The Hidden Costs of Cliff Effects in Regulatory Regimes

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Abstract:

Cliff effects in regulatory regimes trigger sudden consequences when some attribute of the regulated entity exceeds a particular threshold value. By exceeding (or failing to meet) some bright-line standard, the regulated entity is sanctioned. These cliff effects impose consequences, most often financial costs, on the regulated entities experiencing a cliff effect. Thusly, two regulated entities in nearly identical economic situations can face considerably different financial consequences depending on which side of the triggering criterion they fall. In the corporate governance context, for example, cliff effects can be found in metrics such as ownership restrictions, capital revenue requirements, and asset limitations.

Prior scholarship on cliff effects has not analyzed cliff effects in depth. This Article acknowledges potential rationales for cliff effects and identifies when their definitional clarity might compensate for any equity and efficiency losses. Next, a methodology is provided to assess the individual and aggregate costs of a given cliff effect. This Article argues that cliff effects based on an attribute that is out of the control of the regulated entity violates principles of both equity and efficiency if the social utility of the cliff effect does not exceed the financial penalty imposed on the regulated entity by the cliff effect. If this analysis results in a determination that the cliff effect should be altered, a process by which the cliff effect can be changed is provided.

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Introduction:

Regulatory regimes confer benefits and impose penalties by placing entities into specific categories. A financial institution either satisfies its capital reserve requirement or it does not; a corporation is either eligible for a specified tax credit or it is not. These rules draw bright lines, with regulated entities on either side of the line subjected to dramatically different financial consequences. This line-drawing occurs frequently in regulatory contexts, including financial regulation, corporate governance, and taxation.

The Dodd-Frank Wall Street Reform and Consumer Protection Act,[1] commonly known as Dodd-Frank, overhauled United States financial regulation. Its provisions include several instances of cliff effects. For example, mid-market banks (both banks and bank holding companies) with $10 billion to $50 billion in consolidated assets are required to submit capital stress tests.[2] Additional requirements exists for banks with greater than $50 billion of assets. The result is a cliff effect with respect to asset level (at both $10 billion and $50 billion). Similarly, under the amended Volcker rule, the aggregate investment of a bank in all the investment interests of funds advised by such bank may not exceed 3% of the Tier 1 capital of the bank.[3] As such, a cliff effect exists with respect to the Tier 1 capital invested by the bank.

Another regulatory scheme, the United States Internal Revenue Code, contains many credits, deductions, exclusions, and other benefits that apply when a taxpayer satisfies a certain numerical criterion, but that immediately vanish once this triggering criterion is no longer met. As a result, two taxpayers in nearly identical economic situations can face considerably different fed-

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(1) Dodd–Frank Wall Street Reform and Consumer Protection Act (Pub.L. 111–203, H.R. 4173 (2010).

(2) Charyn Faenza, Stress testing for Mid-Sized Banks at 1 (2014).

(3) Dodd-Frank, Article § 619.

eral tax liabilities depending on which side of the triggering criterion they happen to fall.

This Article questions the fundamental logic underlying the use of cliff effects in regulatory regimes and concludes that cliff effects based on an attribute that is out of the control of the regulated entity violates principles of both equity and efficiency if the social utility of the cliff effect does not exceed the financial penalty imposed on the regulated entity by the cliff effect. If this analysis results in a determination that the cliff effect should be altered, a process by which the cliff effect can be changed is provided.

This Article proceeds as follows: Part I provides background information on cliff effects and discusses their use in regulatory regimes. Part II assesses the burdens of cliff effects on equity and efficiency grounds, and provides a methodology by which the aggregate cost of cliff effects can be calculated. Part III applies the cost methodology to the particular cliff effects contained in the Patient Protection and Affordable Care Act (the "Affordable Care Act").[1] Part IV proposes alternatives to cliff effects that reduce both inefficiencies and equity burdens and lessen the impact on the regulated entities.

I. Cliff Effects as Legislative Tools

Cliff effects represent a subset of the line drawing that occurs with respect to all governmental regulation. In order to measure, assess, proscribe, or tax behavior, that behavior must first be identified. This identification occurs by categorizing behavior into either regulated or unregulated conduct, which in turn occurs by line drawing at both state and federal levels. For example, a motorist in Connecticut is permitted to travel at sixty-five miles

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[1] See generally Patient Protection and Affordable Care Act, Pub. L. No. 111-148, §§ 1401–1402, 124 Stat. 119, 213-24 (2010) (codified at I.R.C. § 36 (2012), id. § 280C, and 42 U.S.C. § 18071); Health Care and Education Reconciliation Act of 2010, Pub. L. No. 111-152, § 1001, 124 Stat. 1029, 1030-32 (2010) (codified at I.R.C. § 36B (2012)) (collectively, hereinafter Affordable Care Act).

per hour on specified highways but sixty-six miles per hour is forbidden[(1)]. Federal law permits a mercury level in drinking water of two parts per billion, but any greater level is prohibited[(2)]. When this line drawing results in two categories of regulated entities, with one category bearing a significant penalty relative to the other, the result is known as a cliff effect.

The term "cliff effect" is not a technical term and, as such, has no common definition. Qualitatively, a cliff effect exists when a differential change to some characteristic of a regulated entity has significant economic consequences to that regulated entity. For example, Section 15G of Dodd Frank requires that the securitizer of asset-backed securities retain not less than five percent of the credit risk of the assets collateralizing the asset-backed securities. In the context of taxation, the health premium credits of the Affordable Care Act reference "modified adjusted gross income" and the cliff effects associated with the Earned Income Tax Credit reference "investment income."[(3)]

B. Justifications for Cliff Effects in Regulatory Regimes

Regulation requires drawing lines to determine to whom or what the regulation applies. This linedrawing does not, however, mandate stark differences in treatment between those sitting closely to either side of the line. Cliff effects in regulatory regimes nevertheless cause significant economic consequences to entities in only slightly different situations. Is there a true difference between a bank retaining 3% of its Tier 1 capital and a bank retaining only 2.99%? What, then, explains the prevalence of cliff effects in regulatory regimes?

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(1) Conn. Gen. Stat. §§ 14-218a(b), 14-219(a) (2015).

(2) Basic Information About Mercury (Inorganic) in Drinking Water, U.S. Envtl. Protection Agency, http://water.epa.gov/drink/contaminants/basicinformation/mercury.cfm [https://perma.cc/AL92-JX23] (last updated Jan. 6, 2016).

(3) See I.R.C. § 36B(d)(2) (defining "household income" for purposes of the Affordable Care Act's refundable credits as being primarily determined by "modified adjusted gross income").

1. Cliff Effects Created by Bright-Line Rules

The definitional clarity provided by bright-line rules in a given regulatory regime creates cliff effects. Laws and regulations must identify the entities who will be covered by the provision. A regulation with a bright-line rule establishing behavior to be prohibited divides regulated entities, by definition, into classifications that determine each entity's treatment under that provision. Although a bright-line rule is simple to state and easy to follow, its simplicity is a tradeoff with the potential inequity faced by those nearest its dividing line, which separates those subject to the regulation and those who are not.

Consider a tax-free reorganization under the United States Internal Revenue Code §368(a)(1)(B), which states that the acquisition of the stock of a target corporation in exchange solely for voting stock of the acquiring corporation is a tax-free reorganization, provided that the acquiring corporation has "control" of the target corporation immediately after the transaction[1]. For purposes of the tax-free reorganization, "control" means 80% of the voting power and 80% of all other stock[2]. A cliff effect thus exists with respect to the voting power and the stock ownership post-acquisition, because if only 79% of the voting power is held by the acquiring corporation, then the acquisition becomes a taxable event. This cliff effect exists because of the definitional certainty needed for the term "control." "Control" is a necessary condition for this form of tax-free reorganization;[3] as such, the term must be clearly defined.

Using cliff effects to provide definitional clarity says nothing about the propriety of the definition itself, however. A law can be normatively flawed while still providing definitional clarity. Consider, for example, a law providing a $100 credit to all individuals shorter than six feet tall. Such a provision might be normatively

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(1) I.R.C. § 368(a)(1)(B).
(2) Id. § 368(c).
(3) Id. §§ 354(a)(1); 368(c).

flawed,1 but the associated cliff effect with respect to height provides clarity about who will receive the credit. But if preferred group or status is worth defining precisely, the cliff effect attached to the term can be effective. In other words, from a policy standpoint, providing definitional certainty is more valuable than the cost imposed by the cliff effect.

However, it is important to recognize that cliff effects are not a necessary result of these classifications. Indeed, not all bright-line rules in regulatory regimes create cliff effects. Consider a statute that classifies a corporation with over 1,000,000 publicly traded shares "large." Assume further that this new law requires "large" corporations to pay $1 in tax per outstanding share. If the cliff effect only applies to shares in excess of the 1,000,000, the law is not a cliff effect. If, however, the tax is applied to all outstanding shares, the sudden financial penalty imposed would be considered a cliff effect.

2. Cliff Effects as Cost Savings Measures

Cliff effects restricting eligibility for some kind of preferential treatment function as a clear indicator of when the preferential treatment ends. The immediate elimination of the benefit at the cliff effect threshold reduces the cost of the provision since, in the absence of the cliff effect, more entities (be they individuals or businesses) would receive the benefit. The same cost savings could be achieved with a phaseout—a gradual reduction in the benefit starting at some metric level prior to the cliff effect threshold—but this would result in a benefit loss to entities just below the eligibility metric's cliff effect threshold.The cost reduction of a cliff effect is more easily determined than a cost reduction from a gradual phaseout. Computationally, the cost of a benefit ending

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(1) But see generally N. Gregory Mankiw & Matthew Weinzierl, The Optimal Taxation of Height: A Case Study of Utilitarian Income Redistribution, Am. Econ. J., Feb. 2010, at 155 (positing that tall people, by virtue of their greater lifetime earnings, should pay more in taxes).

immediately at a specific point is easier to calculate than a benefit that varies as a function of metric level.

3. Cliff Effects Used in Politicking

Attaching a tax benefit to a cliff effect creates a clearly defined demographic that profits from the benefit, which may be politically advantageous for either a proponent or opponent of a particular provision. It is simple to state, for example, that all banks with over a billion dollars of assets should be subjected to additional scrutiny. Such clear dividing lines allow regulators to extract rents from the regulated, either in the form of political concessions or from goodwill. For example, the deduction for qualified tuition and related expenses found in Internal Revenue Code § 222 was touted as a provision that would benefit parents struggling to send their kids to college.[1] In his remarks supporting this provision, Senator Chuck Grassley described the deduction for qualified tuition and related expenses as "a beneficial tax incentive for the middle class."[2] The fact that the provision is entirely eliminated for taxpayers earning $1 more than $80,000 demonstrates that the intended beneficiaries of § 222 were really moderate-income taxpayers.Similarly, while defending the Affordable Care Act during a 2012 debate against Mitt Romney, President Obama reiterated that the legislation was an integral part of "making sure that middle-class families are secure."[3]

This political salability can be lost when the benefit extends to entities in certain groups not necessarily considered as deserving beneficiaries, or when the beneficiaries themselves are hard to define. It is simpler to convey that a provision is solely for,

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(1) See 150 Cong. Rec. S541 (daily ed. Feb. 3, 2004) (statement of Sen. Grassley) ("For parents struggling to send their children to college, the tuition tax deduction has been very important.").

(2) Id.

(3) Transcript of the First Presidential Debate, N.Y. Times (Oct. 3, 2012), http://www.nytimes.com/2012/10/03/us/politics/transcript-of-the-first-presidential-debate-in-denver.html?r=0 [http://perma.cc/H8LC-WDQL].

say, small business owners, if the benefit in question is immediately eliminated for businesses employing greater than some set number of employees. For example, the Small Business Health Care Tax Credit subsidizes premiums for small businesses but only if the small business has twenty-five or fewer employees[1]. If these provisions instead utilized a phase out, some portion of the benefit would extend to businesses with greater than twenty-five employees, making the demographic incidence of the benefit more difficult to succinctly state. By using a cliff effect, then, the proponents of a tax provision make advocating for its passage simpler by allowing them to clearly state who will benefit from it (and who will not).

II. Assessing the Burden of Cliff Effects

The concepts of equity, efficiency, and simplicity are frequently invoked with regards to tax legislation,[2] but apply equally forcefully to other regulatory frameworks. The principle of equity appeals to the notion that provisions should be applied fairly—similarly situated entities should not be subjected to widely varying regulations[3]. Efficiency dictates that regulations should accomplish their stated goals with minimum costs to those being regulated and alter behavior that is unrelated to the goals of the provision as little as possible[4]. Simplicity refers to the desire that regulations be easily understood and obeyed and can be viewed as a subset of the efficiency criterion.

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(1) I.R.C. § 45R(d)(1)(A) (2012).
(2) See Michael J. Graetz & Deborah H. Schenk, Federal Income Taxation Principles and Policies 27 (7th ed. 2013) (noting that there is widespread agreement that equity, efficiency, and simplicity are the criteria to be used when evaluating taxes).
(3) Id.
(4) Id. at 28.

A. The Uniqueness of Cliff Effects Based on Hard-To-Control Metrics

Cliff effects based on metrics that are easily controlled by the regulated entity can be reconciled with notions of equity and efficiency. Cliff effects can be associated with metrics such as, for example, the amount of foreign financial assets held (for Foreign Account Tax Compliance Act purposes), number of employees hired, hours worked by employees, value of qualifying distributions, percentage of corporate ownership, and income of a qualifying relative. These cliff effects are generally the result of a definitional need. For example, the Jumpstart Our Business Act (the "JOBS Act") increases the number of record shareholders (to 2,000) that trigger requirements for the issuer to register that class of securities and become public[1].Congress has deemed it socially beneficial to submit bank holding companies with more than $10 million of assets and 2,000 shareholders to additional requirements. Therefore a cliff effect exists, for purposes of this registration requirement, with regards to asset level and number of shareholders. Replacing this cliff effect with, say, some type of phaseout,would increase the provision's complexity and undermine the clarity of what entities are subject to the additional regulation. Still, the efficiency gains of the bright-line rule must be compared with the equity and efficiency costs of the sudden requirement to submit additional reporting. The merits of how Congress has decided what asset level and what number of shareholders triggers this additional reporting are debatable, but the inclusion of a cliff effect to effectuate that desire is not necessarily flawed: if Congress is attempting to incentivize certain behavior, such as minimizing broad-based ownership or the assets of corporations, the increased complexity associated with eliminating the cliff effect would make the benefits of this behavioral change difficult to calculate. But this assumes that the number of

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(1) §12(g) of the Securities and Exchange Act of 1934.

shareholders and asset level are largely within the control of the regulated entity.

But cliff effects associated with metrics that are beyond the immediate control of the regulated entity violate the principles of equity and efficiency. These provisions implicitly put regulated entities in two categories: a benefitting (or non-penalized) group and a non-benefitting (or penalized) group, depending on whether the cliff effect threshold has been crossed. In theory, this demarcation exists to accurately advance the goals of the provision by limiting the benefit (or imposing a penalty) to a defined group based on the cliff effect's metric. Assuming that this benefit (or penalty) is significant, this categorization of regulated entities by whether or not they have surpassed the cliff effect threshold necessarily results in entities on either side of the cliff effect threshold being in significantly different economic positions. The use of cliff effects to classify regulated entities as eligible or ineligible by reason of this hard-to-control metric is, therefore, ineffective for some number of regulated entities just beyond the cliff effect[1]. Cliff effects based on these hard-to-control metrics are, therefore, always problematic to some degree on equity and efficiency grounds.

B. Equity Concerns of Cliff EffectsBased on Hard-to-Control Metrics

Horizontal equity demands that regulatory regimes not treat similarly situated entities differently[2]. Because, tautologically, two identically situated entities cannot be treated differently,[3] a

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(1) A similar result occurs if the income-based cliff effect is intended as a proxy for some other hard-to-measure attribute, such as the regulated entity's asset level.

(2) See Louis Kaplow, Horizontal Equity: Measures in Search of a Principle, 42 Nat'l Tax J. 139, 140 (1989) ("[M]ost commonly, [horizontal equity] is said to require the equal treatment of equals.").

(3) See generally David Elkins, Horizontal Equity as a Principle of Tax Theory, 24 Yale L. &Pol'y Rev. 43 (2006) (explaining that the principle of horizontal equity demands similar tax burdens for similarly situated individuals).

law's compliance with horizontal equity requires defining what it means for regulated entities to be "similarly situated." This is done by reference to some metric by which regulated entitiescan be compared. Consider two entities who earn identical income (a metric that is hard to control) but from different sources. Horizontal equity requires that the entities have identical income tax liabilities, assuming no governmental interest exists in promoting one income source over another[1].

For cliff effects where the reference metric is something easily within the regulated entity's control, the line drawn might properly divide entities taxpayers into proper benefit-receiving and non-benefit-receiving groups. For example, a transportation subsidy for individuals younger than sixteen years old might be appropriate if these individuals are not permitted to obtain driving licenses before their sixteenth birthday. A sixteen-year-old individual would experience a cliff effect on her sixteenth birthday but also become eligible for a driving license.

Cliff effects based on hard-to-control metrics, however, necessarily violates horizontal equity: two nearly identically entities can, by virtue of slight differences in metric triggering the cliff effect, be in significantly different economic positions. To satisfy horizontal equity, the differences between entities subjected to the cliff effect and those not subjected to the cliff effect must render these entities significantly dissimilar. Although cliff effects are used to establish the line between benefit and no benefit (or penalty and no penalty), there is no meaningful distinction between regulated entities just next to either side of the threshold of the cliff effect.

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(1) Different income sources are often intentionally taxed differently. For example, long-term capital gains are taxed at a preferential rate. See I.R.C. § 1 (2012) (providing lower tax rates for long-term capital gains than for ordinary income). Some income sources, such as interest from state and local bonds, are entirely exempt from tax. I.R.C. § 103.

For every violation of horizontal equity, a theoretical minimum dollar amount exists that can be transferred to the suffering entity to cure the equity violation. This "equity cost" represents the cost of modifying a provision that is structurally unsound on equity grounds to a provision that is not. The term "equity cost," as used in this Article, is an aggregate microeconomic metric that represents the net economic loss suffered by all regulated entities who are in a worse economic situation than they would have been had they not exceeded the cliff effect threshold. If the cliff effect creating the equity cost is a cliff effect based on a hard-to-control metric, the equity cost represents a flaw in the implementation of the regulation. If the provision is intended to penalize a category of regulated entities who are evaluated with respect to hard-to-control metric, the provision should not make these entities worse off than a group of entities not exceeding the threshold unless the social utility of staying below the cliff effect threshold is greater than the penalty. Either the penalty is unfairly burdening entities without the ability to modify their behavior, or there exists a group of entities just under the cliff effect threshold who should be penalized, but are not.

C. Efficiency Concerns of Cliff Effects Based on Hard-to-Control Metrics

Measuring the efficiency of a given regulatory provision first requires determining the objective (or objectives) of the provision. An efficient provision will accomplish these objectives at a low cost. The primary objective of the tax on income, for example, is raising revenue[1]. One measure of the cost of a provision is the extent to which the provision interferes with behavior that would have occurred in the absence of the provision[2]. For example, if

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(1) The first incarnation of the American income tax was borne from the need to finance the Civil War. Graetz& Schenk,supra note 16, at5. In 2012 income taxes accounted for approximately 57% of all federal receipts. Id. at 15 fig.1.3.

(2) See George R. Zodrow, Economic Analyses of Capital Gains Taxation: Realizations, Revenues, Efficiency and Equity, 48 Tax L. Rev. 419, 464 (1993) ("[T]he efficiency costs of taxation increase with the degree of responsiveness of individual behavior to changes in taxes . . . .").

a individual would work for no less than $12 per hour and is in a 40% marginal tax bracket, her pre-tax wage must equal twenty dollars per hour. Pre-tax, a wage of twelve dollars per hour is sufficient to incentivize the individual to work. Post-tax, a wage between twelve dollars and twenty dollars per hour will not be sufficient, representing the cost of the 40% marginal tax rate. Over this range of offered wages, the tax system has changed the individual's behavior and created inefficiencies by preventing behavior that both employee and employer find economically advantageous pre-tax[1].

D. Quantifying the Aggregate Cost of Cliff Effects Based on Hard-To-Control Metrics

Several scholars have addressed issues confronted by regulated entities subjected to cliff effects, but these scholars typically focus on a small subset of regulated entities, such as those residing within a state or other clearly defined region for which there exists an available data set[2]. These microeconomic as-

(1) See Lily L. Batchelder et al., Efficiency and Tax Incentives: The Case for Refundable Tax Credits, 59 Stan. L. Rev. (2006)at 42 ("If markets were perfect, efficiency would imply interfering as little as possible in market outcomes. Because markets are imperfect, efficiency also entails eliminating market failures by minimizing transaction costs and correcting for externalities, market power, and information asymmetries.").

(2) See, e.g., Stephen D.Holt & Jennifer L. Romich, Marginal Tax Rates Facing Low- and Moderate-Income Workers Who Participate in Means-Tested Transfer Programs, 60 Nat'l Tax J.253 (2007) (documenting the extent and distribution of statutory and actual marginal tax rates for households in Wisconsin); Laurence J. Kotlikoff & David Rapson, Does It Pay, at the Margin, to Work and Save? Measuring Effective Marginal Taxes on Americans' Labor Supply and Saving (concluding that the relationship between marginal tax rates and incentives to work and save is affected by numerous factors that make the relationship difficult to calculate and understand), in 21 Tax Policy and the Economy 83, 84-86 (James M. Poterba ed.,2007); Elaine Maag et al., How Marginal Tax Rates Affect Families at Various Levels of Poverty, 65 Nat'l Tax J. 759, 764 (2012) (showing the variance among effective marginal tax rates across the United States and the potential effects these rates have on an individual's incentive to work).

sessments of cliff effects do not, however, convey the magnitude of the cost of the cliff effect in the aggregate. This aggregate microeconomic cost is an empirical exercise that can only be calculated by estimating the number of entities affected by the cliff effect in question and the extent to which each regulated entity is affected by the cliff effect. These variables are often affected by secondary variables such as income and asset level, type and number of shareholders, geographic location, et cetera. Estimating this cost is necessary to assess whether any advantages from the cliff effect with respect to definitional clarity and simplicity outweigh any costs imposed on the public from the behavioral changes induced and equity violations created. This aggregate microeconomic cost, heretofore omitted from the literature, is calculated for the cliff effects present in the health premium credit provisions of the Affordable Care Act in Part III. Although this aggregate microeconomic cost is calculated for a tax provision, the same analysis can be used to assess the aggregate microeconomic cost of regulations generally.

III. Assessing the Costs of the Cliff Effects Associated with the Affordable Care Act

The Affordable Care Actprovides subsidies—in the form of tax credits—for the premiums paid for certain health insurance plans purchased by American individuals and families with incomes between 100% and 400% of the federal poverty level[1]. These subsidies, called health premium credits, are intended to alleviate the financial burden of purchasing health insurance for low- to moderate-income earners[2]. The Congressional Budget Office has estimated that the health insurance premium credits of the Affordable Care Act will result in foregone tax revenue of approximately $33 billion in 2015, increasing rapidly in future years to approximately $912 billion total between 2014 and 2024[3].

These premium credits are refundable and are based on federal poverty level as shown in Table 2. A taxpayer's family composition affects her federal poverty level, which consequently affects the credit amount to which she is entitled. For example, a single-member household has a federal poverty level of $11,490, while a four-member household has a federal poverty level of $23,550.[4]

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(1) I.R.C. § 36B (2012). The Affordable Care Act also established cost-sharing subsidies that limit the out-of-pocket costs (such as deductibles and co-pays) for low-income individuals and families. Patient Protection and Affordable Care Act, Pub. L. No. 111-148, § 1402(c), 124 Stat. 119, 221 (codified at 42 U.S.C. § 18071 (2012)). These cost-sharing subsidies, though improving taxpayers' net economic positions, do not (unlike the premium assistance credits) reduce taxpayers' income tax liabilities.

(2) See Nicole Huberfield et al., Plunging into Endless Difficulties: Medicaid and Coercion in National Federation of Independent Business v. Sebelius, 93 B.U. L. Rev. 1, 12 (2012) ("The policy compromise was based on the idea that extremely low-income Americans should be provided public health insurance while slightly less impoverished individuals should be given federal tax credits to support private purchasing in the exchanges.").

(3) Cong. Budget Office, The Budget and Economic Outlook: 2014 to 2024, at 109 tbl.B-3 (Feb. 2014).

(4) These numbers apply only to taxpayers within the contiguous United States and the District of Columbia; the levels differ for taxpayers in Alaska and Hawaii.

Table 2: Refundable Credit for Coverage Under a Qualified Health Plan[1]

Modified Household Income as Percentage of Federal) (Poverty Level	Initial Premium Percentage	Final Premium Percentage
100% to 133%	2.0%	2.0%
133% to 150%	3.0%	4.0%
150% to 200%	4.0%	6.3%
200% to 250%	6.3%	8.05%
250% to 300%	8.05%	9.5%
300% to 400%	9.5%	9.5%

Using the Internal Revenue Service's Statistics of Income, a distribution of the number of taxpayers in a given range of modified adjusted gross incomes can be determined. Assuming that taxpayers obtaining qualified health plans follow the same distribution, the number of taxpayers within a given range of modi-

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(1) I.R.C. § 36B(b)(3)(A)(i). The "premium percentage" is the percentage of the taxpayer's modified adjusted gross income that is subtracted from the cost of the benchmark health plan to determine the maximum amount of the health premium credit. See infra note 46 and accompanying text. For household income ranges where the initial and final percentages differ, the applicable percentage is determined by interpolating between the initial and final credit percentages for the household income in question. For example, a household income equal to 275% of federal poverty level corresponds to an applicable percentage of 8.755% (halfway between 8.05% and 9.5%). I.R.C. § 36B(b)(3)(A). "Household income" is defined as the sum of (1) the modified adjusted gross income of the taxpayer, plus

(2) the aggregate modified adjusted gross incomes of all other individuals who (a) were taken into account in determining the taxpayer's family size and (b) were required to file a return of tax for the taxable year. Id. § 36B(d)(2)(A). "Modified adjusted gross income" is defined as adjusted gross income plus any amount excluded from income by virtue of section 911, any tax-exempt interest, and the portion of social security benefits not included in gross income under section 86. Id. § 36B(d)(2)(B).

fied adjusted gross income can be estimated[1]. The cliff effect triggered at 133% of federal poverty level is not a fixed number for all taxpayers since federal poverty level is dependent on the number of members in a family unit. A hybrid federal poverty level based on the United States' average household size of 2.58 can be used to estimate the number of enrolled taxpayers within a given adjusted income range[2]. From this we can calculate the number of enrolled taxpayers who are in a worse position post-tax due to the cliff effect, and the cost of equalizing these taxpayers with taxpayers not subject to the cliff effect[3]. This cost of equalization represents the equity cost of the cliff effect, or the total dollar amount by which the taxpayers just exceeding the cliff effect threshold are worse off than taxpayers just at—but not exceeding—the threshold.

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(1) See All Returns: Sources of Income, Adjustments, and Tax Items, by Size of Adjusted Gross Income, Tax Year 2012, Internal Revenue Serv., https://www.irs.gov/pub/irs-soi/12in14ar.xls [http://perma.cc/X4RM-GLPQ] (last visited Jan. 23, 2016) (listing sources of income, adjustments, and tax items by size of adjusted gross income for all returns). Within each given income range a linear distribution of returns was assumed. This distribution was assumed equivalent to the distribution (by adjusted gross income) of enrollees in qualified health plans. For purposes of this calculation, modified adjusted gross income was assumed to be equal to adjusted gross income and modified household income.

(2) U.S. Census Bureau, Household and Families: 2010, at 1 (Apr. 2012). For a family of two and a family of three the federal poverty level is $15,510 and $19,530, respectively, in the contiguous United States and District of Columbia. Annual Update of the HHS Poverty Guidelines, 78 Fed. Reg. 5182, 5183 (Jan. 24, 2013). The hybrid poverty level for the average U.S. household, based on the 2.58 average household size, is equal to the weighted average, or $17,842. One-hundred-thirty-three percent of this hybrid poverty level is equal to $23,729.

(3) At 133% of federal poverty level a taxpayer must contribute 2% of her modified adjusted gross income toward the health insurance premium; between 133% and 150% of federal poverty level a taxpayer must contribute between 3 and 4%. See supra Table 2. The modified adjusted gross income, in terms of federal poverty level, at which the credit loss is compensated by additional income is found by solving for x in the following equation: $(0.98)(1.33*FPL) = (x)(FPL) - ((x-1.33)/0.17 + 0.03)(x)(FPL)$. Solving for x, x is equal to 1.345. This calculation omits any additional credits for which the taxpayer might be eligible due to their increased income, i.e., the Earned Income Tax Credit.

A taxpayer must earn approximately 1.5% of the federal poverty level beyond the cliff-triggering income (133% of the federal poverty level) to counteract the 1% drop in premium credits[1]. This translates to approximately $356 that a taxpayer must earn, on average, to undo the effect of the cliff effect[2]. For taxpayers in this income range this is equal to, on average, approximately thirty additional hours of work[3]. Over this income range there are approximately 35,000 people who are worse off post-tax relative to taxpayers they were better off than pre-tax[4]. For 2014, these 35,000 taxpayers were, in the aggregate, approximately $4 million worse off than they would have been had they earned less[5]. This figure represents the minimum amount needed to be transferred to taxpayers just beyond the cliff effect threshold to ensure an economic position equal to taxpayers just before the cliff effect threshold[6]. The Congressional Budget Office expects

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(1) This is greater than the 1% lost due to the cliff because the amount of the subsidy decreases as income increases. See supra Table 2.

(2) One-and-a-half percent of the hybrid federal poverty level is equal to (1.5%)*($23,729) = $356.

(3) At 133% of the hybrid federal poverty level of $23,729, hourly wage is equal to approximately $11.90/hour. This conservatively assumes that the income is earned by a sole earner. The actual hourly wage is less, since the calculated hourly wage is for a household size of 2.58.

(4) There are approximately 65 million taxpayers between 100% and 400% of the hybrid federal poverty level (an income range that captures nearly all of the enrollees for the tax credit). Internal Revenue Serv., supra note 33. Approximately 1.1% of this group, or about 700,000 taxpayers, earns between 133% and 134.5% of the hybrid federal poverty level. 8 million enrollees correspond to roughly 3.2 million enrolled taxpayers, assuming an average family size of 2.5 members. 1.1% of these 3.2 million enrolled taxpayers equals approximately 35,000.

(5) Post-cliff effect, 35,000 taxpayers lost, on average, $238 per year, because the cliff reduces the credit amount by 1% of adjusted gross income. Using a hybrid federal poverty level, the cliff-triggering income is $23,729. Since the affected group is worst off at exactly the cliff effect threshold, and at parity with pre-cliff taxpayers at 134.5% of federal poverty level, we can approximate the lost credit assuming linearity. The affected group is then, in total, worse off by (35,000 taxpayers) times ($238 per taxpayer) divided by 2, or approximately $4 million.

(6)The equity cost also approximates the additional amount of income required to be earned to place the taxpayers in the same economic position as the taxpayers just before the imposition of the cliff effect. This assumes that this subsequent income is earned tax-free.

enrollment in marketplace health plans to increase dramatically in the next ten years[1]. If the distribution of enrolled taxpayers by income stays constant as more taxpayers enroll in qualifying health plans, the aggregate equity cost from 2014 to 2024 will equal $286 million[2].

The equity cost of the cliff effect occurring at 133% of federal poverty level is independent of the actual cost of the health insurance plan selected and the total amount of credit awarded. For taxpayers on either side of this cliff effect, the credit amount depends on a taxpayer's income relative to the federal poverty level and the cost of a benchmark plan, not the specific plan selected[3]. In contrast, to properly estimate the equity cost of the cliff effect occurring at 400% of the federal poverty level, which eliminates the credit entirely, the total value of the credit must be calculated. The value of the credit depends on the cost of the available health plans, which is in turn a function of the size of the taxpayer's family, ages of the taxpayer's family members, and the taxpayer's residence[4]. The credit is calculated as the difference between the exclusion amount and the benchmark plan[5].

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(1) Cong. Budget Office,supra note 30,at 109 tbl.B-3.

(2) Id. The estimated total cost of the premium credits from 2014 to 2024 is $912 billion. ($912 billion ÷ $13 billion)*($4 million) = $286 million. The reported current enrollment of 8 million enrollees (approximately 3.2 million taxpayers) and average credit per taxpayer ($3168 per year) for a total 2014 credit outlay of $10 billion is roughly equal to the Congressional Budget Office's 2014 cost estimate of $13 billion.

(3) I.R.C. § 36B(b) (2012). See infra note 46 and accompanying text.

(4) Dep't of Health and Human Servs., ASPE Issue Brief: Health Insurance Marketplace Premiums for 2014, at 7-8 tbl.1 (Sep. 25, 2013) (providing premium amounts based on a taxpayer's age, family size, and residence). "Family," as used here, refers to the members of the taxpayer's tax-filing unit.

(5) The benchmark plan is the second-lowest cost silver plan offered by the relevant state or federal marketplace. I.R.C. § 36B(b)(2)(B). Plans with the silver classification are required to pay an actuarial value of 70% to the aggregate group of silver plan members. Health Plan Categories, HealthCare.gov, https://www.healthcare.gov/glossary/health-plan-categories [https://perma.cc/8R7M-KS4Z] (last visited Jan.23, 2016). The exclusion amount is the applicable percentage times modified adjusted gross income. Id. § 36B(b)(3)(A)(i).

A complete distribution of benchmark plan premiums across geographic locations for varying compositions of a taxpayer's family would permit calculation of the premium credit that is lost at 400% of the federal poverty level. For some jurisdictions and family compositions, there is no cliff effect. For a twenty-seven-year-old in St. Louis earning $25,000, for example, the cost of the benchmark plan is $216 per month[1]. At 400% of the federal poverty level, the taxpayer's exclusion amount is $364, meaning the premium credit is eliminated for this taxpayer prior to the imposition of the cliff effect[2]. For a family of four in Indianapolis with an income of $50,000, however, the cost of the benchmark plan is $1011 per month[3]. For this family, the cliff effect at 400% of federal poverty level results in the loss of a $3180 yearly subsidy[4].

The aggregate equity cost of this cliff effect cannot be calculated using a weighted average of national benchmark premium costs because not all taxpayers are subjected to a cliff effect. If the costs of these plans were averaged and considered in aggregate, the cliff effect for taxpayers with different family compositions or locations would be masked. Precisely calculating the equity cost requires data on each taxpayer's family composition, size of family, and residence. In the absence of this precise data set, we can approximate the number of taxpayers subjected to the cliff using a combination of Internal Revenue Service and census data, and the fact that, by law, the price of the benchmark silver plan is not permitted to vary by more than a factor of three

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(1) Dep't of Health and Human Servs.,supra note 45, at 12 tbl.3.
(2) The applicable federal poverty level for an individual is $11,490. Nine-and-a-half percent of four times $11,490 divided by 12 equals $364 per month.
(3) Dep't of Health and Human Servs.,supra note 45, at 12 tbl.3.
(4) The applicable federal poverty level for an individual is $23,550. Nine-and-a-half percent of four times $23,550 divided by 12 equals $746 per month. The credit for this taxpayer is worth $265 ($1011 minus $746) monthly.

to one over all age ranges.1

A taxpayer with a family of four at 400% of federal poverty level faces a premium credit loss worth approximately $1377 on average.2 The average taxpayer subjected to this cliff effect must work an additional twenty-nine hours to compensate for the economic loss imposed by the cliff effect.3 This estimate of additional hours worked conservatively assumes the taxpayer's additional labor is not subjected to federal or state income taxes.

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(1) SeeBernadette Fernandez, Cong. Research Serv., R41137, Health Insurance Premium Credits in the Patient Protection and Affordable Care Act (ACA) 11 (Mar. 12, 2014) ("[F]or any given . . . plan in a geographic area, premiums may vary for adults between 21 and 64+ years of age by a 3:1 ration."). For the thirty-six non-State Based Marketplaces, data on the cost of the benchmark silver plan for a twenty-seven year-old was collected by the federal government. Dep't of Health and Human Servs.,supra note 45, at 7-12. Estimates of the cost for other age ranges (twenty-eight to thirty-four, thirty-five to forty-four, forty-five to fifty-four, and fifty-five to sixty-five) were linearly interpolated using a maximum plan cost of three times the twenty-seven year-old cost. The cliff effect, where applicable, was calculated for all age ranges for all available states. The aggregate average cliff effect was determined using a weighted average based on each state's population. Each enrollee was assumed to be an individual taxpayer, which results in a conservative estimate of equity cost since the federal poverty level per person is greater for an individual than for families. Annual Update of the HHS Poverty Guidelines, 78 Fed. Reg. 5182, 5183 (Jan. 24, 2013).

(2) The number of enrollees subjected to the cliff effect is estimated using IRS data on returns for taxpayers filing as one person. All Returns: Number of Returns, by Age, Marital Status, and Size of Adjusted Gross Income, Tax Year 2012, Internal Revenue Serv.,https://www.irs.gov/pub/irs-soi/12in16ag.xls [http://perma.cc/Q8YC-AHEU] (last visited Jan. 23, 2016). The number of enrollees in the range between 400% of federal poverty level to 400% of federal poverty level plus $1377 was estimated using the percentage of taxpayers filing as one person within the same income range (2.2%). The total number of enrollees is 8,019,763. Dep't of Health & Human Servs., ASPE Issue Brief: Health Insurance Marketplace: Summary Enrollment Report for the Initial Annual Open Enrollment Period 5 tbl.2 (May 1, 2014). The aggregate microeconomic cliff effect is then equal to ($1377)*(2.2%)*(8,019,763)/2 = $121,475,350.

3   Assuming 2000 hours worked in a year and an income of 400% of federal poverty level—$94,200—results in an hourly wage of $47.10, then $1377 divided by $47.10 per hour equals 29.2 hours.

Not all age groups are equally subjected to the cliff effect. The benchmark silver plan tends to cost less than the applicable exclusion amount for enrollees younger than thirty-four years old but more than the exclusion amount for enrollees between the ages of thirty-five and sixty-four. The latter group comprises roughly 65% of all current enrollees, meaning that the more expensive health plans are selected more frequently than the lower-cost plans available to younger enrollees[1]. Taxpayers between fifty-five and sixty-five years of age, on average, face a cliff effect worth approximately $3315 (or 144 hours of labor) when their income eclipses 400% of the federal poverty level[2].

Approximately 176,000 taxpayers are ineligible for the health premium credit due to the cliff effect occurring at 400% of the federal poverty level[3]. The income that puts them more than 400% from the federal poverty level—thus precluding these taxpayers from receiving the subsidy—does not make them whole relative to the value of the tax credit lost. The aggregate equity cost of this cliff effect is approximately $121 million, or nearly 1% of the estimated cost of the entire subsidy[4]. From 2014 to 2024, this represents a total equity cost of approximately $8.5 billion[5]. Although

(1) Id. at 18 app. tbl.A1.

(2) The average cliff effect for taxpayers between (1) zero and twenty-seven years old, (2) twenty-seven and thirty-four, (3) thirty-five and forty-four, (4) forty-five and fifty-four, and (5) fifty-five and sixty-four is zero, $12, $603, $1930, and $3315, respectively.

(3) See supra note 52. The number of affected taxpayers is equal to 2.2% times 8,019,763, or 176,435.

(4) See supra notes 43 and 52 and accompanying text.

(5) The premium credit is estimated to cost approximately $912 billion from 2014 until 2024. Thus, $121 million divided by $13 billion multiplied by $912 billion equals approximately $8.5 billion. See supra note 43 and accompanying text. The calculation of aggregate microeconomic equity costs for the two cliff effects associated with the Affordable Care Act assumed that the distribution of taxpayers by income does not change as a result of the imposition of the cliff effect. The Affordable Care Act provides subsidies to taxpayers earning 400% or less of the federal poverty level. These taxpayers are not well-situated to reduce their income to avoid the penalty of the cliff effect. See Katie Thomas et al., New Health Law Frustrates Many in Middle Class, N.Y. Times, Dec. 21, 2013, at A1 (highlighting, inter alia, the plight of some middle class individuals whose income fluctuation puts them on different sides of the cliff from year to year).

low- to moderate-income taxpayers are in a better economic position overall because of the premium credit, the significant equity cost represents a flaw in the credit's implementation. The premium credit is intended to enable low- to moderate-income taxpayers to affordably procure health insurance for themselves and their families[1]. But the premium credit, at two levels of income eligibility, makes certain taxpayers worse off post-tax than these taxpayers would have been had they earned less income pre-tax. Such a result undermines the normative justifications for the premium credit's existence.

IV. Proposals for Change

The preceding Part illustrates the hidden costs of the cliff effects in the Affordable Care Act. Although the empirical exercise focused on a tax regulation, the process outlined is generalizable to cliff effects existing in any regulatory regime where the metric to which the cliff effect is attached is largely out of the control of the regulated entity. These cliff effects can cause inequitable results for certain regulated entities and can also significantly undermine how effectively the provision in question accomplishes its objectives. Even a small cliff effect impacting a small number of regulated entities is unfair, while a large cliff effect affecting a large number of regulated entities is both unfair and can measurably undermine the goals of the provision.

While the costs associated with a cliff effect can be removed by repealing the underlying provision to which the cliff effect is attached, doing so misses the point and is akin to throwing out the baby with the bathwater. Assuming the tax provision to which the cliff effect is attached serves a valuable social goal, when should this cliff effect be removed, and with what should it be replaced?

This Part establishes a methodology through which problematic cliff effectscan be identified and replaced. This process re-

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(1)See supra note 29 and accompanying text.

quires first determining the goals of the provisions to which the cliff effect is attached and assessing if the costs of the cliff effect are worth the gains in simplicity. Problematic cliff effects can then be replaced with phaseouts either at or prior to the cliff effect threshold.

A. Identify Problematic Cliff Effects

To assess the validity of a cliff effect, the goals of the provision to which the cliff effect is attached must be determined. The benefits provided by the cliff effect—most often in establishing bright-line rules or serving as proxies for other, hard-to-measure metrics—should be compared to alternative scenarios in which the cliff effect is replaced by a benefit-limiting substitute that does not impose a serious financial penalty. Of critical importance is determining the extent to which the cliff effect advances the stated goal of the provision and at what cost.

1. Determine the Goals of the Provision to Which the Cliff Effect Is Attached

In order to determine whether a cliff effect is effectively implementing the provision to which it is attached, the goal of the provision must be accurately determined. This may not be clear from the text of the statute. For example, the Earned Income Tax Credit contains a cliff effect with respect to investment income only because investment income is assumed to correlate with asset level, and it is thus not readily apparent from the text of the statute why the cliff effect exists. Indeed, for many statutes the intent of Congress must be divined from the legislative history or other secondary sources.

For other provisions, the legislative intent is clear and might contain stronger justifications for relying on a bright-line rule that creates a cliff effect. For example, § 45P provides a wage credit for "small business employer[s]" who hire active duty members

of the uniformed services[1], revealing the congressional intent to incentivize small businesses to hire military reservists[2]. As such, the credit is limited to businesses with less than fifty employees[3]. This creates a cliff effect: the credit is available in full to employers with fifty employees but not to employers with fifty-one. The statute could instead use a sliding scale wherein the credit amount is adjusted depending on the number of employees. Such a modification could potentially prevent previously qualifying small businesses from taking advantage of the credit due to the increased complexity. Additionally, the statute contains other cliff effects not based on income, such as a requirement that the eligible employee be employed for a certain ninety-one day period[4]. Converting multiple cliff effects into a sliding scale or phaseout would significantly increase complexity and frustrate the intent of the statute. The simplicity of the cliff effect could, depending on the statute, more effectively promote the statute's goals.

For provisions where the intent is clear, an associated cliff effect is most effective when the provision both intends to change the behavior of the regulated entity and this behavior is elastic with respect to the metric to which the cliff effect is attached. Consider, for example, an environmental regulationimposing a penalty of $1 million on any company emitting more than 100,000 pounds of methane per year. If the intent of the provision is to induce entities to emit less methane, the cliff effect with respect to methane emitted could be effective because the provision intends to change the behavior of the regulated entity and the entity's behavior may be extremely responsive to this additional cost.

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(1) I.R.C. § 45P(a) (2012).

(2) See S. Rep. No. 112-208, at 36 (2012) ("The Committee believes that it is still appropriate to encourage small employers to make differential wage payments to employees during any period that the employee is called to duty for a period of more than 30 days in the uniform services.").

(3) I.R.C. § 45P(b)(3)(A)(i).

(4) Seeid. § 45P(b)(2) ("The term 'qualified employee' means a person who has been an employee of the taxpayer for the 91-day period immediately preceding the period for which any differential wage payment is made.").

But this example of a cliff effect where entities are extremely responsive to the additional cost imposed by the cliff effect can be contrasted with cliff effects that use a reference metric that is largely out of the regulated entity's control. To the extent that the these provisions confer a significant benefit or penalty on some identified group of regulated entities, the cliff effect cannot be appropriate: behavior is not likely to be affected in the manner intended by the provision because entities may not be able to change their behavior in response to the provision. If, however, the income-based cliff effect is intended to change behavior and, in fact, does change behavior, the cliff effect could be effective. For example, a cliff effect based on income earned creates a subset of entities who are worse off because of experiencing the cliff effect, but the social gains from producing the desired be-havioral changes could outweigh the aggregate equity costs the cliff effect imposes if the group bearing the equity cost is small. However, the inability of some regulated entities to modify their incomes implies that the majority of income-based cliffs, even if intended to change behavior, will result in a significant number of entities bearing an equity cost.

Determining the goals of the provision to which a cliffeffect is attached is not always a simple task. In addition, cliffeffectsoften are attached to provisions where behavioral changes are not al-ways simple. As such, the costs imposed by cliff effectscan make their use difficult to justify.

2. Assess the Costs of the Cliff Effect

After the goals of the provision have been identified, the costs of the cliff effect must be quantified. Implicit in this cost determi-nation is that the provision under analysis is, prior to the cliff effect threshold (where the cliff effect takes away a benefit), of positive social utility;meaning, the recipients of the benefit in question are ostensibly receiving the benefit because the baseline system of regulation is not properly accounting for some positive social ben-

efit flowing from the behavior incentivized by the benefit. For cliff effect imposing a penalty, the regulated entities are, prior to the cliff effect threshold, not engaging in behavior of negative social utility. When the provision involves a cliff effect based on a metric that is out of control of the regulated entity, the provision can become an incentive for entities to engage in certain behavior provided they satisfy an income restriction. The Earned Income Tax Credit, for example, incentivizes earning income by working (to a point). Similarly, the Affordable Care Act incentivizes low- to moderate-income taxpayers to purchase health insurance[1]. Implicit in each tax provision is the assumption that certain behavior (for the Earned Income Tax Credit, working; for the Affordable Care Act, having health insurance) of low- to moderate-income taxpayers results in positive social utility. What should be determined, then, is the extent to which the costs of the cliff effect undermine these objectives.

Both the individual and aggregate microeconomic cost calculations, as described in Part III, are important considerations. A cliff effect with a large individual microeconomic cost but a small aggregate microeconomic cost is indicative of a cliff effect that has a significant financial impact only on a small number of regulated entities. On the other hand, a cliff effect with a small microeconomic cost but a large aggregate microeconomic cost is indicative of a cliff effect that affects all regulated entities but only to a small degree. These costs should then be weighed against the gains obtained from the clarity provided by the cliff effect[2].

If the clarity of the cliff effect encourages regulated entities to engage in desired behavior, the number of regulated entities bearing the equity cost will be small relative to those modifying

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(1) See supra notes 28–29 and accompanying text.
(2) Many of the simplifying assumptions made in this Article to calculate the aggregate microeconomic costs of cliff effects are obviated given the complete data that the Internal Revenue Service has at its disposal. Using data from actual returns would permit the Treasury to determine more precisely the current and future costs associated with cliff effects.

their behavior in order to not cross the cliff effect threshold. If the provision generates positive social utility for those entities qualifying for it, this change in behavior could result in a net positive social gain provided that the social benefit generated by the change is greater than any deadweight loss created by the changed behavior.

There is no formula to precisely determine whether a cliff effect is "worth" the costs it imposes; each cliff effect must be assessed on a case-by-case basis. The cliff effects of the Affordable Care Act are illustrative. The cliff effect occurring at 133% of federal poverty level has a microeconomic cost of approximately $356 per affected taxpayer and an aggregate cost of approximately $4 million[1]. Although the aggregate cost is small relative to the total cost of the health premium credit subsidy—$33 billion in 2015[2]—the cost per taxpayer is significant. This is especially meaningful given that the taxpayers affected by this cliff effect are only slightly above the federal poverty level, with this dollar amount equal to at least thirty hours of additional labor[3]. For the cliff effect occurring at 400% of federal poverty level, the individual microeconomic and aggregate microeconomic costs of $1377 and $121 million, respectively, indicate a significant expense that will only increase in future years[4]. The simplicity gains obtained from the cliff effects associated with the Affordable Care Act are not immediately obvious and, as such, their modification should be strongly considered.

The costs imposed by utilizing a cliff effect should be determined prior to making the cliff effect permanent law. To the extent these costs undermine the ostensible social utility of the provision in question, the use of the cliff effect should be questioned.

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(1) See supra notes 36–50 and accompanying text.
(2) See supra note 30 and accompanying text.
(3) See supra note 38 and accompanying text.
(4) See supra notes 52–69 and accompanying text. In aggregate, the equity cost of the cliff effect happening at 400% of the federal poverty level from 2014 to 2024 is $8.5 billion. Cong. Budget Office,supra note 30,at 109 tbl.B-3.

B. Replace Problematic Cliff Effects with Alternate Provisions

Any cliff effect based on a metric that is largely out of the control of the regulated entity that alsoimposes costs greater than any social utility it creates can be eliminated by phasing out the benefit (or imposing the penalty) over a span of income starting either before or at the cliff effect threshold rather than eliminating the benefit (or imposing the penalty) entirely. However, using a phaseout results in either a greater total cost of the benefit or a reduction in benefits to some recipients. If a subsidy's phaseout begins at the same point at which the cliff effect occurs, there will be additional recipients of the subsidy, increasing the total cost of the subsidy. If a phaseout replaces a cliff effect and remains revenue-neutral, the phaseout must occur prior to the income threshold at which the cliff effect occurred. Although regulated entities will not be subjected to a cliff effect, some entities will be worse off than they were with the cliff effect in place. Solely in dollar terms, replacing a cliff and its attendant effect with a phaseout can never be a Pareto improvement[1].

If the provision in question properly incentivizes behavior that is socially beneficial, all regulated entities prior to the cliff effect are engaging in behavior generating positive social utility. For these cliff effects, a phaseout at the cliff effect threshold—but not before—is appropriate. If regulated entities prior to the cliff effect threshold are better off than some entities subjected to the cliff effect, the entities subjected to the cliff effectshould be made no worse off than the entities prior to the cliff effect. This requires a phaseout rate that reduces the benefit in an incremental fashion. By constraining what is essentially the marginal rate of benefit loss, regulated entities will not suffer an immediate financial consequences by virtue from exceeding the cliff effect threshold.

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(1) A Pareto improvement is one in which at least one participant is better off and no participants are worse off. See Howard F. Chang, A Liberal Theory of Social Welfare: Fairness, Utility, and the Pareto Principle, 110 Yale L.J. 173, 175 (2000) ("[T]he Pareto principle[] holds that if each individual prefers one state of affairs over another, then social welfare must be higher in the first state than in the other state.").

Some regulated entities receiving some regulatory benefit may not generate the positive social utility intended by the regulation because they do not engage in the intended behavior. For example, income-based cliff effects typically subsidize behavior for low- to moderate-income taxpayers. The implication is that the amount of positive social utility generated from the tax provision decreases as income increases. For these tax provisions, some portion of the subsidy is misallocated and the associated cliff effect can be replaced with a phaseout starting prior to the current cliff effect threshold[1]. If, for example, the distributional rationales of the health care premium credits for low-income taxpayers were not valid for higher-earning taxpayers still qualifying for the credit, the credit would be improperly allocated to these higher-earning taxpayers. Depending on both the point at which the phaseout begins and the phaseout rate, replacing an income-based cliff effect with a phaseout prior to the cliff effect threshold could result in no loss of social utility and be revenue neutral (or even result in cost savings).

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(1) Constraints limiting the revenue effects of any modifications could also cause a phaseout from a point prior to the cliff effect threshold.

Conclusion

This Article has endeavored to critically assess the frequent use of cliff effectsin regulatory regimes, using the cliff effects of the Affordable Care Act as a quantitative example. When a regulated entity exceeds some threshold, the cliff effect can leave some entities in a significantly worse economic position than if they had come close to, but not exceeded, the cliff effect threshold. These costs can be surprisingly high, as evidenced by the analysis of the Affordable Care Act. When the costs associated with cliff effects outweigh the gains obtained from the simplicity of bright-line rules, these provisions should be rewritten to eliminate the cliff effect. With regard to cliffs effects based on metrics that are out of the control of the regulated entity, the regulatory regime should ensure that the benefit conferred or penalty imposed is given or imposed gradually. Such a restriction would permit regulated entities who are unable to control whatever metric on which the cliff effect is based to not suffer a significant cost because they exceeded the cliff effect threshold.

The quantitative analysis in this Article focuses on cliff effects in the Internal Revenue Code but also has implications on cliff effects found in other regulatory regimes. Similar to cliff effects in the Internal Revenue Code, the simplicity gains obtained from cliff effects associated with other regulatory regimes should be compared to the burdens imposed on entities suddenly losing some benefit or being required to pay some penalty.

Cliff effects, even if designed to precisely define terms requiring clarity and promoting some desired behavior, should be used cautiously. Their use often undermines the intent of the statutes to which they are attached. The proposals of this Article to assess, measure, and remedy existing and proposed cliff effects are a step towards improving the equity and efficiency of benefits and penalties provided and imposed by regulatory regimes generally.

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