuities: Modern Trend*, THIS MATTERS (February 27, 2015), http://thismatter.com/money/wills-estates-trusts/rule-against-perpetuities-modern-trend.htm.

[30] PIKETTY, *supra* note 28, ch. 15 ("A Global Tax on Capital").

[31] Walter J. Blum & Harry Kalven, Jr., *The Uneasy Case for Progressive Taxation*, 19 U. CHI. L. REV. 417 (1952).

[32] Louis Kaplow and Steven Shavell, *Why the Legal System is Less Efficient than the Income Tax in Redistributing Income*, 23 J. LEGAL STUD. 667 (1994). For a response and subsequent rebuttals, see Chris Sanchirico, *Taxes versus Legal Rules as Instruments for Equity: A More Equitable View*, 29 J. LEGAL STUD. 797 (2000); Louis Kaplow & Steven M. Shavell, *Should Legal Rules Favor the Poor? Clarifying the Role of Legal Rules and the Income Tax in Redistributing Income*, 29 J. LEGAL STUD. 821 (2000); Chris Sanchirico, *Deconstructing the New Efficiency Rationale*, 86 CORNELL L. REV. 1003 (2001). Despite continual hue and cry to the contrary, longitudinal international data shows that there is essentially no evidence that higher marginal income tax rates have any adverse effect on economic growth. *See, e.g.*, Thomas Piketty, Emmanuel Saez, & Stefanie Stantcheva, *Optimal Taxation of Top Labor Incomes: A Tale of Three Elasticities*, 6 AM. ECON J.: ECON. POL'Y 230, 256 (Fig. 4A).

many important *regressive* features of the federal income tax system,[33] the rate structure has been progressive since the inception of the modern income tax in 1913.[34] The degree of progressivity in federal income tax rates has varied widely since then.

Using the top marginal rate as a rough approximation of the progressivity of the entire tax structure, progressivity peaked during and after World War II, with a top marginal rate of just over 90%. It begin to decline with President Kennedy's "Keynesian" tax cuts in the early 1960s; the fall in top marginal rates accelerated in the mid-1970s and has bounced around a bit. As of 2014, the top marginal rate is 39.6%, less than half of its peak value. Still, given deductions and exemptions, the federal income tax retains a significant level of progressivity.[35]

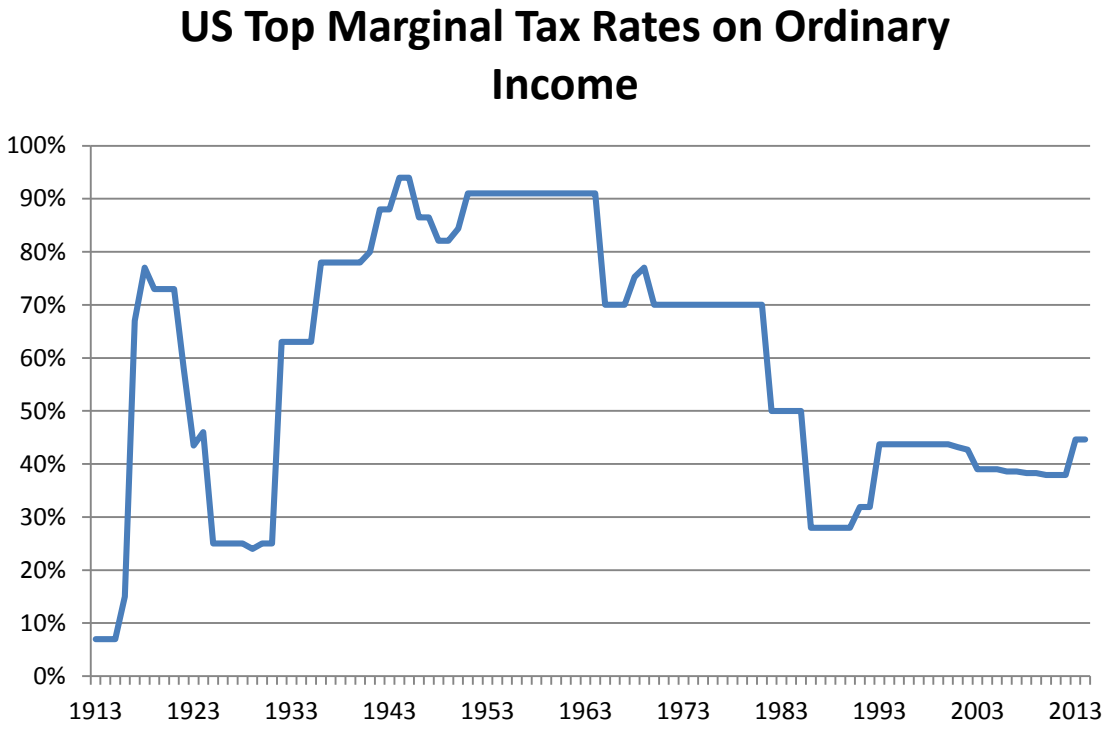

Figure 4

Federal and state income taxes invariably define tax rates in terms of such *marginal* rates. Consider the following table of marginal federal income rates for the U.S. in 2014.

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[33] Two examples: (i) capital gains on wealth are taxed at a lower rate than ordinary labor income despite the fact that wealth is distributed even more unevenly than income, Stephen Moore, *Capital Gains Taxes*, in CONCISE ENCYCLOPEDIA OF ECONOMICS (David R. Henderson, ed.) (2nd ed. 2008); (ii) corporations with significant profits are able to avoid income taxes altogether by using creative accounting and sham transactions, ROBERT S. MCINTYRE ET AL., CORPORATE TAXPAYERS & CORPORATE TAX DODGERS 2008-2010, Joint Project, Citizens for Tax Justice and Institute on Taxation and Economic Policy (2011).

[34] In 1913, the marginal rate structure started at 1% for income under $20,000 and topped out at 7% for incomes over half a million dollars. TAX FOUNDATION, U.S. FEDERAL INDIVIDUAL INCOME TAX RATES HISTORY, 1862-2013 http://taxfoundation.org/article/us-federal-individual-income-tax-rates-history-1913-2013-nominal-and-inflation-adjusted-brackets (last visited December 15, 2014).

[35] CITIZENS FOR TAX JUSTICE, TOP FEDERAL INCOME TAX RATES SINCE 1913, available at http://www.ctj.org/pdf/regcg.pdf (last visited January 18, 2015). Note that these rates include some small substantive adjustments to the "official" rates listed in the statutes.

Rate	Single Filers	Married Joint Filers	Head of Household Filers
10%	$0 to $9,075	$0 to $18,150	$0 to $12,950
15%	$9,076 to $36,900	$18,151 to$73,800	$12,951 to $49,400
25%	$36,901 to $89,350	$73,801 to $148,850	$49,401 to $127,550
28%	$89,351 to $186,350	$148,851 to $226,850	$127,551 to $206,600
33%	$186,351 to $405,100	$226,851 to $405,100	$206,601 to $405,100
35%	$405,101 to 406,750	$405,101 to 457,600	$405,101 to $432,200
39.6%	$406,751+	$457,601+	$432,201+

Table 1

We'll consider a single filer making $90,000 to illustrate how marginal tax rates define tax liability. Per the first row of rates, the filer pays a 10% rate on her first $9,075 of income (so $907.50); 15% on income from $9,075 to $36,900 (0.15*($36,900 - $9,075) = $4,173.75); 25% on her income from $36,900 to $89,350 (.25*($89,350 - $36,900) = $13,112.50), and finally 28% on her last bit of income, from $89,350 to $90,000 (.28*($90,000 - $89,350) = $182). Her marginal tax rate, that paid on her "last" dollar earned is 28%, per the table. If we sum up her tax payments, however, they come to $18,375.75, which is about 20% of her income. This is her *average*, or, synonymously, her *effective* tax rate (ETR).

Modern economists tend to focus on marginal rates because of their central role in capturing incentives. A single filer making only $5,000/year will keep 90 cents of each incremental dollar she earns (at least until her income goes above $9,075, putting her in the 15% marginal rate bracket). Such a low tax rate creates relatively little disincentive to work. The 39.6% rate applicable to income over $406,750, in theory at least, will have a more powerful effect in discouraging incremental labor.[36]

If we are concerned about inequality, however, we must turn our focus to average (or "effective") rates. Income inequality involves differences in total income. When considering the income tax's bottom line effect on their budgets, taxpayers don't care about their marginal tax rate. The relevant number when it comes to disposable (post-tax) income is their average tax rate: the percent of gross income paid over to the government to satisfy tax liabilities. From this point forward we will examine average (or, synonymously, "effective") tax rates (ETRs) instead of marginal tax rates. Note that this focus on average tax rates in no way limits the set of tax rates from which we can choose: the two forms of setting tax rates (marginal v. average) are equivalent in the sense that any average tax rate structure can be replicated exactly with a schedule of marginal rates, and vice-versa. We choose to use average rates because they more directly capture the fairness considerations that motivate progressive taxation in the first place.

As the following figure shows, large differences in marginal rates do not always translate into similarly large differences in average tax rates.

[36] Again, empirical estimates of the disincentive effects of existing income tax levels are much lower than is generally believed. *See* Piketty et al., *supra* note 32.

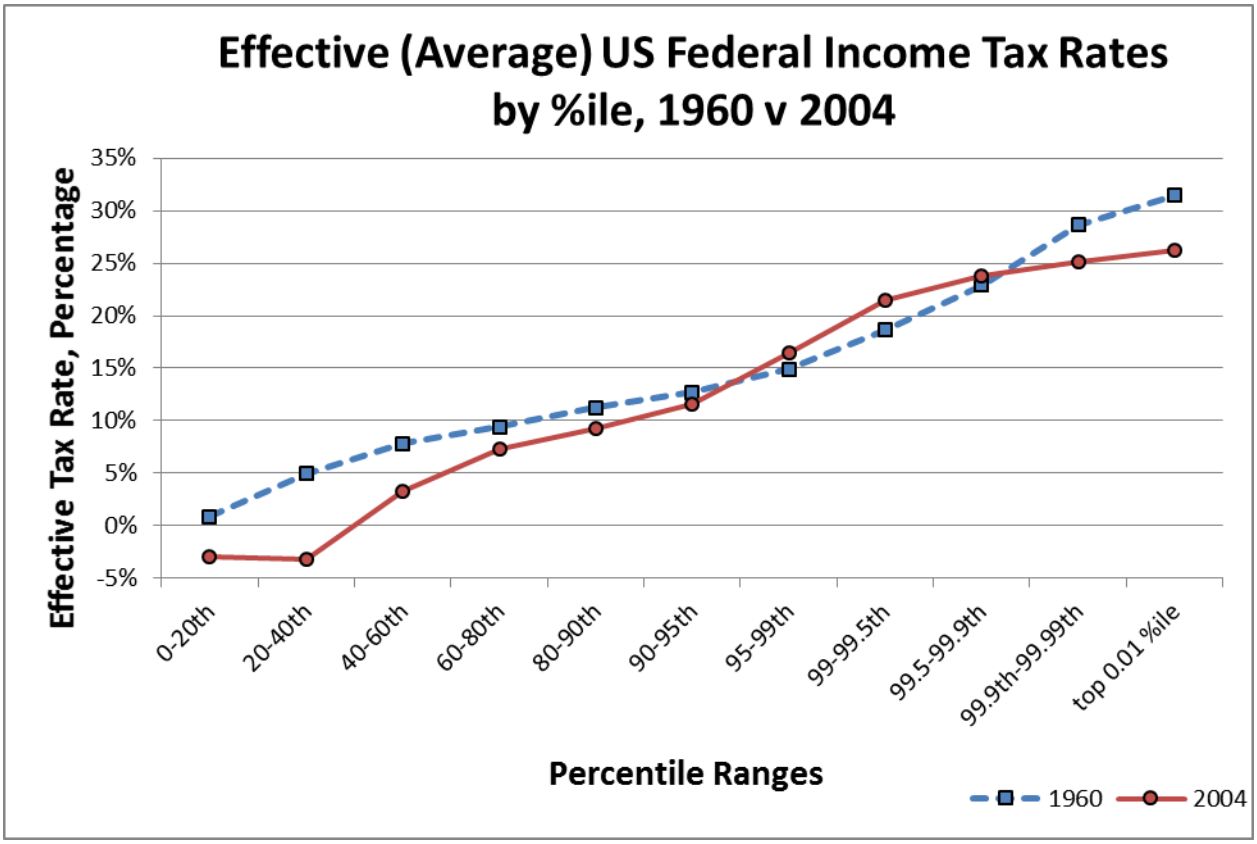

Figure 5

The top marginal tax rate in 1960 was 91%; in 2004, it had fallen by almost two-thirds, to 35%. Yet Figure 5 shows that effective tax rates (ETRs) for those at the top of the distribution (and hence subject to the top marginal rate) changed very little except for those in the 99.9th percentile (1 of every 1,000 American households).

Although it is not central to this article, it worth considering why the higher marginal tax rates of earlier decades (here, 1960) did not translate into higher ETRs than observed in 2004. First and foremost, the higher rates imposed in 1960 coincided with much lower incomes for those at the top of the distribution. As top marginal rates fell from 1960 to 2004 (tending to reduce the ETRs of those at the top), incomes rose — and rose dramatically (tending to raise ETRs since the top tax rate applies to a greater portion of income).

In addition, subtler forces are at work: it appears that lower top marginal rates have played a significant role in those rising top *pre-tax* incomes cited in the last paragraph and charted above in Figure 1 (page 5). Piketty et al. present evidence that the largest effect of lower marginal tax rates since the 1980s has not been to encourage greater productivity but rather has been to create incentives for top earners, especially corporate executives, to raise their compensation.[37] Lower top marginal tax create clear incentives for managers exploit agency problems and informational advantages when they bargain for compensation. There is an important tax policy lesson here: although high marginal rates may not increase average tax rates, they may serve the salutary purpose of substantially muting the incentives of executives to work their boards of directors for exorbitant pay and perks.

[37] Piketty et al., *Tale of 3 Elasticities*, *supra* note 32, at 251.

Finally, before moving on to state tax regimes, note that Figure 5 shows that effective federal tax rates at the bottom of the income distribution have become lower, increasing progressivity. The earned income tax credit and higher exemption levels explain most of this reduction in the federal tax burden imposed on the poorest households.[38] Combining this tilt in favor of those at the bottom with the previous discussion of rates at the top, the current federal income tax gets high marks for progressivity. Effective rates increase steadily and noticeably with income.

D. State Tax *Regressivity*

The 50 states' tax regimes, in stark contrast, earn dreadful marks for progressivity. In *every* state the combined effect of all taxes is actually regressive (average tax rates *fall* with rising income). When looking at federal taxation, we could justify counting only the income tax as it accounts for an overwhelming share of revenue.[39] Almost every state, however, imposes other taxes that account for a significant share of total state revenue, often a majority. Indeed, some states have no income tax.[40] Thus to assess accurately the progressivity (well, regressivity) of state taxation overall, we must consider the combined effect of multiple taxes that contribute significant amounts to states' revenue. The effective rates of sales and property tax must be estimated from taxpayers' incomes and consumption patterns.

The basic reason that state taxes are so regressive is simple: sales taxes are a major source of revenue in most states. Sales taxes apply only to consumption and the higher a household's income the smaller a fraction of that income it spends on consumption (equivalently, wealthier households save a greater share of income). In addition, those states that do have their own income taxes have marginal rate structures that tend to be only mildly progressive, and have many deductions and exemptions favorable to higher-income households. The (real) property tax is the most murky component of state taxation as there is significant uncertainty about the extent to which tenants pay higher rent due to property taxes (i.e. the *incidence* of the property tax is contested). When we tally up the numbers, however, it turns out that in general ETRs vary inversely with income in every single state.

According to a comprehensive survey of the tax system of all 50 states, based on a wealth of data and sophisticated modeling,

> virtually every state's tax system is fundamentally unfair, taking a much greater share of income from middle- and low-income families than from wealthy families. … Combining all of the state and local income, property, sales and excise taxes state residents pay, the average overall effective tax rates by income group nationwide are 11.1 percent for the bottom 20 percent, 9.4 percent for the middle 20 percent and 5.6 percent for the top 1 percent.[41]

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[38] *See generally* Nada Eissa & Hilary Hoynes, *Redistribution and Tax Expenditures: The Earned Income Tax Credit*, 64 NAT. TAX J. 689 (2011).

[39] We exclude Social Security and Medicare payroll taxes. Social Security payments in theory are contributions returned as retirement benefits later in life, though in substance it is not clear that this is the case. So too Medicare taxes can be thought of as payments by workers to fund health care on retirement.

[40] Alaska, Florida, Nevada, South Dakota, Texas, Washington, and Wyoming have no income taxes. TAX FOUNDATION, THE SOURCES OF STATE AND LOCAL TAX REVENUES, http://taxfoundation.org/article/sources-state-and-local-tax-revenues (last visited November 11, 2014). In addition, Tennessee and New Hampshire have almost no income tax: both states do impose a small tax (5 or 6%) on interest and dividend income. Tenn Stat Ann § 67-2-101, et seq.; . Admittedly, these small taxes are highly progressive as wealthy households' share of interest and dividend income is even higher than their share of labor income.

[41] ITEP, WHO PAYS?, *supra* note 4, at 1.

To illustrate in more concrete terms, the following figure shows the tax burden by income percentile groups for the state with the most regressive aggregate tax burden (Washington) and the state with the least regressive distribution of burdens (Vermont). Note the phrase "least regressive;" it bears emphasizing again that the "most progressive" state tax regime is still regressive.

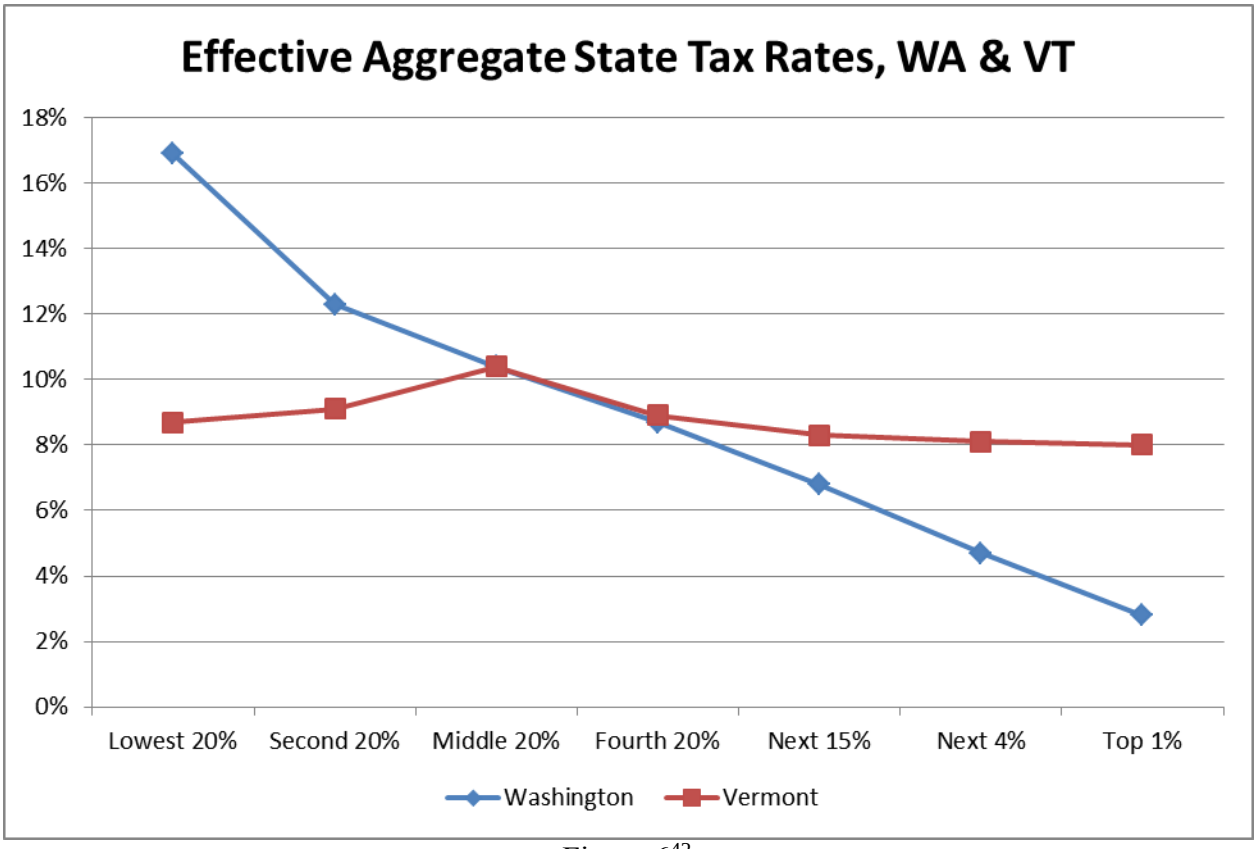

Figure 6[42]

Vermont's aggregate state and local tax burden are fairly flat, with those across all income levels paying rates from 8% to a smidgen more than 10%. Still, note that those in the middle of the income distribution pay an effective tax rate that is 2% higher than those at the top of the income distribution. In Washington, the degree of regressivity is truly astonishing. The poorest households pay about 17% of their income in state taxes, while those at the very top pay about 3%. Washington is a bit of an outlier, but the median difference between the rate paid by those at the bottom and those at the top is a little over 5% of income. I have found no efficiency argument for such regressive taxation, and of course such tax rates are antithetical to any notion of fairness or equity. They are reminiscent of the allocation of tax burdens in feudal societies.

Moreover, and consistent with just about every other major policy shift over the last few decades, state taxation has become more regressive. There is no readily available data before 1996, but over the last two decades the following figure shows the trend.

[42] Data for graph from ITEP, *supra* note 4, Appendix A, at 19-20.

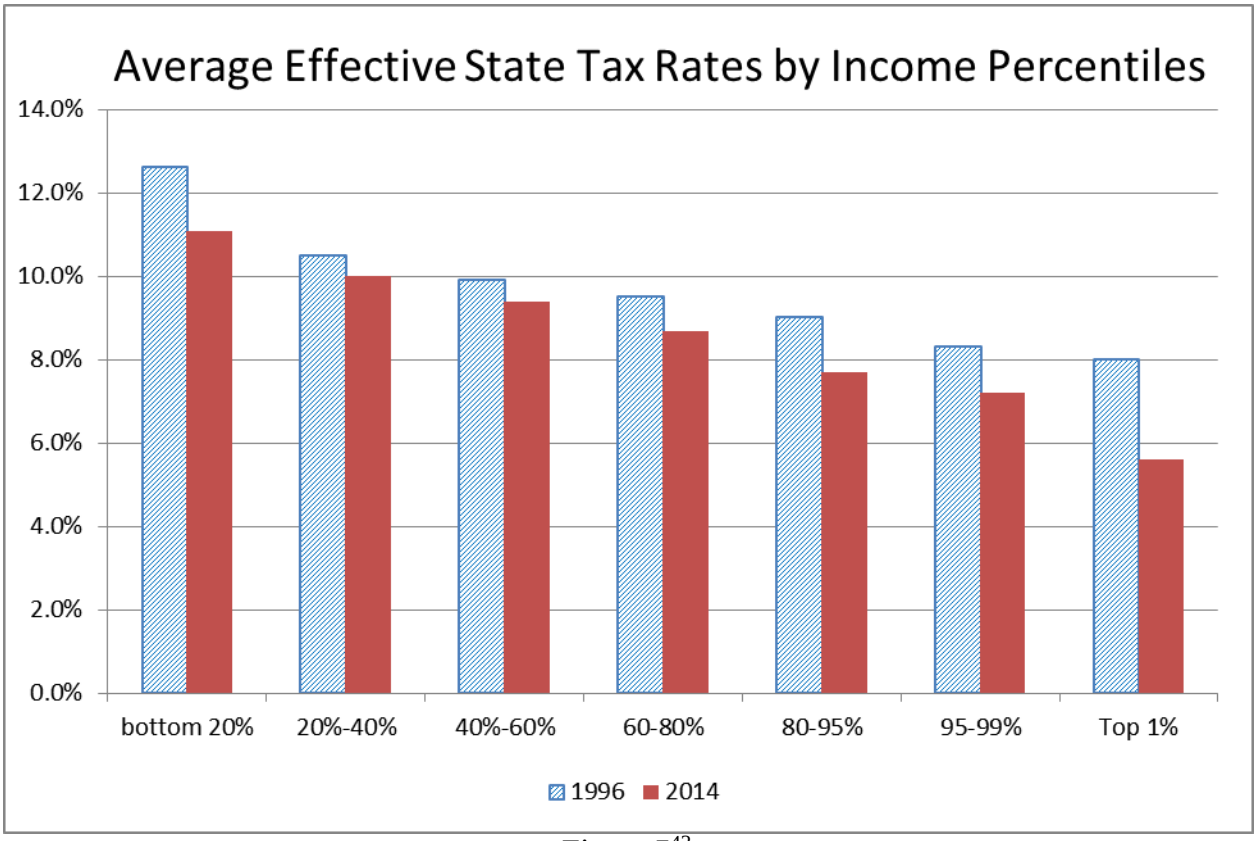

Figure 7[43]

Rates fell across the board, reflecting a slight reduction in state taxes from 1996-2014. The bottom 20% actually fared better than most higher-income groups, with a decline in their effective tax rate of 1.5%. Most other groupings saw their tax rate fall by about 1%. Those in the top 1% of incomes, however, experienced a 2.4% decrease in their effective aggregated state tax rate, by far the largest decline of any group. No doubt much of this increase is a simple result of the soaring incomes of these households. These taxpayers save high proportions of incremental earnings and thus this income escapes sales and other excise taxes. Still, even if this outsized state tax cut is not the result of express legislation and regulation favoring wealthy households since 1996, the fact that state political actors have apparently felt no need to restructure their tax regimes in the direction of less regressivity (to say nothing of actual progressivity) during our era of sharply rising inequality is itself a policy choice to increase rather than decrease inequality.

As all of this suggests, the keystones to the overall regressivity of state taxation are general sales taxes. These consumption taxes end up being so regressive because the poor consume essential all of their income, and so all of their income is taxed while the portion of income saved by wealthier households is either not taxed at all if a state has no income tax or is taxed at a relatively low rate. Averaged over all 50 states, "[p]oor families pay almost eight times more of their incomes in [sales] taxes than the best-off families [7% for poor; 0.9% for

[43] CITIZENS FOR TAX JUSTICE & THE INSTITUTE ON TAXATION & ECONOMIC POLICY, WHO PAYS? A DISTRIBUTIONAL ANALYSIS OF THE TAX SYSTEMS IN ALL 50 STATES 1 (1st ed. 1996); ITEP, *supra* note 4 (4th ed.), at 3.

best-off], and middle-income families pay more than five times the rate of the wealthy [4.6%]."[44] Thus the appearance of sales taxes as "flat" taxes is deceptive. In practice they are extremely regressive. In Washington, for example, the poorest 20% of households pay 13% of their income to sales taxes, while the wealthiest 1% pay a rate of only 1.9%.

Some states don't take even the simplest measures to make their sales tax less regressive, such as exempting food. "Taxing food is a particularly regressive strategy because poor families spend most of their income on groceries and other necessities."[45] Expanding on the theme, sales taxes on gasoline, beer, and cigarettes fall disproportionately, in terms of ETRs, on lower income households. In keeping with trending inequality, Kansas and South Dakota recently eliminated tax credits/refunds for food purchases, tilting their tax systems further in the direction of regressivity.[46]

Property taxes (usually assessed by localities, not states) are likely regressive, though scholarship on the issue is complex and under some assumptions property taxes might be mildly progressive. To start, in virtually all localities the (real) property tax is assessed at a flat rate (called the "millage"). For reasons that are not entirely clear, progressive real property tax rates are extremely rare in the U.S. despite the fact that some of the most prominent Founding Fathers ardently advocated such regimes. Thomas Jefferson lauded a progressive property tax, stating that "a means of silently lessening the inequality of property is to exempt all from taxation below a certain point, and to tax the higher portions of property in geometrical progression as they rise."[47] Despite residing on the other side of the political spectrum, Alexander Hamilton agreed and proposed a property tax rate structure with rates starting at 20¢ per room for log cabins and rising to $1 per room for homes with more than six rooms.[48] In 1791 Congress actually passed a different progressive property tax that imposed a rate of 0.2% for homes valued up to $1,000, and maxing out at 1% for homes worth $30,000 or more.[49]

Although a uniform rate (i.e. a "flat" tax) gives property taxation the appearance of straddling the line between progressive and regressive taxes, the pattern of asset ownership in America introduces a distinct regressive bias.

> For average families, a home represents the lion's share of their total wealth. At high income levels, however, homes are only a small share of total wealth. Because the property tax usually applies mainly to homes and exempts most other forms of wealth, the tax applies to most of the wealth of middle income families, and hits a smaller share of the wealth of high-income families.[50]

Just as flat sales taxes are regressive in practice because of the negative correlation between income and the percent of income spent on consumption, flat property taxes are presumptively regressive because they impact a form of wealth (real property) that declines as a percent of total wealth as income rises.

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[44] ITEP, WHO PAYS?, *supra* note 4, at 6.
[45] ITEP, WHO PAYS?, *supra* note 4, at 12.
[46] http://kslegislature.org/li_2012/b2011_12/measures/documents/summary_hb_2117_2012.pdf; ≪need SD cite≫.
[47] Letter from Thomas Jefferson to James Madison (October 28, 1785), in 3 THE PAPERS OF THOMAS JEFFERSON 681, 682 (Julian P. Boyd ed., 1953).
[48] GLENN W. FISHER, THE WORST TAX?: A HISTORY OF THE PROPERTY TAX IN AMERICA 40 (1996).
[49] 1 HENRY CARTER ADAMS, TAXATION IN THE UNITED STATES, 1789-1816, at 54-56 (NY, Burt Franklin 1970) (1884). This tax lasted only a few years. Singapore recently enacted a progressive property tax in order to make home ownership more feasible for middle income households. Jessica Cheam, *Singapore shifting to new progressive property tax system*, THE CHINA POST (Feb. 24, 2010), http://www.chinapost.com.tw/print/245733.htm.
[50] ITEP, *supra* note 4, at 13.

This presumption, however, may be rebuttable. Attempts to discern who exactly pays the property tax (in formal economic terms, its *incidence*) have proven extremely knotty. One important issue is the extent to which landlords, formally required to cut property tax checks to the government as owners, can pass along the increase to lessees in the form of higher rents. If, for example, landlords can raise rents to cover their entire property tax bill, then the tax in substance is paid for by renters even if landlords formally make the tax payment. The issue is critical to determining the regressivity/progressivity of the property tax because renting households on average (i) have significantly lower income than landlords, and (ii) spend a very high portion of their income on rent (and conversely wealthy households spend relatively small fractions of income on housing). If renters bear the lion's share of them, property taxes will be markedly regressive.

Virtually everyone agrees that this is not an all-or-nothing phenomenon, and that landlords can cover some portion of their property taxes with higher rent. The question is, how much? Unfortunately assumptions rather than unambiguous data drive results. Under one set of assumptions, "[p]roperty taxes … are usually somewhat regressive. … poor homeowners and renters pay more of their incomes in property taxes than do any other income group — and the wealthiest taxpayers pay the least."[51] In support of this perspective, another study found that "apartment residents pay a property tax 39 percent higher than that of homeowners of the same long-run income."[52] In seeming contradiction, however, another study found tenants bear only 15% of property taxes.[53] If we follow this estimate and assume that property taxes fall largely on owners, property taxes may be progressive enough to counterweigh some of the considerable regressivity of state sales taxes.[54]

Unlike sales taxes and with greater certainty than property taxes, state *income* taxes generally have (modestly) progressive marginal and hence rates and so serve as an even more powerful counterweight to regressive sales taxes —— where they exist. States without income taxes, such as Florida, Texas, and Washington, tend to have the most regressive overall state tax burdens; "these states' disproportionate reliance on sales and excise taxes make their taxes among the highest in the entire nation on low-income families."[55] In Washington, the bottom 20% pay an aggregate state tax rate of 16.9% of income; in Florida 13.3%, and in Texas 12.6%. Even in states with *relatively* high progressivity in their income tax rates, the regressivity of sales taxes (and possibly property taxes) more than offsets the modest *absolute* progressivity of the income tax.

The final element of regressive state taxation involves a somewhat subtle interaction with the federal tax code: the ability to deduct state taxes from the measure of income used to compute federal tax liability. Most low-income and many middle-income households, however, cannot use this deduction as there is a standard deduction that exceeds the "itemized" deduction that they can achieve by toting up specific deductions like state taxes, mortgage interest, charitable deduction, and a whole host of others. This means that the deductibility of state tax payments is of little or no benefit to those at the bottom or in the middle of the income distribution, but of significant and increasing value to those at the top — essentially the

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[51] *Id.* 6.
[52] Jack Goodman, *Houses, Apartments, and Property Tax Incidence* 16 (Harvard University, Joint Center for Housing Studies W05-2 Feb 2005), available at http://www.jchs.harvard.edu/sites/jchs.harvard.edu/files/w05-2.pdf.
[53] Robert J. Carroll & John Yinger, *Is the Property Tax a Benefit Tax? The Case of Rental Housing*, 47 NAT. TAX J. 295 (1994).
[54] JOSEPH A. PECHMAN, WHO PAID THE TAXES: 1966-85? (Washington, DC: Brookings 1985).
[55] ITEP, *supra* note 4, at 15.

definition of a regressive tax rule.

Reforming regressive state tax systems seems a nearly impossible task. It involves taking on powerful interest groups in all 50 states, and would require major overhauls to multiple taxes in most states (sales; property; income). To fix the regressive tax structure of any state would be an impressive accomplishment. To fix even 10 states would seem virtually impossible, and to undo the regressive tax systems in all 50 states patently impossible. Yet that is precisely the promise of Corrective Progressivity.

III. A Model of Corrective Progressivity

A. An Overview

Although the mechanics of Corrective Progressivity ("CP") laid out in this section are somewhat intricate, the basic idea is simple: vary federal income tax rates from state to state so that the sum of

(i) federal income tax rates by income, and
(ii) state aggregate tax rates for the combined impact of all major taxes (property tax, sales tax, and income tax) by income,

in each jurisdiction, achieves a target level of progressivity set by Congress. As such a program creates obvious incentives for states to increase their levies and so reduce their citizens' federal tax bills, the first step in calculating (state-varying) federal income tax rates under CP is to fix the federal tax revenue due from each state. Further, the variable level of state taxes means that we cannot try to equate *absolute* federal plus state marginal tax rates. Instead, the target is to equate total (federal + state) tax *progressivity* across all states in a technical sense explained below.

We take as given the objective of maintaining some target level of progressivity in combined state and federal taxation. There are, of course, a host of alternative objectives even if we limit ourselves to redistributionary ends. We could use tax law to achieve some targeted level of reduction in societal income inequality, as measured by a standard metric such as the Gini or the Atkinson index.[56]

The desirable level of income inequality (or even the existence *vel non* of such a level) is an important, complex, difficult, and highly contentious ideological issue. One way to understand the perspective of this paper is that it aims to address a somewhat easier (though still admittedly contentious) issue. We take as a given that the federal government, in providing myriad public goods, wishes to impose tax burdens in at least a moderately progressive fashion. This of course does work some redistribution of income, but it is far from a comprehensive program to reach some desired reduction in inequality — which presumably would include a variety of other measures, such as changes to the income tax code beyond the rate structure, more and larger transfer payments, more progressive funding of education, and higher estate and gift tax rates. In a real sense, then, CP is a relatively limited, measured policy to address regressive state tax policies.

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[56] *See, e.g.*, R.R. Schutz, *On the Measurement of Income Inequality*, 41 AM. ECON. REV. 107 (1951) (Gini Index); Anthony B. Atkinson, *On the Measurement of Inequality*, 2 J. ECON. THEORY 244, 250 (1970) (Atkinson Index). For a rigorous but accessible introduction to these and other inequality metrics, see FRANK A. COWELL, MEASURING INEQUALITY (Oxford 3rd ed. 2011).

It is a foundational principle of tax federalism that progressive, (partially) redistributionary taxation cannot work for political subdivisions. The reason is simple: labor is relatively mobile between states and localities, and so any attempt to redistribute will simply cause high earners to migrate to lower-tax jurisdictions.[57] The empirical evidence on this theory, however, is mixed. Feldstein & Wrobel find strong evidence that high-income taxpayer mobility undermines the ability of states to tax progressively or otherwise redistribute income.[58] In a more recent study, however, Leigh finds quite to the contrary that wages generally don't adjust to changes in state income taxes, and that state taxation plays little if any role in driving immigration between states of the Union.[59]

Perhaps a fatal blow to the view that taxpayers are highly mobile is the dramatic state-to-state variability in state tax regimes. If high-wage workers really could change jurisdictions costlessly (or very cheaply), no state could maintain a tax regime that was significantly less favorable to these affluent taxpayers. Yet we have seen (*supra* Figure 6, p. 15) that states have radically different effective tax rate (ETR) schedules (in Figure 6, Vermont and Washington state). Even adjacent states have widely divergent ETRs: Oregon's state taxes are among the most regressive while Washington's and Nevada's are among the most regressive; South Dakota is quite regressive, Minnesota quite progressive; New Hampshire is regressive, Vermont progressive. Note that many of these opposing state pairs share not only a border but also a similar history and similar political leanings: Oregen & Washington; Vermont & New Hampshire.

It turns out that making sense of the variations in tax regressivity from state to state is almost impossible. In the most comprehensive and sophisticated analysis of the issue to date, Chernick finds statistically significant evidence that: a higher percent of federal tax itemizers (largely a proxy for high income) tends to increase progressivity: having progressive-taxing neighboring states tends to *decrease* progressivity (contrary to widely-held view that states mimic their neighbors); Republican control of state legislatures tends to decrease progressivity (but control by Democrats has no effect in the other direction); and that Southern states tend to have more regressive tax regimes.[60] Many of these effects, however, are in practice quite small and, moreover, they appear to be quite sensitive to measure of progressivity used as the dependent variable.

The fact that the degree of regressivity is barely if at all correlated with a state's political leanings, average income, level of inequality, or geography lends some credence to the notion that the phenomenon of state tax regressivity does not have a simple ideological or economic explanation. To put it bluntly, state tax regimes seem largely random — perhaps the combined product of special conditions at some key juncture in a state's history (time of entrance to Union; time current constitution drafted). There seems to be no rational policies behind the taxation choices that states have made.

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[57] RICHARD A. MUSGRAVE & PEGGY B. MUSGRAVE, PUBLIC FINANCE IN THEORY AND PRACTICE 454–55 (5th ed. 1989). Pauly argues that there may be sufficient incentives for local redistribution because wealthy citizens might value seeing the beneficiaries of such programs in their local communities, and that reductions in crime due to assisting the poor also can be captured locally. Mark V. Pauly, *Income Redistribution as a Local Public Good*, 2 J. PUB. ECON. 35 (1973). Musgrave & Musgrave, however, contend that this perspective has gained little traction. MUSGRAVE & MUSGRAVE, *supra*, at 455.

[58] Martin Feldstein & Marian V. Wrobel, *Can State Taxes Redistribute Income?*, 68 J. PUB. ECON. 369 (1998).

[59] Andrew Leigh, *Do Redistributive State Taxes Reduce Inequality?*, 61 NAT. TAX J. 81 (2008).

[60] Howard Chernick, *On the Determinants of Subnational Tax Progressivity in the U.S.*, 58 NAT. TAX J. 93, 102 (Table 3) (2005).

I take the seeming randomness of state tax regimes as prima facie evidence that there is something seriously wrong with state tax lawmaking — some failure of the political process at the state and local levels. If this were not the case — if both state and national democracy worked perfectly to reflect popular preferences — then we would be hard-pressed to find any grounds to argue that the existing legal landscape provided a desirably progressive federal ETR structure but undesirably regressive state ETR structures. This article does not address this question of political science in any serious way, but the inexplicability (and perhaps the universal regressivity) of state taxation suggest some fundamental flaw in the politics of state tax law.

For example, it might be the case that the wealthy in each state are able to exert overwhelming influence on state taxation policy, but at the national level even the combined power of state elites runs up against countervailing interests favoring progressivity. At base this is an economies of scale story: the power of the wealthy increases rapidly with relatively few members but then the marginal benefit of increasing the size of their coalition quickly tails off. Conversely, the power of the less affluent may be very weak in small (state-scale) numbers, but as its numbers swell this group's political clout increases. At some point it will surpass the political influence of the wealthy. This is but one among many theories that might explain the puzzling pattern of variation in state tax regressivity. We proceed on the assumption that *something* is wrong and that state tax regressivity is a disease worth curing.

This section begins with some simple examples to illustrate the basic ideas and workings of one cure, CP. It then lays out in a more careful, formal fashion the steps involved in implementing CP. In the middle of this explication we must detour into an explanation of technical measures of tax progressivity — the goal of the entire enterprise. This section concludes by explaining how CP sets federal tax rates so that the combined federal and state tax rates are as close as possible to the target level of progressivity as defined by these metrics.

B. Illustrative Examples

This section presents a series of examples to illustrate the basic workings of CP. The examples start with the simplest facet of CP and successively add layers of complexity. Taken together, these illustrations will capture all of the essential features of CP.

Here are some elements of the example that will either remain fixed or vary only within the indicated ranges:

- The *target* federal (and total — federal + state) marginal rate structure is based very roughly on current US federal income tax marginal rates for married couples filing jointly:[61]

Applicable Income Range	Target Effective Tax Rates (ETRs) Ranges (federal taxes only)
0-$20K	-20% to -10% ($10,000: -15%)
$20K-$200K	-10 to 28% ($100,000: 25%)
Income above $200K	28% to 45% ($1,000,000: 40%)

Table 2

Note there are no marginal rates. As discussed above, all of our analysis will be in terms

[61] See *supra* Table 1 (p. 12) for the federal tax marginal rate schedule for 2014. The choice to use a simplified, rough approximation of the current marginal rate structure is not arbitrary. As we argue below, there are a couple of reasons that the current federal income tax rate structure may make sense as a foundation for defining target tax rates for the sum of state and federal tax rates.

of effective tax rates (ETRs) since they are more relevant to the fairness concerns motivating progressive taxation. As noted above, in these numerical examples we take these target federal ETRs, along with analogous target state ETRs, as given; we will discuss how they might be chosen later.

To simplify the following examples, we present results in terms of representative taxpayers from each of these groups, using incomes of $10K, $100K, and $1 million. The target federal ETRs for these specific incomes appear in parentheses in the right-hand column of Table 2.

- The examples will refer to two fictitious states: Progressivania and Regressiana. These names transparently indicate the *relative* progressivity/regressivity of these state's tax systems (the details for each state's tax regime vary from example to example).

Example 1. We start with Regressiana, which has only one tax, a 7% sales tax. Based on income and consumption patterns, the best estimates of the ETR by tax bracket appear in the second column of the following table.

Example 1, Regressiana						
	(a)	(b)	(c)	(d) = (c) + (b)	(e) = (c) + (a)	(f) = [(c) + (b)] – (a)
Income	S(I): State ETR	Target State ETR	Target Federal ETR	T(I): Target Total (federal + state) ETR	Target Federal + State ETRs	$CP_R(I) = T(I) – S(I)$: CP Effective Federal Tax Rates (ETRs)
$10.000	12%	-9%	-15%	-24%	-3%	-36%
$100,000	7%	15%	25%	40%	32%	33%
$1,000,000	2%	24%	40%	64%	42%	62%

Table 3

As discussed above, Regressiana's sales tax is highly regressive, especially if it applies to food and other items that make a large portion of the budget of less affluent citizens. Given the regressive nature of Regressiana's *state* ETRs (rates decrease as incomes increases), assessing federal taxes on the state's citizens according to the *target* federal ETRs would produce the moderately progressive tax structure in column (e). It does not reach the target level of progressivity presented in column (d).

The basic idea of CP is to set the federal ETRs such that the actual state ETRs (column (a)) plus the federal ETRs equal the target total ETRs (column (d)). The results are shown in the last (shaded) column of the table. First and foremost, readers should verify that the sum of this shaded column, giving CP federal rates ($CP_R(I)$), plus the actual state rates (S(I)) in column (a), yields precisely the target total rates (T(I)) specified in column (d). For the household with only $10,000 in income, for example, we need an effective federal tax rate of -36% (meaning that these households would receive money from the government instead of paying taxes) so that when combined with their state effective rate of 12% they are paying a total ETR of -24% (12% state rate less 36% subsidy from the federal government).

Note that effective rates under CP are much more progressive than under the current

system, illustrated in column (e), in which state and federal taxes are set independently.[62] Without CP, total ETRs would range from -3% to 42%; under CP, they range from -36% to 62%. This divergence illustrates that CP can have a potent impact on the allocation of total (state + federal) tax burdens. In particular, given universally regressive state tax regimes, CP injects a relatively sharp tilt in the direction of progressive taxation.

Example 2. As a contrast with Example 1, consider Progressivania, a state with a mix of taxes that yield a completely flat ETR structure: everyone ends up paying roughly 4% of their income to the state government. No doubt it seems counterintuitive to use a moniker signaling progressivity for a state with a flat overall tax rate. I do this, however, to emphasize that within the population of U.S. states, a flat effective tax regime is, relatively speaking, quite progressive — indeed, more progressive than any state's current tax system.

The following table, with the same rows and columns as used in Example 1, illustrates the application of CP to Progressivania.

Example 2, Progressivania						
	(a)	**(b)**	**(c)**	**(d) = (c) + (b)**	**(e) = (c) + (a)**	**(f) = [(c) + (b)] – (a)**
Income	**S(I): State ETR**	**Target State ETR**	**Target Federal ETR**	**T(I): Target Total (federal + state) ETR**	**Target Federal + State ETRs**	**$CP_R(I) = T(I) – S(I)$: CP Effective Federal Tax Rates (ETRs)**
$10.000	4%	-9%	-15%	-24%	-11%	-28%
$100,000	4%	15%	25%	40%	29%	36%
$1,000,000	4%	24%	40%	64%	44%	60%

Table 4

Note that the target state ETRs are the same as in Example 1, for Regressiana. This means that if the distribution of income is the same in both states, they are raising the same revenue per capita — that a flat 4% yields the same state tax revenue as the regressive schedule in Regressiana. Thus we can compare outcomes in the two states with (per capita) revenue invariant, i.e. the change in tax from one to the other is 'revenue-neutral.'

There are two simple but important things to note in comparing effective federal rates under CP in Regressiana and Progressivania (shown side by side in the following table for convenience).

Effective Federal Tax Rates (ETRs) under CP		
Income	**Regressiana**	**Progressivania**
$10.000	-36%	-28%
$100,000	33%	36%
$1,000,000	62%	60%

Table 5

First, unsurprisingly, *federal* ETRs are more progressive in Regressiana. This is one of the raisons d'être for CP: to impose more progressive federal ETRs in states with more regressive ETRs so that the burdens of combined state and federal taxes on taxpayers of each income level are equalized across the nation. Thus *more regressive* state taxes in Regressiana result in *more*

[62] State and federal tax rates do have some minor independencies under current law. In particular, the deductibility of state taxes on federal tax returns means that, all else equal, higher state tax rates reduce federal income tax rates. 26 U.S.C. § 164. We contrast this feature of the tax code with CP *infra* § V.

progressive federal tax rates in the state. Second, as this table and the preceding point highlight, federal tax rates vary from state to state under CP — an admittedly radical departure from over a century of federal and state income taxation, and from income taxation in other nations with political subdivisions. Primary purposes of this article include (i) making the normative case for CP, and (ii) making the legal case for the constitutionality of CP.

There is a third, subtler point: even for (relatively) progressive Progressivania, CP tax rates are substantially more progressive than the sum of actual state rates and target federal rates (compare columns (e) and (f) in Table 2). This yet again drives home the elemental and undesirable fact that even in the states with the least regressive tax systems, state rates are far less progressive than a target rate. We have not yet specified the method used to select the target ETRs, but a bit of foreshadowing: the target federal rates are not that different from current actual federal income tax ETRs, and the target state rates in both examples (and all examples below) are simple multiples of these target federal rates.

Example 3. Although enhancing progressivity is the raison d'être for CP, taxation has a more fundamental purpose: to raise revenues needed to run governments (federal, state, and local). States vary widely in the revenue that they raise from their citizens and residents.[63] This elemental fact complicates the implementation of CP considerably. Assume (for the sake of simplicity in explication) that we just got lucky in Example 2 and that applying the CP rates yielded exactly the revenue that the federal government needed from Progressivania. We take this number, the amount of revenue that the federal government needs to collect from a state, as given during the course of these examples. We will discuss its derivation in the next subsection that lays out a model for CP. For now, we merely note that each state's expected contribution to federal revenues will depend not only on its total or average income, but also on the distribution of incomes within the state, given the desire for progressive taxation.

Now assume that Progressivania doubles all of its taxes, so that each resident's tax bill is now 8% of their income instead of 4%. Here is a revised version of the table from Example 2 showing CP rates for Progressivania with state taxes slightly more than doubled.

Example 3, Progressivania						
	(a)	**(b)**	**(c)**	**(d) = (c) + (b)**	**(e) = (c) + (a)**	**(f) = [(c) + (b)] – (a)**
Income	**S(I): State ETR**	**Target State ETR**	**Target Federal ETR**	**T(I): Target Total (federal + state) ETR**	**Target Federal + State ETRs**	**$CP_R(I) = T(I) – S(I)$: CP Effective Federal Tax Rates (ETRs)**
$10.000	8%	-18%	-15%	-33%	-7%	-41%
$100,000	8%	30%	25%	55%	33%	47%
$1,000,000	8%	48%	40%	88%	48%	80%

Table 6

Doubling the state's ETR schedule has no effect on target federal rates, but it perforce must raise target state rates in order to double state revenue. Indeed, in this hypothetical example, Progressivania is raising more revenue than the federal government.

Here is a comparison of federal CP rates in our three examples:

[63] Excluding resource extraction and corporate taxes, state per capita revenues vary from a low of $590 for Alaska (which raises the most of its revenue from an oil extraction tax) to a high of $4,337 for Vermont. For data used in these calculations, see http://www.census.gov/govs/statetax/ ("Downloadable Data").

Effective Federal Tax Rates (ETRs) under CP			
Income	**Regressiana**	**Progressivania 4%**	**Progressivania 8%**
$10.000	-36%	-28%	-41%
$100,000	33%	36%	47%
$1,000,000	62%	60%	80%

Table 7

Focusing on the last two columns, we can see that simply doubling everyone's state tax rates dramatically increases the progressivity of federal CP rates: the lowest rate (negative, so a subsidy) goes from -28 to -41%, and the top rate goes from 60% to 80%. It may seem counterintuitive that raising state rates by a modest 4% could lead to a 20% increase in the CP tax rate for those near the top of the income distribution. Comparing tables 4 and 6 shows us what is going on. When *actual* state tax rates are so much less progressive than *target* state rates engineered to parallel the federal rate progressivity, doubling state revenue needs requires raising revenue somewhere. Under CP, which is built on the principle of allocating tax burdens lightly on the poor and heavily on the wealthy, this additional revenue comes largely from high-income taxpayers. Since in these examples Progressivania has chosen to keep a flat tax rate structure when it hikes rates dramatically, the corrective piece of CP becomes patent: federal rates at the top must rise sharply to maintain overall (state + federal) tax progressivity. The converse, of course, occurs at the bottom of the distribution. Federal CP tax (subsidy) rates must fall (rise) markedly in order to counteract the relatively regressive state tax rate structure in (relatively progressive) Progressivania.

Example 3 also illustrates that CP does not permit states to shift the burden of federal taxation to other states by raising their state tax rates. A facile understanding of CP would suggest this is possible. The basic equation of CP,

$$CP_S(I) = T(I) - S(I),$$

does seem to indicate that raising state tax rates, S(I), on the right-hand side will reduce federal CP rates, $CP_S(I)$, on the left. As we have explained, however, under CP raising actual state rates causes a countervailing increase in *target* state rates, and so target total effective rates, T(I), rise as well. When a state raises taxes under CP in any manner that is less progressive than the target total rate structure, it simply leads to an 'extra-progressive' change in CP federal rates to offset the additional slug of state tax regressivity.

C. The General Model

1. Introduction

This section is just a more general, systematic, and detailed presentation of Corrective Progressivity (CP) as limned in the numerical example of the previous subsection. There are innumerable ways to implement CP. This section details one basic approach, but at a number of junctures the presentation will highlight alternative ways of designing integral parts of the system.

In this section we are examining more closely essential elements of the basic CP equation,

$$CP_S(I) = T(I) - S(I),$$

The heart of the matter is the definition of the target total (state + federal) ETR schedule, T(I). We must break this down into the target federal rate structure, $T_F(I)$, and the target state rate structure, $T_S(I)$. Our basic equation is now a bit longer:

$$CP_S(I) = T_F(I) + T_S(I) - S(I).$$

Next we regroup a bit:

$$CP_S(I) = T_F(I) + [T_S(I) - S(I)]$$

This emphasizes that CP rates are just target federal rates plus a premium/discount equal to the difference between target and actual state rates. In practice this difference is negative for lower income and positive for higher incomes in every single state — i.e. CP makes federal tax rates more progressive, and noticeably so.[64]

We begin in Subsection 2 with the target federal ETR schedule, and explain why choosing the current federal ETR structure makes both political and economic sense. In subsection 3 we turn to target state ETRs and define them as a simple multiple of target/actual federal rates. This method for defining state target rates has merits beyond simplicity: it guarantees that the sum of state and federal target rates, T(I), in a precise sense has the exact same level of progressivity as federal rates. Subsection 4 then discusses how scholars have derived empirical measures of ETRs for state tax regimes that consist of a complex mélange of sales, income, and property taxes. Finally subsection 5 puts together all of these pieces and shows how they are integrated to yield CP federal tax rates.

2. Choice of the Target Federal ETR

Although the choice of the target federal ETR structure for the nation is perhaps the single most important decision in terms of the practical impact of Corrective Progressivity (CP), we will have relatively little to say about it. There is no technical procedure that identifies some optimum tax structure.[65] Rather, the determination of target tax rates is the product of politics, unavoidably determined in the give and take of legislative logrolling and compromise. In modern democracies, tax policy in general and the progressivity of tax rates in particular are hotly contested issues. In this article, we treat the legislative process as a black box: elected representatives do what they do and spit out a target ETR. The tax "engineers" then follow the procedures in the remainder of this section to implement CP given this politically determined target.

The very fact that the current federal rate structure is the product of the democratic process lends it some legitimacy. Of course, the same could be said of state tax rates. In order to rely on democratic legitimacy as a justification for CP, which as modeled here takes federal income tax ETRs as the imprint for total (state + federal) ETRs, we do need some theory of political failure at the state (but not the federal) level, as discussed at the beginning of this section.

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[64] *See infra* § IV.

[65] Note that we are focusing on fairness/equity arguments for progressive income tax rates. There is of course an enormous literature on optimal tax rates based on efficiency concerns. *See, e.g.,* Mirrlees, *supra* note 24.

In addition to potential political justifications, and perhaps surprisingly, we can make a fairly strong case for the *efficiency* of the current federal income tax ETR schedule. Here we use efficiency in a sense developed in the optimal tax theory literature: raising a given amount of revenue while minimizing the disincentive, deadweight-loss costs of the tax. Pioneered by Nobel prizewinner James Mirrlees,[66] optimal tax theory in the context of income taxation has as one of its fundamental findings that the efficient way to tax labor income is with a relatively large fixed grant to every citizen (a so-called "demogrant") along with a flat tax on all income. This produces an ETR structure that is steeply progressive at the bottom of the income distribution, as the poorest citizens with little or no income have large negative tax rates (i.e. they receive subsidies). As incomes increase, the flat tax starts to outweigh the demogrant and rates rise quickly towards the flat rate. That flat rate, however, sets a ceiling on rates regardless of how high incomes go, and rates become essentially flat as incomes get higher and higher.

With plausible parameters (demogrant of $4,000; flat tax rate of 16%), Figure 8 below shows that the current federal tax structure closely parallels a Mirrlees-style optimal income tax rate structure.

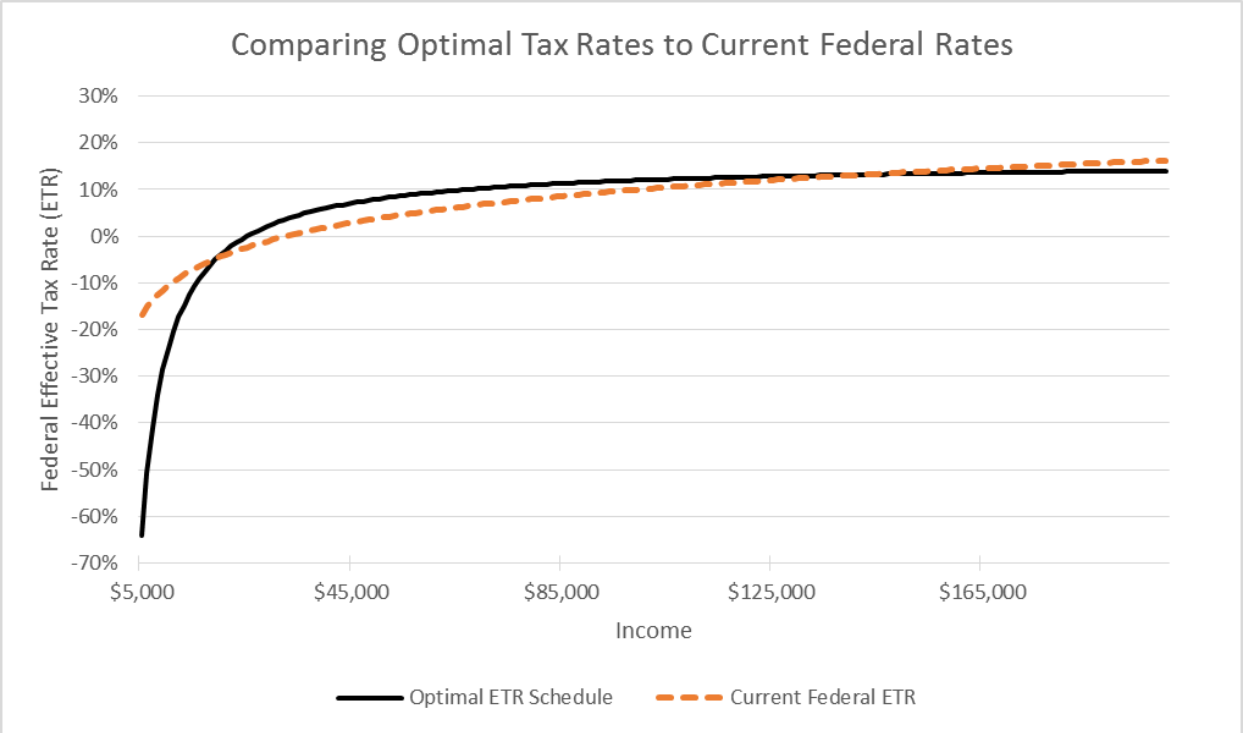

Figure 8

Note that the greatest divergence between the two rate schedules is at low incomes, where current federal (subsidy) rates are significantly lower than the optimal rates. If we take into account regressive state as well as federal taxes, this divergence of course will widen. CP, acting as a counterweight to regressive state levies, will bring total tax rates more closely into alignment with the optimal rates in the graph above.

[66] See *id.*; Diamond, Peter A. and James A. Mirrlees, *Optimal Taxation and Public Production I: Production Efficiency*, 61 AM. ECON. REV. 8 (1971).

Using current rates applied to current incomes means that CP is being built to yield current federal income tax revenues. Moreover, the way that we construct CP rates guarantees that they will raise revenue in each state equal to current federal revenues from the state, although by design the burden of the federal income taxes will tilt towards higher-income households (given that every state has a regressive tax rate system). This will become clear in the course of the remainder of this section.

Before moving on, I offer some additional thoughts on a couple of issues related to setting federal ETRs. There are some obvious points. First and foremost, we assume that lawmakers will set rates so that the income tax raises the level of revenue needed to fund the federal budget (in conjunction with other levies and borrowing). Second, in keeping with the over 100-year history of the current federal income tax, we assume that ETRs will be progressive to some degree.

There are also some subtler issues. Tax rates change with some frequency, and there is no reason to think that rates under CP would be any more stable. Historically rates have changed as the federal government's revenue needs have changed. In particular, during wartime rates have increased across the board; moreover, and of greater relevance to this article, the rate structure has become much more progressive when the nation has been engaged in military conflict. During World War I marginal rates on top incomes reached 77%, and during World War II they climbed even higher, to 94%.[67] Whatever reasons justified higher wartime progressivity under the current tax regime would also justify higher rates under CP. More generally, we can expect tax rates under CP to evolve over time in response to changing revenue needs and fairness norms.

So far, we have assumed that the federal government uses one set of *target* ETRs for the nation (of course *actual* federal tax rates under CP will vary from state to state — that is the point!). This comports with the notion that the national government is trying to equalize total (federal + state) tax burdens across state lines. In theory, however, this need not be the case: sound policy reasons could justify having target rates vary from state to state. For example, if one state imposed much higher taxes than any others, the same reasons that justify more progressive rates during wartime might justify more progressive target ETRs for that state. Permitting target rates to vary from state to state would significantly complicate the implementation of CP, but would be feasible. Given that the purpose of this article is to introduce and explain the basic workings of a tax code based on CP, however, we will not explore this more complicated possibility.

3. Target State ETRs

Now that we have specified the target levels for federal income tax rates, we must do the same for state rates in order to obtain a target curve for total (state + federal) tax rates. There are any number of ways to do this, and without strong assumptions there is no one right way. This article chooses a very simple approach that turns out to have substantial normative appeal under the assumption that actual federal rates reflect socially desirable levels of progressivity for the

[67] For wartime tax rates see TAX FOUNDATION, *supra* note 34.

political and the tax efficiency reasons discussed in the previous section.

We define the target state ETR schedule as a simple multiple of the federal ETR schedule, where the multiple (which for most states is less than one) is simply the ratio of actual state tax revenue to actual federal revenue. If we refer to state revenue as R_S and federal revenue as R_F, then in simple algebraic terms we are defining target state rates according to

$$T_S(I) = \frac{R_S}{R_F} T_F(I)$$

This target state tax schedule will raise exactly the same revenue as actual (regressive) state taxes because elementary algebra shows that multiplying all tax rates by a fixed number will raise total revenue by the same factor.

The following figure, based on actual data for the state of Washington, helps picture the construction of target state rates.

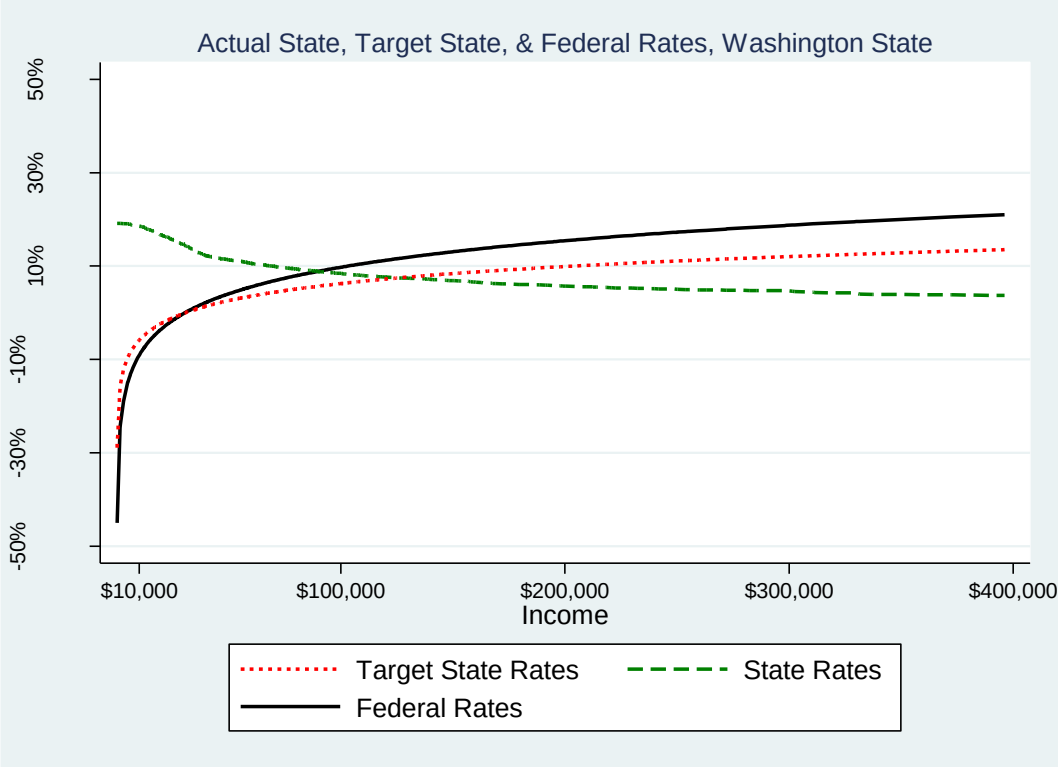

Figure 9

The line drawn with long dashes depicts the current rate structure in the state of Washington. Its downward sloping reflects the rather dramatic regressivity of state taxes in Washington. Based on the distribution of incomes in the state, this raises some level of revenue R_S. The data tell us that the ratio of this revenue to federal revenue from Washington is 0.64 — the states raises 64 cents from its citizens for every dollar that the federal government raises from these same taxpayers. We multiply the target federal rate schedule (the actual schedule for Washington taxpayers; see previous subsection), shown as the solid curve in the figure above, by this 0.64 to get the target state tax rate schedule. This rate schedule is shown by the short-dashed curve. By

design, this target rate schedule, if applied, would raise exactly the same revenue as Washington's actual rates raise. This target rate structure, however, is not designed for actual use. Rather, it gets added to the target federal rates to define the target total (state + federal) ETR schedule.

Note that the target state rates form a curve with the same general shape as the target federal rate curve. This of course is the result of multiplying a curve by a constant. The two curves cross where the target federal rate is zero. For high incomes, the target state rate is below the federal rate — precisely 64% of the target federal rate, reflecting the lower revenue needs of the state. For lower incomes, the target state rate calls for a smaller subsidy rate than the target federal rate schedule.

We could argue that a target state curve with 'about the same shape' as a target federal curve that has attractive political and efficiency justifications inherits those desirable properties. The argument is not without merit, but it is imprecise. We can do better. We would like to say that the target state ETR structure has the same level of progressivity as the target (actual) federal tax structure. Perhaps surprisingly, we can say this in a very precise sense.

To measure progressivity, we utilize the most widely-used measure of tax progressivity: the Kakwani Index.[68] An online appendix covers this material in greater detail;[69] here we will explain the basic idea behind this measure of tax progressivity. The Kakwani Index of tax rate progressivity varies from +1 for highly progressive tax systems to -1 for highly regressive systems. It is calculated by comparing the progressivity of tax burdens to the distribution of income. If income inequality is very low, then even a modestly progressive tax can be progressive. If, however, income inequality is high, it will take a very progressive rate structure for the Kakwani Index to be positive (on the progressive side of the line). The following example should make these notions a bit more concrete. Assume households making up the bottom 20% of the income distribution earn only 5% of national income. If they pay only 3% of all taxes, this will tend to make the Kakwani Index positive; their share of tax burden is lower than their share income. On the other hand, if they pay 10% of all taxes, this contributes to a negative Index, as this poorer group pays 10% of all taxes out of only 3% of all income.

For our purposes, the key facet of the Kakwani Index is that multiplying all rates in a tax rate schedule by a constant leaves the Index unchanged. A numerical example helps illustrate why this holds. Say that the bottom half of the income distribution earns $250 billion and pays an ETR of 10% rate, leading to a tax bill of $25 billion. The upper half earns $750 billion and pays an ETR of 20%, yielding a tax bill of $150M. The bottom half then has 25% of all income but pays only about 14% of the national tax bill (25/(25 + 150)). The top half earns the remaining 75% of income but pays about 86% of all taxes. This is a progressive tax regime, as the percent burden rises with income.

Now say that the government decides to double tax rates across the board. The bottom half now pay a 20% rate, or $50 billion in dollar terms. The rate for the top half is now 40%, resulting in tax payments of $300 billion. Then the *percent* burden of the tax is unchanged: the bottom half pays 14% of all taxes (50/(50 + 300)), and the top half the remaining 86%. When these percentages don't change (and the distribution of income remains unchanged), the Kakwani Index is unchanged.

There is nothing special about doubling taxes. Any multiple of a given tax rate, be the multiplier ⅛, ½, 2, or 8, will leave the Kakwani Index measure of tax progressivity unchanged.

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[68] Nanak C. Kakwani, *Measurement of Tax Progressivity: An International Comparison*, 87 ECON. J. 71 (1977).
[69] <<http:// … >>

The reason is implicit in the numerical example above: multiplying all tax rates by the same number changes everyone's absolute burden, but leaves *relative* burdens (more precisely: the ratio of burdens) unchanged. It is these relative burdens that affect the Kakwani Index.

By defining the target state ETR structure so that it (i) is a simple multiple of the federal ETR structure that (ii) raises exactly the same amount of revenue as the state's actual tax, we have constructed a rate schedule with precisely the same level of progressivity as the federal tax schedule, and is 'revenue neutral.' This is the key component in defining (and computing) CP tax rates.

4. State Effective Tax Rates

Before we put all of the pieces together, however, we need to devote some more attention to the estimates of state ETRs. Computing federal effective tax rates (ETRs) is relatively simple, given the primacy of the federal income tax. As explained in § III. calculating state effective tax rates (ETRs) is complex. Most prominently, statisticians must infer effective tax rates for sales taxes because these rates depend in large part on consumption patterns. The poor spend very large fractions of their meagre incomes on food, and so a sales tax that applies to food will lead to very high effective tax rates for the poor; rates decline quickly as you move up the income distribution because as wealth increases the share of income devoted to food drops steadily.

Thus there is no way to "back out" state ETRs from any of the standard economic surveys, such as the Census Bureau's Current Population Survey data used below in section IV. Instead we must rely on empirical work that estimates these state rates based on the best available data on how consumption patterns and other variables (e.g. housing prices, for property tax estimates) determine the effective burden of sales, property, and other taxes deployed by most states. The best, most current work on this topic is *Who Pays? A Distributional Analysis of the Tax Systems in All 50 States*, prepared by the Institute on Taxation & Economic Policy (ITEP).[70] This study uses a wide variety of data to model the incidence of state taxation by income; none of the prominent government tax models cover state taxation.[71] The ITEP study covers all major state and local taxes: sales taxes, income taxes, and property taxes. By including details on each of these taxes for all 50 states (e.g. the items to which a state's sales tax applies) and survey data on consumer expenditures (e.g. how much money households of a given income percentile spend on food), the ITEP model provides reliable estimates of state effective tax rates (ETRs). ITEP publishes its results in aggregated percentile groupings,[72] and the empirical estimates of the effects of CP in § IV. perforce are presented at this same level of aggregation.

5. Calculating CP Effective Tax Rates for a State

We now have all of the pieces and need only assemble them. To use our simple algebra as a quick summary, we initially defined CP rates for state S as the difference between a target *total* (state + federal) effective tax rate, T(I), and actual state rates, S(I):

$$CP_S(I) = T(I) - S(I).$$

[70] ITEP, *supra* note 4.
[71] *Id.* 129 (stating that models of United States Joint Committee on Taxation, the United States Treasury Department, and the Congressional Budget Office do not cover state taxation).
[72] ITEP reports state effective tax rates in seven percentile categories: lowest 20%, second 20%, middle 20%, fourth 20%, next 15%, next 4%, and top 1%). *Id*. Appendix A ("Who Pays Summary Results"), at 20.

We then broke target rates into two components, a federal target $T_F(I)$ and a state target, $T_S(I)$:

$$CP_S(I) = T_F(I) + T_S(I) - S(I).$$

Next, we justified using actual federal ETRs as the target federal rates based on both political considerations and their rough compliance with optimal tax recommendations. Finally, as the key step, we defined the target state ETRs as the multiple of federal rates that would produce the same revenue as a state's actual taxes, S(I). This involves simply multiplying federal rates by the ratio of state tax revenue to federal tax revenue from the state:

$$T_S(I) = \frac{R_S}{R_F} T_F(I)$$

Putting the last two equations together gives us our final result:

$$CP_S(I) = T_F(I) + \frac{R_S}{R_F} T_F(I) - S(I) = \left[1 + \frac{R_S}{R_F}\right] T_F(I) - S(I)$$

Each of the component necessary to compute CP rates is readily available: state revenue from the relevant taxes, federal revenue from the income tax, the federal ETR schedule, and the state's effective ETR schedule. In the following section we use this formula to compute CP rates for all 50 states and the District of Columbia, so that we can see how CP rates diverge from current federal rates.

IV. Empirical Analysis of Implementing Corrective Progressivity

Having described in some detail an algorithm for computing CP federal effective tax rates (ETRs), this section takes a practical turn and computes estimates of these tax rates for all 50 states and District of Columbia. The primary purpose is to compare these CP federal tax rates to current federal tax rates. In particular, we are interested in (i) the change in federal tax rates structures for each state, and (ii) contrasting the effects of CP on states with differing tax progressivity and different levels of taxation.

We will illustrate each step in the computation of actual CP tax rates using data from the state of Washington — chosen because its highly regressive state tax system will illustrate the effect of CP in sharp relief. We start with recent (2012) federal and state ETRs for Washington.[73] The federal ETR curve is derived from fitting a curve to individual tax rates as a function of income.

[73] State rates are based on ITEP report, with some averaging assumptions and linear interpolation to convert data for seven percentile groups into a full ETR schedule. We estimate federal rates from the Census Bureau's Current Population Survey (CPS) data, Annual Social and Economic Supplement (March 2012). http://www.census.gov/cps/about/supplemental.html. This CPS data has some serious shortcomings for this project. In particular, it provides almost no federal tax payment data for households with an income exceeding $400,000. For the purposes of this article, however, CPS data has one indispensable feature: it includes taxpayers' state of residence. Alternatives such as the Federal Reserve's Survey of Consumer Finance and the Internal Revenue Service's Statistical on Income, do not identify a tax unit's state of residence. http://www.federalreserve.gov/econresdata/scf/scfindex.htm; http://www.irs.gov/uac/Tax-Stats-2

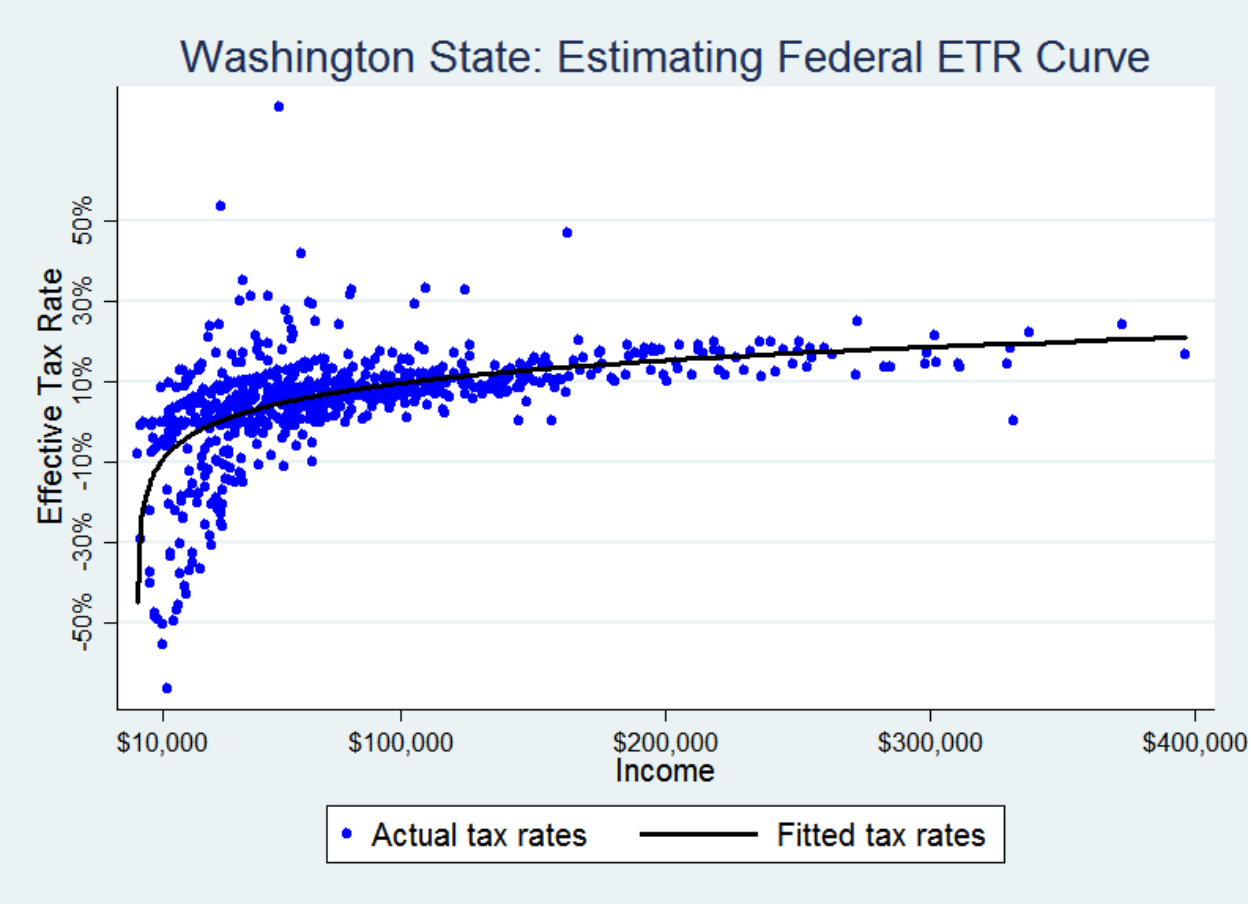

Figure 10

The dispersion of the data points around the fitted line indicate that a household's federal tax rate depends on many factors other than income (in particular, exemptions, deductions, and credits) that vary significantly across households with the same gross income. When we are setting tax rates (here, ETRs), however, we of course must abstract from the myriad differences between households and focus on the foundational issue of how rates should vary with income.

The state tax rates are based on estimates of the burden imposed by Washington's sales and property taxes (it has no income tax) as calculated by the Institution on Taxation and Economic Policy.[74] In the graph below (a reproduction of Figure 8 above), we graph both these state tax rates and the fitted federal rates because both are important building blocks in calculating CP federal tax rates.

[74] ITEP, *supra* note 4. ITEP publishes ETRs by state for the following income percentile ranges: the bottom four quintiles (0-20%, 20-40%, 40-60%, 60-80%); then the next 15% (80-95%), then the next 4% (95-99%), and finally the top 1% (99-100%). To calculate a continuous rate structure from this data, I treated the averages for these ranges as the exact state ETRs for those with the income in the middle of each range, and then connected these points by linear interpolation.

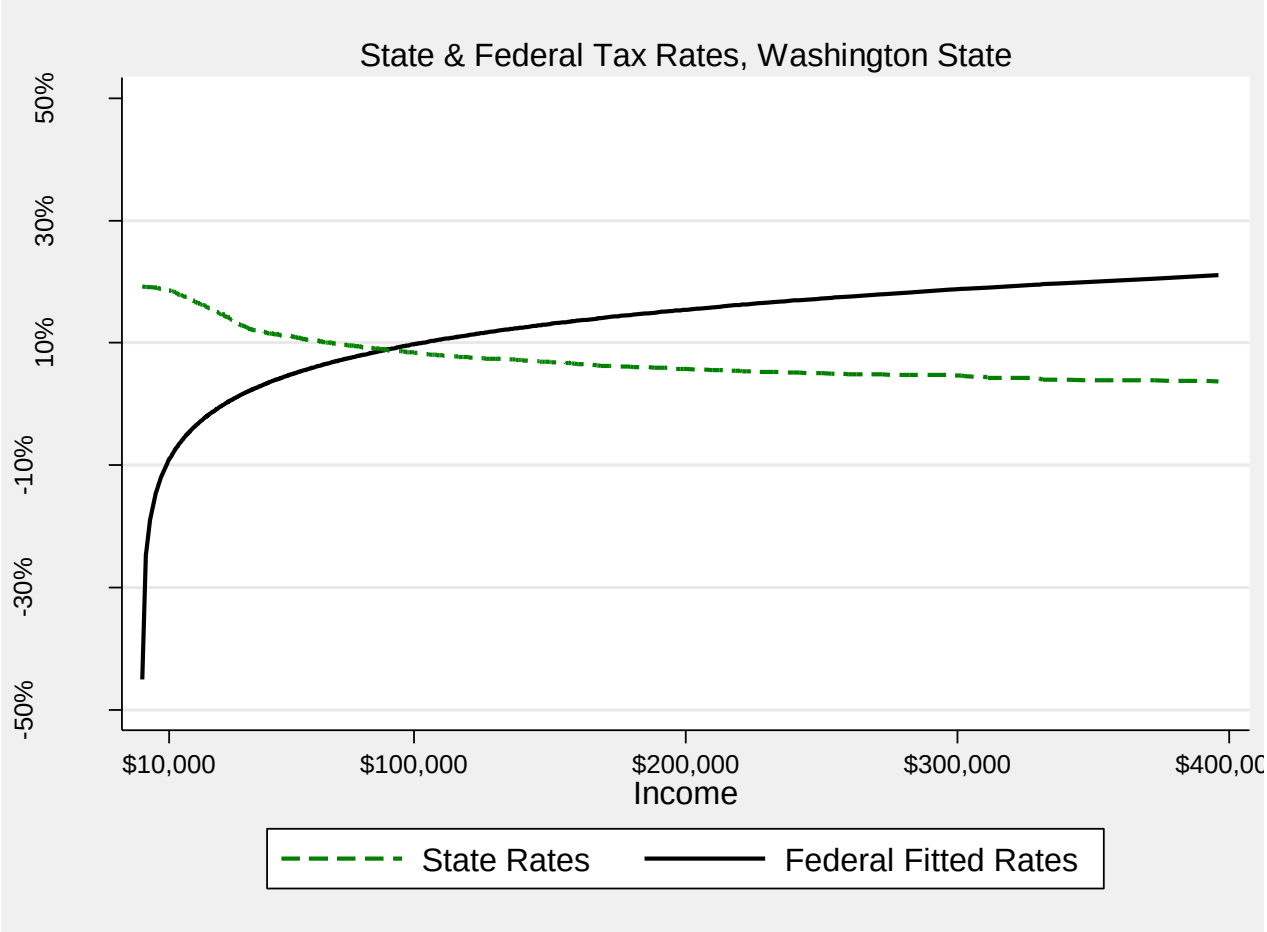

Figure 11

Notice (again) the stark contrast between the fairly *progressive federal* tax rate schedule (especially at the bottom of the income distribution) and the *regressive state* tax rate schedule (again, especially for lower incomes). To reiterate our focus: the point of CP is to vary federal taxes by state so that the total (federal + state) effective tax rate structure looks as close to the target *progressive* rate structure — which for the purposes of this empirical exercise we take as the (fitted) federal rate structure itself.

We next compute the target state tax schedule. Recall that this is a hypothetical state income tax that would raise as much revenue as the actual state tax regime, but with a progressive structure of the same shape as the fitted federal rate curve, and with exactly the same level of progressivity as the federal ETR schedule (as measured by the Kakwani Index). Note that this is simply a reproduction of Figure 8 above.

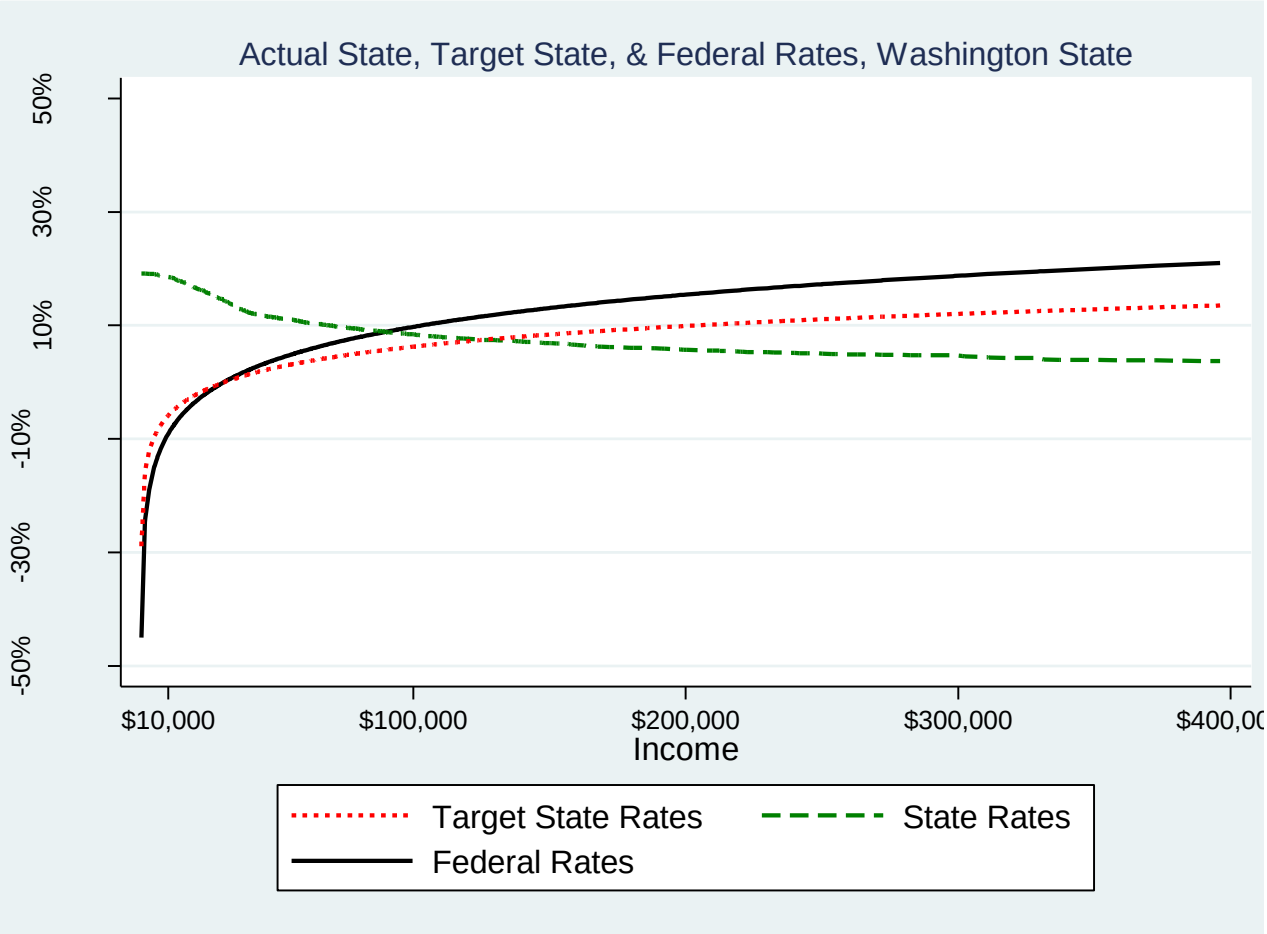

Figure 12

We derive this target rate curve for Washington simply by multiplying the fitted federal rate structure by the ratio of state tax revenue to federal tax revenue from Washington. For Washington, this ratio is about 0.642, meaning that state tax revenue amounts to about 64% of the revenue that Washington taxpayers remit to the federal government. As the graph shows, this means that the target state tax rates for Washington are below the fitted federal rates for those taxpayers actually paying taxes; low-income taxpayers with negative tax rates, meaning that they receive grants from the government instead of paying taxes, would receive smaller subsidies under these target state rates than receive under current federal tax(/subsidy) rates. Recall that in the previous section we noted that the Kakwani Index for the progressivity of a tax rate structure does not change when we multiply all rates by the same number. As that is precisely how we derived target state rates from fitted federal rates, these target state rates are exactly as progressive as fitted federal rates if we use the Kakwani Index to define the degree of progressivity.

The next step is so simple that we will not present an illustrative figure for it. We define the *target total* rate as the sum of the existing (fitted) federal rates and the *target state* rates. This tax structure, as the sum of two tax structures with the same Kakwani index for progressivity, has the exact same progressivity, enabling us to hit our target precisely. Unfortunately, Congress

cannot force the state of Washington to drop its current regressive tax system.

The essence of CP is captured in the next step: we redefine federal tax rates to be the difference between the *target total* tax rates that we just defined and *actual* state tax rates. The purpose of this calculation should be clear: it adjusts federal tax rates to offset any deviation in state tax rates from the target level of progressivity embodied in the target rate structure (here, the current federal ETR structure). Where state tax rates deviate from the target level of progressivity, CP rates are defined so that they serve as a counterweight to bring total (state + federal) ETRs into line with target levels. The following figure shows the resulting rates for Washington, along with the current fitted tax rate structure.

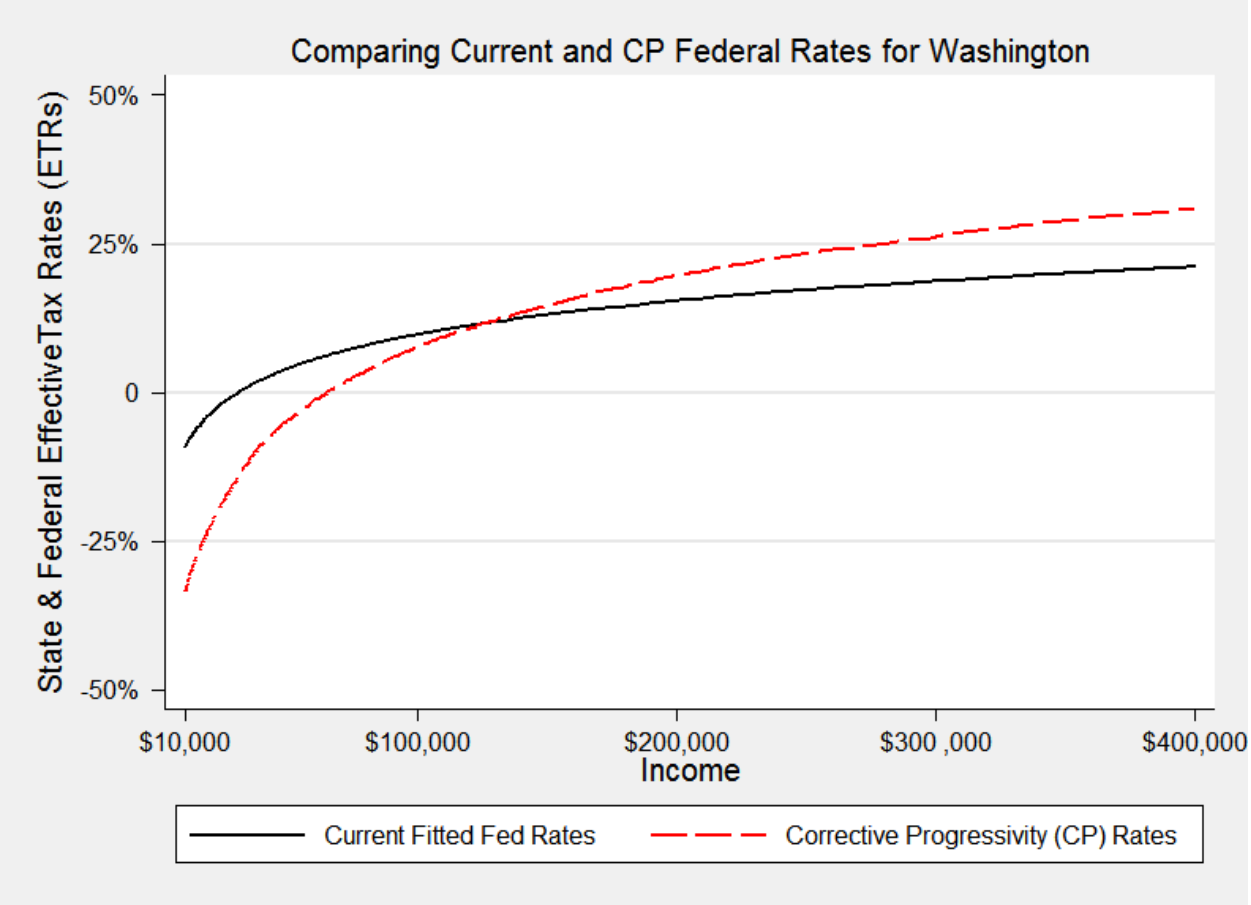

Figure 13

As this figure shows, the CP federal tax rates are significantly more progressive than current rates. The difference is most dramatic at the bottom of the income distribution, where Washington imposes startlingly high tax rates. To correct for this, CP federal rates would produce much larger subsidy payments (negative tax rates); for example, someone making only $20,000 would receive a subsidy of $4,460 as opposed to a subsidy under current rates of only $680. Although not as dramatic, the changes at the top of the distribution are also fairly large: a household with income of $400,000 would see its federal ETR jump from 21% to 31%, raising it federal tax by $40,000.

Eyeballing the data, Washington appeared to have the most regressive state tax system in the United States, based on the difference or ratio between the average tax rate paid by the

bottom fifth of the population (16.9%) to the average rate paid by the top fifth (2.8%). Thus we would expect CP to have its largest impact in Washington. This fails to account, however, for another key element in computing CP rates: the ratio of state tax revenue to federal income tax revenue from the state. Under the version of CP presented in this article, states that harvest large tax revenues relative to their citizen's federal income tax payments end up with a *target* state ETR schedule that imposes higher rates that the federal government at the top of the income distribution and lower rates at the bottom. It turns out that CP has its most dramatic impact on Arkansas, because that state collects taxes that are high relative to what its citizens pay in federal taxes every year.

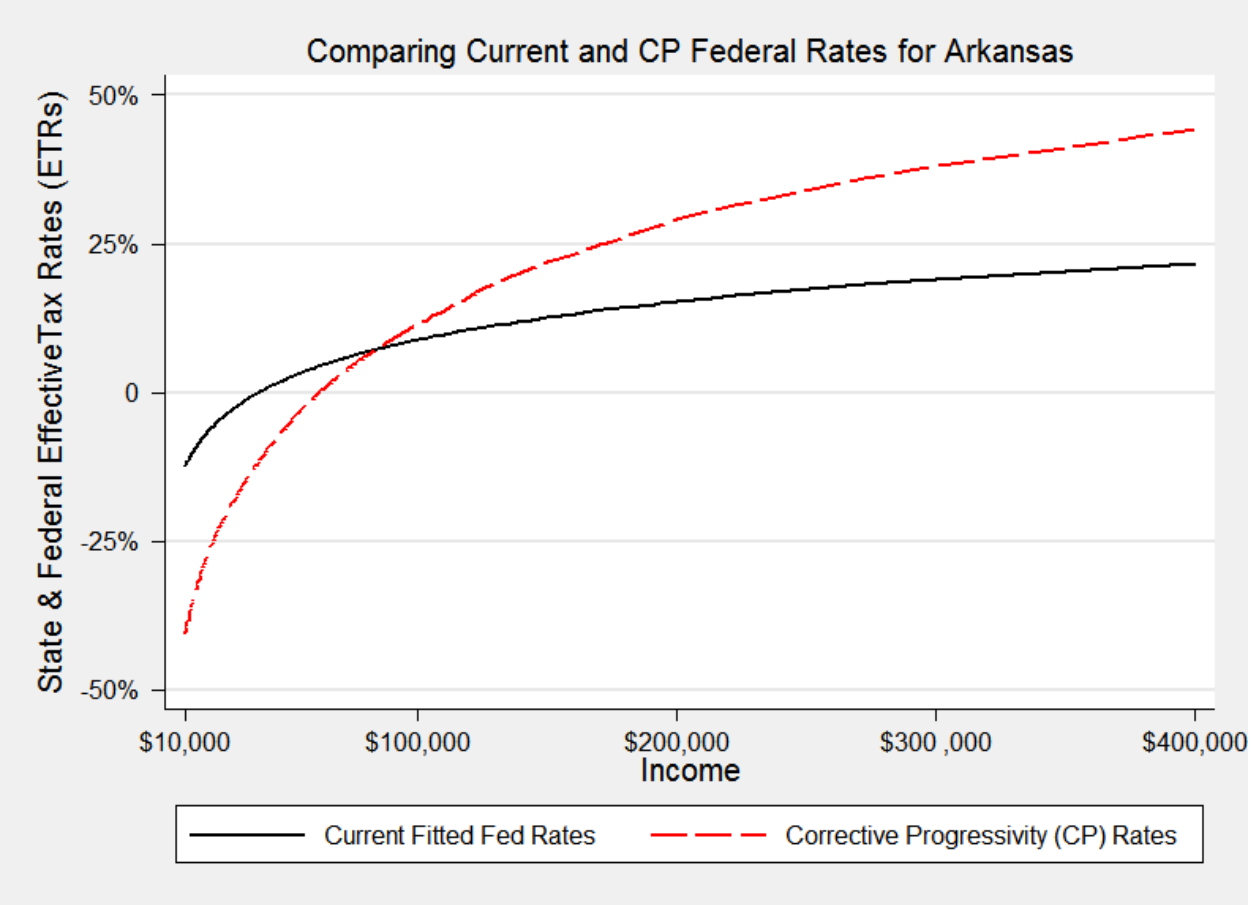

Figure 14

CP would raise the ETR on a household with $400,000 in income from 21.7% to 44.3% — more than doubling the tax bill. Recall that in Washington a taxpayer with the same income would face an ETR of only 31%. At the bottom of the distribution, an Arkansas household with income of only $20,000 would receive a subsidy of 26% instead of 6%; in dollar terms, its subsidy would jump from $1,200 to $5,200.

Appendix A contains a detailed table giving the difference between CP and current federal income tax rates for all states over a range of incomes from $20,000 to $400,000. The following table of summary statistics for all 50 states (and the District of Columbia) provides an overview of the difference between CP and current federal ETRs.

Summary Statistics on Differences Between CP and Current Fedeal ETRs				
	$20,000	$50,000	$100,000	$400,000
Maximum Difference	-6.9%	-3.4%	2.5%	22.6%
Minimum Difference	-19.9%	-8.7%	-3.2%	5.3%
Average Difference	-13.3%	-6.3%	-0.6%	11.4%
Median Difference	-13.6%	-6.4%	-0.4%	11.2%

Table 8

As the table indicates, CP results in substantially different rates across the states. We have seen that Arkansas has the maximal divergences from the current rate structure (+22.6% for incomes of $400,000; -19.9% for incomes of $20,000). At the other extreme, households with $400,000 the District of Columbia would see their ETR rise by only 5.3%; those with $20,000 incomes would experience only a 6.9% increase in their subsidy.

Looking at the statistics for those with incomes of $100,000, we see that the difference between CP and current rates is close to zero for all states: never greater than 2.5% or less than -3.2%, with an average of 0.6%. The tells us that, roughly speaking, CP would offer tax cuts to households with incomes below $100,000 and tax increases to those with higher incomes. This is a startling testament to the extent of regressivity in current state tax regimes: undoing these inequitable taxes with CP federal tax rates would result in a tax cut for about 75% of American households.[75]

As a final illustration of CP's potency in undoing regressive state taxation, I ran the numbers under the assumption that the federal government enacted a flat tax — all incomes taxed at the same rate (about 10%). In computing CP federal rates under a flat tax, the *target* state taxes, as simple multiples of the federal ETR schedule, are also flat. Despite using flat taxes at both the state and the federal level, CP still produces noticeable changes in federal rates. On average, in a federal flat tax regime CP reduces the federal tax rate for households with incomes of $20,000 by about a third (from 10% to 7%), and raises rights on households with incomes of $400,000 by about a fifth (from 10% to 12%). These differences of course are nowhere near as dramatic as the numbers derived from the current (progressive) federal ETR schedule summarized in Table 8 above. They do provide, however, a baseline demonstrating the basic mechanism of CP: enhanced federal rate progressivity offsets regressive state taxation.

V. Deductibility of State & Local Taxes

Having seen the dramatic way that CP washes away state tax regressivity with concentrated federal progressivity, we compare it to the element of the current federal income tax code designed to achieve many of the same ends in a not entirely different manner: the deductibility of state tax payments from federal tax returns.[76] The rationale for this deduction is simple: dollars used to pay state taxes are unavailable to pay federal taxes. Factoring state tax payments into federal income tax calculations provides a better gauge of ability to pay.

This rationale is a bit too simple-minded. To the extent that taxpayers receive (public) goods from the state equal in value to their state tax bills, it would seem that state taxes should be

[75] An income of $100,000 is at about the 75th percentile of household incomes. Author's calculations based on Current Population Survey data.
[76] 26 U.S.C. § 164.

no more deductible than expenditures on private goods.[77] Instead of focusing on this theoretical debate, however, we focus on more pedestrian, practical failings of state tax deductions as a means to make the federal income tax fairer.

First and foremost, deductions are valuable only to relatively high-income taxpayers; others are better off taking their "standard" deduction which is a fixed amount that does not vary with state tax payments. Only a third of all households itemize, and this group is "a population that consists primarily of high-income, high-wealth taxpayers."[78] Second, the value of the state tax deduction, like all deductions, varies directly with marginal tax rates: if your marginal rate is 50%, a $100 deduction saves you $50, but if your marginal rate is 10%, the deduction saves you only $10.[79] Given the progressive marginal rate structure of the federal income tax, along with the Earned Income Tax Credit available to lower-income households, the ability to deduct state tax payments in practice benefits the wealthy much more than middle- and low-income taxpayers.[80] Thus the deduction of state (and local) taxes does an abysmal job of allocating the federal income tax burden so that it more closely aligns with ability to pay. Indeed, it amounts to a tax break for wealthier households that is of no value to their lower-income counterparts.

Even worse, it creates incentives for both states and taxpayers to engage in perverse and wasteful behavior. Deductibility of state taxes encourages states to "export" their aggregate tax liability to other states by choosing taxes that maximize the total deductions created for their citizens' federal income tax returns. Taxes chosen for this reason are unlikely to be the most fair and efficient way for states to raise revenue. Any state that declines to follow this strategy, however, will end up paying a greater share of income to the national government. In the end, then, all states have incentives to engage in wasteful and ultimately futile efforts to fob off federal income tax liability onto each other.[81]

Given progressive federal income tax rates, the way to maximize deductions over all of a state's taxpayers is to enact a state income tax with very progressive rates. This will provide wealthier taxpayers with disproportionately large deductions on their federal returns. Citizens and their incomes, however, are fairly mobile, and this imposes severe constraints on states' ability to impose progressive, redistributive tax and spending policies. It is unclear exactly what states should do to balance the benefits of exporting federal tax liability to other states by maximizing deductions with a highly progressive state income tax against the costs of losing wealthy taxpayers who will flee to lower-tax jurisdictions.

Under CP, there is no need to deduct state taxes from federal returns. CP accomplishes the putative goal of such deductibility — unlike the deductibility rule itelf — and all of the

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[77] Louis Kaplow, *Fiscal Federalism & the Deductibility of State & LocalTaxes under the Federal Income Tax*, 82 VA. L. REV. 413 (1996).

[78] Kirk Stark, *Fiscal Federalism & Tax Progressivity: Should the Federal Income Tax Encourage State & Local Redistribution?*, 51 U.C.L.A. L. REV. 1, 5, 25-26 (2004).

[79] *Id.* 6, 26-27.

[80] Congress has gyrated over the years on the deductibility of state *sales* taxes. They were deductible until 1986, but were not from then until 2004. Since 2004, Congress has reauthorized sales tax deduction every few years, but each time they have done so for a relative short horizon of one or two years. Steven Maguire & Jeffrey M. Stupak, *Federal Deductibility of State & Local Taxes* (Congressional Research Services, Nov. 10, 2014). Permitting deduction of state income and property taxes while denying deduction of sales taxes of course biases federal tax incidence in favor of wealthy households that pay relatively high income and property rates but relatively low sales tax ETRs.

[81] Stark, *supra* note 78, at 23. As Stark puts it, under the current deductibility rules, "certain tax structures are 'rewarded' or 'subsidized' (and therefore encouraged) while other tax structures are 'penalized' or 'taxed' (and therefore discouraged)."

difficulties discussed so far in this subsection. First, by altering federal rates to correct for state tax regressivity, CP reduces incentives for wealthy taxpayers migration to lower-tax states. The gain from moving to a state that imposes more taxes on less wealthy citizens will be offset by a higher CP federal tax rate. Even under CP there will still be some incentive for high-income households to migrate to states that impose lower taxes overall (per capita), but those incentives will be much weaker than they are under the current federal income tax.

Unlike deductibility of state taxes, CP entirely and absolutely prevents the export of tax liability to other states and the futile competition among states attempting to do so. Recall that each state's total CP tax liability is computed based on the income of all the state's taxpayers, and in the absence of the deductibility of state taxes there is nothing a state government can do to reduce the statewide federal tax bill. Thus there is nothing to "game" and there is no wasteful and futile arms race to warp state tax regimes to reduce dollars sent to Washington, D.C.

Also in contrast with the current deductibility rule for state taxes, CP actually does align tax liability with ability to pay. Its benefits are not limited to those wealthy enough to itemize deductions, and those benefits are in no way magnified for those paying higher rates. Indeed, by its very nature CP redefines rates to yield tax equity in general, with ability to pay as an important component.

VI. Constitutionality of CP Under the Uniformity Clause

CP works so much better than alternatives like deductions for state tax payments because varying rates from state to state introduces a new dimension of flexibility into the tax regime. There can be little doubt, however, that this variation in federal income tax rates from state to state is a jarring departure from longstanding practice. This unprecedented feature may create unease about the propriety of CP. Unease is one thing, but unconstitutionality is quite another, and on its face CP seems to violate the Uniformity Clause of the U.S. Constitution:

> Congress shall have Power To lay and collect Taxes, Duties, Imposts and Excises … but all Duties, Imposts and Excises shall be uniform throughout the United States …[82]

It is hard to imagine a tax less uniform than CP, with different effective rates in each and every state. As is so frequently the case with the Constitution, however, its words do not mean what a casual reader might think.

In the first substantive discussion of the Uniformity Clause, *The Head Money Cases*,[83] shipping lines transporting immigrants from Europe to the U.S. objected to paying 'head' tax on each immigrant that they brought into the U.S. They argued that because (i) the tax fell disproportionately on a few states with busy ports, and (ii) it did not apply to inland immigrants (from Canada and Mexico), it violated the Uniformity Clause. The Court dismissed the challenge in rather curt fashion, noting that "[p]erfect uniformity and perfect equality of taxation, in all the aspects in which the human mind can view it, is a baseless dream …."[84] As brief and cryptic as it is, the Court's standard for applying the Uniformity Clause has survived: "[A] tax is uniform when it operates with the same force and effect in every place where the subject of it is

[82] U.S. CONST., art. I, § 8, cl. 1.
[83] *Sub nom* Edye v. Robertson 112 U.S. 580 (1884).
[84] *Id.* 595.

found."[85] To oversimplify a bit, this so-called "geographic rule" seems to say federal taxes comply with the Uniformity Clause even if the *base* of the tax is not distributed uniformly across the nation, as long as the rate charged to taxpayers does not depend on their state of residence.

On its face, the geography rule of *The Head Money Cases* seems to bar CP. Imagine taxpayer A from Alabama and W from Wyoming have the same income in each category (wages, capital gains, dividends, interest, …), number of dependents, size of deductions and credits, … . The whole point of CP is that if the two states' ETR schedules differ then federal income tax rates in the two states will differ.

The legal standard articulated in *Knowlton v. Moore*,[86] the next and still leading Uniformity Clause case, seems only to reinforce the geography rule of *The Head Money Cases*. *Knowlton* involved a Uniformity Clause challenge to a federal estate tax under which variations in state law would lead to differential tax liability for similarly-situated individuals in different states. The Court declared that during the Founding Era, the phrase "uniform throughout the United States" was used "always with reference purely to a geographical uniformity and as synonymous with the expression 'to operate generally throughout the United States.'"[87] The Court reiterated that this geographic uniformity does not require taxing only those sources that were spread evenly across the states: "what the Constitution commands is the imposition of a tax by the rule of geographical uniformity, not that in order to levy such a tax objects must be selected which exist uniformly in the several states."[88]

Although this standard sounds antithetical to CP, the facts and the outcome of *Knowlton* suggest less of a dissonance. Although the opinion offers precious few hints about the exact nature of state laws that would have caused tax consequences to differ by state, those details don't seem important. Whatever the nuts and bolts, the parallel between the federal estate tax at issue in *Knowlton* and CP federal income taxation is striking: varying state laws drive varying federal tax consequences. *Knowlton* held that such state-law-driven variation in federal tax liability does not violate the Uniformity Clause. The Court did not see fit to focus on this facet of the case, but the holding nonetheless suggests that CP may be constitutional.

Perhaps of even greater import, *Knowlton* explained the policy reason for the uniformity requirement — and CP is entirely consistent with the purpose of the clause. The Court said the geographic test from *The Head Money Cases* "look[s] to the forbidding of discrimination as between the states, by the levying of duties, imposts, or excises upon a particular subject in one state and a different duty, impost, or excise on the same subject in another."[89] In summarizing debates over the Uniformity Clause and related provisions of the draft Constitution, the Court asserted that the "sole and the only question" was "discrimination as regards states which might arise from a greater or lesser proportion of any tax being paid within the geographical limits of a particular state.[90] In a manner of speaking, the *Knowlton* Court describes the Uniformity Clause as a sort of taxation equal protection clause for states, a provision to prevent a majority block of states from imposing a disproportionate share of federal revenue needs on an outvoted minority.

The Supreme Court's most recent Uniformity Clause decision, *U.S. v Ptasynski*,[91] reaffirms this theme and simultaneously grants Congress wide discretion to enact tax laws.

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[85] *Id.* 594.
[86] 178 U.S. 41 (1900).
[87] *Id.* 96.
[88] *Id.* 108.
[89] *Id.* 89.
[90] *Id.* 95.
[91] 462 U.S. 74 (1983).

Ptasynski upheld provisions of the Windfall Profits Tax on Oil that exempted Alaskan oil extracted from within the Arctic Circle from the tax. The Court cited Justice Story at length on the anti-discriminatory purpose of the Uniformity Clause:

> '[The purpose of the Clause] was to cut off all undue preferences of one State over another in the regulation of subjects affecting their common interests. Unless duties, imposts, and excises were uniform, the grossest and most oppressive inequalities, vitally affecting the pursuits and employments of the people of different States, might exist. The agriculture, commerce, or manufactures of one State might be built up on the ruins of those of another; and a combination of a few States in Congress might secure a monopoly of certain branches of trade and business to themselves, to the injury, if not to the destruction, of their less favored neighbors.'[92]

When deciding if a federal tax helps one group of states at the expense of another, Congress can entirely avoid the application of the Uniformity Clause simply by not defining the subject (base) of the tax in geographic terms.[93] Moreover, even if Congress chooses to define a tax geographically (i.e. the tax explicitly differs across states), the levy will run afoul of the Uniformity Clause only if a court finds "actual geographic discrimination."[94] On the facts of the case, the Court found that the exemption granted for oil pumped from the most northern wells of Alaska was justified based on "the disproportionate costs and difficulties" incurred in harvesting oil in such a cold and remote region.[95] It emphasized that Congress (i) created geographically-driven differential tax treatment based on "neutral factors" and (ii) evidenced no intent to "offend the purpose of the [Uniformity] Clause."[96]

Both of these rationales provide strong reasons to find that CP does not violate the Uniformity Clause. Starting with the purpose of the Clause, CP is not inconsistent or even in tension with the 'tax equal protection' rationale for including the Clause in the Constitution. Indeed, CP is designed from the ground up to avoid discrimination against any state. Recall that a state's total federal income tax obligation is computed based on the list of all incomes in the state, *and computed in exactly the same way for every state*. Thus CP cannot run afoul of the purpose of the Uniformity Clause.

Second, the motivation for enacting CP is simply fairness in overall (federal + state) taxation. "Ability to pay" is a common facet of general tax fairness norms, and the Supreme Court repeatedly has said that it is a legitimate reason for disparate treatment of taxpayers. In *Knowlton*, the Court cited English precedents dating back to 1643 that justified taxes on a wide variety of items (carriages and coachmen; higher incomes of wealthy public officeholders), and asserted that in the early Republic "taxes were frequently laid from a consideration of the presumed ability of the owner to pay the tax."[97] Thus one of the core motives for CP is older than the nation itself, providing a "neutral" foundation that should immunize CP from a Uniformity Clause challenge.

Both case law and tax legislation over the last century offer precedents for measures, like CP, that make federal tax liability depend on state law. We offer three examples. First, in

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[92] *Id.* at 81, quoting 1 JOSEPH STORY, COMMENTARIES ON THE CONSTITUTION OF THE UNITED STATES § 957 (T. Cooley ed. 1873).
[93] *Id.* 84.
[94] *Id.* 85.
[95] *Id.*
[96] *Id.*
[97] *Knowlton*, 178 U.S. at 89-91.

Florida v Mellon[98] the Court upheld a federal income tax that granted a deduction of up to 80% for any state inheritance tax paid on a legacy. Florida's Constitution contained a clause barring the state legislature from adopting an inheritance tax, but this made no difference to the Supreme Court. The justices rejected the contention that Congress was coercing states into enacting their own inheritance tax[99] and without reservation accepted the notion that differing state laws could cause differing federal tax liability with running afoul of the Uniformity Clause.

> The contention that the federal tax is not uniform, because other states impose inheritance taxes while Florida does not, is without merit. Congress cannot accommodate its legislation to the conflicting or dissimilar laws of the several states, nor control the diverse conditions to be found in the various states, which necessarily work unlike results from the enforcement of the same tax.[100]

The tax at issue in *Mellon* is not exactly the same as CP, but it shares the core similarity of reducing a federal tax liability based on a state tax liability. The opinion stands as a strong precedent for the constitutionality of CP.

Our second precedent, *Poe v. Seaborn*[101], is not as factually close to CP as *Mellon*, but provides additional helpful language. *Poe* held that federal tax authorities could assert substance over form and impute half of the income from a married couple's community property to the wife (the couple filed taxes individually) even though formally the husband held title to the assets. In upholding the federal government's approach against a Uniformity Clause challenge, the Court said that "differences of state law, which may bring a person within or without the category designated by Congress as taxable, may not be read into the Revenue Act to spell out a lack of uniformity.[102] The Court cited *Florida v. Mellon* on this point, buttressing the argument that federal tax liability may vary with state law — a rule under which CP conforms to the requirements of the Uniformity Clause.

Next, there is the longstanding practice[103] of making state tax payments deductible on federal tax returns discussed in the previous section. The usual rationale for permitting taxpayers to deduct (some) state and local tax payments from their federal taxable income is ability to pay — you can't use the same dollars to pay both federal and state taxes. Beyond sharing the same purpose (a failed purpose: see the previous subsection), deducting state income tax payments from income subject to the federal income tax matches the legal pattern of CP: federal ETRs depend on state law. There seem to be no constitutional grounds to distinguish between making federal taxes depend on total state income tax payments and making federal tax *rates* depend on overall (income + property + slaes) state tax rates.

More generally, the effects of other federal legal regimes vary based on state law. Perhaps most prominent is bankruptcy law, in which a foundational principle is that federal bankruptcy law looks to state law to define property rights — and of course these property rights can and do vary from state to state.[104] To give a more specific example, the Bankruptcy Code gives debtors the choice to protect "exempt" property from creditors based on either a federal

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[98] 273 U.S. 12 (1927).
[99] *Id.* 16.
[100] *Id.* 17.
[101] 282 U.S. 101 (1930).
[102] *Id.* 118-19.
[103] Deductibility of state and local taxes from federal income taxation dates back to the Civil War era. William Turner, *Evaluating Personal Deductions in an Income Tax — The Ideal*, 66 CORNELL L. REV. 262, 264–65 (1981).
[104] Butner v. U.S., 440 U.S. 48 (1979) (holding that state law, not federal equity rule, determined rights to rents collected between declaration of bankruptcy and foreclosure sale).

definition of exemptions or their state's definition.[105] The Supreme Court upheld this regime to a challenge under the Bankruptcy Clause's Uniformity Clause.[106]

Indeed, once you begin to think about it, you realize that state and local law have myriad differential effects on federal income tax liability. To give but one very widespread example, some local zoning laws contain severe limitations on the development of property. These restrictions of course can have a huge effect on both income and capital gains from the property. No one has questioned the constitutionality of zoning ordinances on Uniformity Clause grounds. Given its structural similarity to zoning laws (making federal tax liability depend on state law), there seems little reasons to think the Clause would contravene CP.

VII. Conclusion

The idea of federal income tax rates that vary from state to state does seem radical, but the previous section demonstrated that there are close precedents. These precedents, along with Supreme Court doctrine, provide a strong basis for the constitutionality of CP. This articles offers a model that uses such state-variant federal income tax rates to precisely cancel out the regressive tax regimes of all 50 states and the District of Columbia. CP has unique potential to achieve significant progressive nationwide tax reform. Such reform seems desirable — the seeming randomness of state tax regimes suggests that there are some serious political failings in state taxation politics. It may seem like federal meddling in state business, but of course such interventions are sometimes quite desirable, e.g. the Civil War Amendments, the Civil Rights Movement, and Supreme Court precedents like *Brown v. Board of Education*. There were grave problems with state race politics after Reconstruction, and it took federal intervention to (at least partly) solve them. So too today there is a critical problems when every single state taxes the poor at higher rates than it taxes the wealthy. The proper antidote to the malady of regressive state taxation is a CP federal income tax.

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[105] 11 U.S.C. § 522. Note all states permit debtors to elect the federal exemptions.

[106] Hanover Nat'l Bank v. Moyses, 186 U.S. 181 (1902); *see also* Stellwagen v. Clum, 245 U.S. 605 (1918). The Bankruptcy Clause in whole gives Congress the power "[t]o establish an uniform Rule of Naturalization, and uniform Laws on the subject of Bankruptcies throughout the United States." U.S. Const. Art I, § 8, cl. 4. For a convincing argument that the Framers intended to attach a similar uniformity requirement to Congress' power under the commerce clause, *see* Thomas B. Colby, *Revitalizing the Forgotten Uniformity Constraint on the Commerce Power*, 91 Va. L. Rev. 249 (2005).

Appendix A. Comparing Current and CP ETRs

		$20,000	$50,000	$100,000	$400,000
Alabama	Current	-4.5%	3.4%	9.4%	21.4%
	CP Rate	-18.2%	-3.4%	9.4%	34.1%
Alaska	Current	-5.0%	3.4%	9.7%	22.4%
	CP Rate	-13.9%	-0.6%	9.6%	27.8%
Arizona	Current	-7.6%	2.6%	10.4%	25.9%
	CP Rate	-25.4%	-5.1%	9.6%	38.0%
Arkansas	Current	-6.0%	2.5%	8.9%	21.7%
	CP Rate	-26.0%	-5.4%	11.4%	44.3%
California	Current	-5.1%	3.4%	9.9%	22.9%
	CP Rate	-19.2%	-2.7%	9.2%	29.8%
Colorado	Current	-2.8%	4.6%	10.2%	21.5%
	CP Rate	-13.4%	-1.3%	8.8%	29.6%
Connecticut	Current	-3.2%	4.6%	10.5%	22.3%
	CP Rate	-16.5%	-1.5%	7.4%	30.9%
Delaware	Current	-5.0%	3.7%	10.3%	23.4%
	CP Rate	-13.1%	0.2%	10.1%	30.9%
D.C	Current	-0.3%	8.7%	15.4%	28.9%
	CP Rate	-7.1%	2.0%	12.9%	34.2%
Florida	Current	-4.5%	3.9%	10.2%	22.9%
	CP Rate	-20.0%	-2.4%	10.4%	34.2%
Georgia	Current	-6.6%	3.1%	10.5%	25.1%
	CP Rate	-23.2%	-4.1%	10.6%	41.0%
Hawaii	Current	-1.7%	5.0%	10.1%	20.3%
	CP Rate	-16.5%	-2.5%	9.7%	31.3%
Idaho	Current	-7.1%	1.9%	8.7%	22.4%
	CP Rate	-21.6%	-4.2%	8.7%	35.9%
Illinois	Current	-4.0%	4.1%	10.3%	22.6%
	CP Rate	-20.9%	-3.9%	8.5%	35.2%
Indiana	Current	-4.6%	3.7%	10.0%	22.7%
	CP Rate	-21.6%	-3.5%	10.8%	40.0%
Iowa	Current	-5.2%	3.5%	10.1%	23.2%
	CP Rate	-20.5%	-3.7%	9.6%	36.8%
Kansas	Current	-4.8%	3.5%	9.8%	22.4%
	CP Rate	-19.2%	-2.3%	10.2%	37.9%
Kentucky	Current	-4.9%	3.7%	10.2%	23.2%
	CP Rate	-19.5%	-3.3%	11.7%	41.3%
Louisiana	Current	-3.0%	4.2%	9.6%	20.4%
	CP Rate	-15.8%	-2.7%	8.6%	30.9%
Maine	Current	-1.8%	4.5%	9.2%	18.7%
	CP Rate	-13.0%	-0.9%	8.5%	28.4%

Maryland	Current	-2.7%	4.7%	10.3%	21.4%
	CP Rate	-14.3%	-1.7%	8.2%	29.4%
Massachusetts	Current	-2.1%	5.1%	10.5%	21.2%
	CP Rate	-13.2%	-1.7%	7.6%	27.3%
Michigan	Current	-4.8%	3.5%	9.8%	22.4%
	CP Rate	-18.4%	-3.1%	9.1%	34.9%
Minnesota	Current	-3.1%	4.4%	10.0%	21.2%
	CP Rate	-14.2%	-1.8%	8.2%	31.3%
Mississippi	Current	-4.6%	3.0%	8.7%	20.0%
	CP Rate	-19.6%	-4.5%	9.6%	34.8%
Missouri	Current	-4.9%	3.6%	10.0%	22.8%
	CP Rate	-18.0%	-2.8%	9.0%	34.0%
Montana	Current	-1.9%	4.7%	9.7%	19.6%
	CP Rate	-9.4%	1.3%	9.8%	26.8%
Nebraska	Current	-2.3%	4.5%	9.6%	19.8%
	CP Rate	-15.3%	-1.4%	10.1%	33.0%
Nevada	Current	-5.1%	3.8%	10.5%	23.9%
	CP Rate	-16.5%	-1.0%	10.6%	33.9%
New Hampshire	Current	-2.8%	4.2%	9.6%	20.3%
	CP Rate	-13.0%	-0.9%	8.4%	28.2%
New Jersey	Current	-5.1%	3.5%	10.1%	23.1%
	CP Rate	-19.7%	-3.9%	7.9%	30.4%
New Mexico	Current	-3.1%	4.0%	9.4%	20.1%
	CP Rate	-16.0%	-2.3%	8.6%	31.0%
New York	Current	-4.6%	4.1%	10.6%	23.8%
	CP Rate	-18.5%	-3.9%	8.1%	35.1%
North Carolina	Current	-2.9%	4.0%	9.3%	19.9%
	CP Rate	-15.3%	-1.6%	9.2%	31.6%
North Dakota	Current	-2.5%	4.5%	9.8%	20.4%
	CP Rate	-13.3%	-0.5%	9.0%	28.5%
Ohio	Current	-3.9%	3.9%	9.8%	21.7%
	CP Rate	-19.1%	-2.8%	9.8%	35.6%
Oklahoma	Current	-4.7%	3.2%	9.1%	21.0%
	CP Rate	-18.8%	-3.6%	8.8%	33.4%
Oregon	Current	-3.9%	3.9%	9.7%	21.4%
	CP Rate	-15.2%	-0.8%	9.5%	30.9%
Pennsylvania	Current	-2.2%	4.8%	10.0%	20.5%
	CP Rate	-15.8%	-1.7%	9.1%	32.3%
Rhode Island	Current	-3.1%	4.3%	9.9%	21.1%
	CP Rate	-17.6%	-2.5%	8.5%	31.6%

South Carolina	Current	-3.7%	4.0%	9.7%	21.3%
	CP Rate	-13.6%	-0.3%	10.0%	32.6%
South Dakota	Current	-2.8%	4.3%	9.6%	20.3%
	CP Rate	-16.1%	-1.5%	9.4%	30.8%
Tennessee	Current	-4.9%	3.5%	9.8%	22.4%
	CP Rate	-19.8%	-2.6%	12.0%	37.9%
Texas	Current	-7.5%	2.4%	9.9%	24.9%
	CP Rate	-25.3%	-4.7%	10.2%	39.5%
Utah	Current	-9.9%	0.5%	8.4%	24.2%
	CP Rate	-28.8%	-7.9%	8.2%	42.4%
Vermont	Current	-1.8%	4.9%	9.9%	20.0%
	CP Rate	-11.9%	-0.9%	9.6%	28.8%
Virginia	Current	-3.1%	4.8%	10.8%	22.8%
	CP Rate	-13.5%	-0.7%	9.0%	30.8%
Washington	Current	-3.4%	4.1%	9.8%	21.1%
	CP Rate	-22.3%	-4.7%	7.6%	31.0%
West Virginia	Current	-6.5%	2.7%	9.7%	23.7%
	CP Rate	-20.8%	-3.9%	9.6%	37.7%
Wisconsin	Current	-4.5%	4.2%	10.7%	23.8%
	CP Rate	-17.8%	-3.0%	9.3%	36.4%
Wyoming	Current	-5.6%	3.4%	10.2%	23.8%
	CP Rate	-16.5%	-1.4%	10.5%	34.0%
Summary Statistics Across All States, For Each Income Level					
Maximum		-6.9%	-3.4%	2.5%	22.6%
Minimum		-19.9%	-8.7%	-3.2%	5.3%
Average		-13.3%	-6.3%	-0.6%	11.4%
Median		-13.6%	-6.4%	-0.4%	11.2%