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The Marginal Revenue Rule in Cost-Benefit Analysis

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I. Introduction

In April, Treasury and the Office of Management and Budget released a memorandum of agreement stating that tax-related regulations will be subject to centralized review by OMB’s Office of Information and Regulatory Affairs (OIRA).¹ Importantly, the memorandum instructs Treasury to give OIRA a formal cost-benefit analysis of any regulatory action that has an annual non-revenue effect on the economy of $100 million or more. Regulations that create interagency inconsistencies or raise “novel” legal or policy issues are also subject to OIRA review. For these “significant” regulations, the memorandum requires a less formal cost-benefit analysis.

These new mandates require Treasury and OIRA to adapt the tools of cost-benefit analysis to the tax context. The primary effect of many tax regulations is a change in the amount that taxpayers transfer to the government. Traditional cost-benefit analysis considers transfers from one party to another to be neither social costs nor social benefits. Without some way to account for the social welfare effects of changes in tax collections, however, Treasury and OIRA face the challenge of applying the new cost-benefit analysis mandate in a consistent and sensible manner.

We propose a method of performing cost-benefit analysis of tax-related regulations. Under this approach, which we call the marginal revenue rule (MRR), the social benefit of a revenue increase generated by a tax regulation is equal to the net increase in revenue resulting from reporting and behavioral changes induced by the regulation.²

¹ “Memorandum of Agreement, Department of the Treasury and Office of Management and Budget Review of Tax Regulations Under Executive Order 12866” (Apr. 11, 2018) (April 2018 MOA). See also Executive Order 12866, section 6(a)(3)(B) and (C) (Sept. 30, 1993).
² Correspondingly, the social cost of any decrease in revenue resulting from a tax regulation is equal to the net decrease in revenue resulting from behavioral and reporting changes.
The total social benefit of a tax regulation thus equals the net increase in revenue resulting from reporting and behavioral changes plus any non-revenue-based benefits (for example, health benefits from a tobacco tax regulation or environmental benefits from a gas tax regulation). The social cost of a tax regulation is the net increase in administrative and compliance costs resulting from the regulation, as well as any non-tax-related costs (for example, health and environmental costs). The net effect of the regulation is the difference between the social benefits and the costs.

The MRR has several advantages. It is firmly rooted in the economic theory of taxation. While that theory independently drives our approach, the MRR is also consistent with the principles underlying Circular A-4, OMB’s decades-old guidance for agency cost-benefit analysis. To be sure, Circular A-4 could easily be amended to address tax regulations, but it conveniently need not be. Finally, the MRR builds on the revenue-estimating competencies that already exist within the Treasury Office of Tax Analysis (OTA) and other parts of the executive and legislative branches.

At the same time, the MRR is not a decision rule, nor is any cost-benefit analysis of tax regulations. We do not expect Treasury and the IRS to adopt all regulations for which benefits exceed costs, and we expect them to adopt some regulations for which costs exceed benefits. This is so for at least two reasons. First, tax systems create deadweight losses by design. They are chosen to balance the efficiency losses with other benefits, such as the distributional benefits or the need to raise tax revenue for the provision of public goods. In particular, our choice to have an income tax rather than relying solely on a head tax reflects a recognition that non-efficiency considerations — specifically, the goal of distributing tax burdens based on ability to pay — justify the efficiency losses of taxing income. Yet even in those cases, the MRR can shed light on the efficiency implications of the regulation in question, allowing other executive branch officials, members of Congress, and the public to evaluate whether the non-efficiency arguments in favor of the action outweigh the efficiency costs.

Second, in some cases a statute may compel Treasury and the IRS to adopt an inefficient regulation or may preclude them from taking an action that cost-benefit analysis recommends. Although the MRR does not free Treasury and the IRS from following congressional commands, it can assist lawmakers in assessing whether the statutory mandate in question merits amendment.

Moreover, the MRR does not resolve all the issues that Treasury, the IRS, and OIRA must tackle to adapt cost-benefit analysis to tax regulations. It does not, for example, address the threshold question of how to determine when a regulation has an annual non-revenue effect on the economy of $100 million or more — thus triggering the need for a regulatory impact analysis. Rather, when that criterion has been met as determined by OIRA, the MRR provides a method for performing the required analysis. Another challenge for agencies is how to separate the effects of the relevant statute from the effects of the regulation under consideration. This baseline problem is not unique to tax, but it is something that those performing a cost-benefit analysis of tax regulations will encounter frequently because many tax statutes are self-executing (that is, they will take effect regardless of whether Treasury and the IRS issue implementing rules). The MRR does not itself address this question, although other guidance does.

What the MRR does — and we think does well — is give the agencies a way to evaluate the efficiency implications of revenue changes arising from regulatory actions.

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3 A tax regulation, like any other regulation, might be set aside if it “entirely fails to consider costs and benefits” when the underlying statute can be read to require such consideration. See Michigan v. EPA, 135 S. Ct. 2699, 2707 (2015). The mandate to consider costs does not, however, mean that Treasury and the IRS must determine that monetized benefits exceed monetized costs before promulgating a regulation. Id. at 2711.

4 Circular A-4 states: “In some cases, substantial portions of a rule may simply restate statutory requirements that would be self-implementing, even in the absence of the regulatory action. In these cases, you should use a pre-statute baseline. If you are able to separate out those areas where the agency has discretion, you may also use a post-statute baseline to evaluate the discretionary elements of the action.” Circular A-4, at 15-16.
II. The Challenge for Tax Regulators

Cost-benefit analysis has played an important role in nontax regulation for decades. Every president since Ronald Reagan has required that executive agencies evaluate the costs and benefits of regulatory actions. The current regime of centralized OIRA review dates back to President Clinton’s Executive Order 12866, signed in September 1993. That order requires executive agencies to assess the potential costs and benefits of any “significant” regulatory action and provide a more formal regulatory impact analysis for those deemed “economically significant” (expected to have an annual economic effect of at least $100 million). Regulatory impact analysis includes, to the extent feasible, a quantification and monetization of the anticipated costs and benefits of the regulatory action and its potential alternatives.

Rarely, however, has OIRA reviewed tax-related regulations drafted by Treasury and the IRS according to the standards for economically significant regulatory actions. A 1983 memorandum of agreement between Treasury and OMB explicitly exempted revenue rulings and revenue procedures from centralized review, and the Internal Revenue Manual says that tax regulations are generally exempt from cost-benefit analysis requirements.

All of that has now changed. As noted earlier, the April memorandum of agreement between Treasury and OIRA set forth a new framework for review of tax regulations under Executive Order 12866. The memorandum states that tax regulatory actions will be subject to OIRA review if they are likely to interfere with other agency actions, raise novel legal or policy issues, or “have an annual non-revenue effect on the economy of $100 million or more, measured against a no-action baseline.” Actions in the last category — those likely to have a non-revenue economic effect of at least $100 million — must be accompanied by a regulatory impact analysis. OIRA generally will have 45 days to conduct its review, with an expedited 10-day process available for regulations implementing the Tax Cuts and Jobs Act (P.L. 115-97).

The extension of the cost-benefit analysis mandate to tax regulations will raise a number of difficult issues for Treasury, the IRS, OMB, and OIRA to resolve. Chief among them is the challenge of incorporating revenue effects into cost-benefit analysis. Circular A-4 states that “the revenue collected through a . . . tax is a transfer payment.” Transfer payments, according to Circular A-4, are “monetary payments from one group to another that do not affect total resources available to society.” Circular A-4 might thus be read to suggest that a change in tax revenue as a result of a regulation ought not to be counted as a benefit or a cost. In that case, many tax regulations would have no costs or benefits other than their changes in compliance and administrative costs.

A sounder interpretation, however, would recognize that Circular A-4 defines transfers only as payments from one group to another that

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6 President George W. Bush made several substantive amendments to the order two years before he left office (see Executive Order 13422 (Jan. 18, 2007) (revoked 2009)), but those were withdrawn by President Obama in the second week of his first term (see Executive Order 13497 (Jan. 30, 2009)).

7 Executive Order 12866, sections 3(f) and 6(a)(3)(B). A regulatory action is deemed significant if it is likely to result in a rule that (1) may have an annual effect on the economy of $100 million or more or may adversely affect an economic sector or a state, local, or tribal government; (2) may interfere with an action by another agency; (3) may materially alter the budgetary impact of entitlement programs; or (4) may raise novel legal or policy issues.

8 Id. at section 3(f)(1).

9 Id. at section 6(a)(3)(C); see also Circular A-4, at 1-2 and 6-9.

10 A search of OIRA’s website for “economically significant” regulations submitted by the IRS yields only six results: a 1997 rule addressing health insurance portability for group health plans; another 1997 rule involving the HIPAA Mental Health Parity Act; a 1998 rule implementing the Newborns’ and Mothers’ Health Protection Act; a 1999 regulation regarding return preparers; a 2001 rule designed to prevent multinational corporations from engaging in earnings stripping through related-party debt; and a 2017 rule updating mortality tables for pension-related purposes.


12 The IRS’s rationale was that (1) the amount of taxes imposed or collected under a regulation is not counted toward the $100 million threshold, and (2) “the effect from a rule in most IRS/Treasury regulations is almost always a result of the underlying statute, rather than the regulation itself.” IRM section 32.1.5.4.7.5.3 (effective Oct. 15, 2015).

13 April 2018 MOA, supra note 1, at 1 (emphasis added).

14 Id.

15 See id. at 1-2.

16 OMB Circular A-4, at 14.

17 Id. at 38.
again, “do not affect total resources available to society.” By implication, payments that do affect total social resources are appropriate to consider as part of an agency’s cost-benefit analysis. Because some increases in tax revenue reflect changes in real resource use, the rationale underlying Circular A-4 in fact suggests that those revenue increases should be counted as a benefit. OIRA’s most recent annual cost-benefit reports to Congress further support this interpretation. The reports “recognize that . . . transfer rules may create social benefits or costs.” For example, transfers “may impose real costs on society to the extent that they cause people to change behavior, either by directly prohibiting or mandating certain activities, or, more often, by altering prices.” OIRA accordingly “encourages agencies to report these costs and benefits for transfer rules.”

The MRR reflects these insights by distinguishing tax payments that reflect a change in total resources from those that are mere transfers. In this manner, the MRR provides a method for incorporating revenue-based social benefits into a standard regulatory impact analysis.

III. The Marginal Revenue Rule

The MRR translates recent advances in economic theory into a tractable tool for evaluating the costs and benefits of tax regulations. It builds on the work of economists such as Martin Feldstein, Raj Chetty, and Michael Keen and Joel Slemrod, among others, who have investigated the effects of taxation and tax administration in related contexts. It also leverages revenue-estimating capabilities refined by economists at OTA, the Joint Committee on Taxation, and the Congressional Budget Office over the past several decades.

The formal basis for the MRR is based on the papers cited above. Rather than developing the MRR formally, we illustrate the intuition using a series of examples. We start with the simplest case — a single taxpayer who has flexibility regarding the number of hours that she works — and then extend it to several closely related cases. After developing the core principle in these simple settings, we consider how the MRR can consider the distributional effects of regulations. We go on to discuss more complex cases and examine limitations on the scope of the MRR.

A. Basic Cases

1. Behavioral changes.

Consider a taxpayer who can earn $100 before taxes for an additional hour of work and who is subject to a 30 percent tax on her income. If the taxpayer does not work the additional hour, she can enjoy an hour of untaxed leisure time. Our taxpayer will choose to work an additional hour only if the after-tax return from the additional hour — $70 — is worth more to her than the additional hour of leisure. As she works more and has less time off, each hour of leisure becomes more valuable to her. She will continue working additional hours until the benefit of the last additional hour exactly equals the cost of the forgone leisure. If this were not true, she could be better off by changing her behavior.

For example, if an hour of leisure is worth more than $70 to her, she is working too hard and can be better off by working a little bit less and enjoying more leisure time. If an hour of leisure time is worth less than $70, she would be better off working a little bit harder and having additional income and less leisure time. As a result, she will set her work schedule so that she is indifferent between the following two options: (1) working an additional hour, earning an additional $100, and paying $30 in taxes; and (2) spending the additional hour on leisure instead.

Now consider a change to a tax rule that causes the taxpayer to work one additional hour and to have one less hour of leisure time (for example, the rule might lower the effective tax rate that she faces on her next hour of work).
Because she was indifferent between an additional hour of work and an additional hour of leisure, working an extra hour has no effect on her welfare. The additional hour of leisure she gave up was worth exactly the $70 of after-tax income she now earns by working the additional hour.23

The fact that our illustrative taxpayer is no worse off as a result of the intervention does not mean that society is indifferent as to whether the taxpayer works. Her decision to work an additional hour raises government receipts by $30. That revenue, in turn, could be used to provide additional public goods or to reduce other taxes.

The MRR instructs that the additional $30 of revenue be counted as a social benefit — and not a mere transfer — because society is $30 better off and the taxpayer is in approximately the same position as she was before. In cost-benefit terms, the regulation has a net benefit of $30 because our taxpayer is no worse off but there is $30 of additional revenue. Recall that Circular A-4’s direction that “transfer payments . . . do not affect total resources available to society”24 does not apply to this case because the taxpayer’s decision to work an additional hour does affect total resources available to society (indeed, it increases total resources by $30).

It may seem unintuitive that a person who pays an additional $30 in tax is not worse off. In general, people are individually worse off when they have to pay additional taxes. The MRR does not require a belief otherwise — that is, it does not imply that people are better off when they pay more in taxes. Nor does it require a belief that raising taxes is a good (or bad) thing. It simply requires an assumption that if a taxpayer previously was indifferent between (A) devoting an additional hour to leisure and (B) working an extra hour, earning $100, and paying $30 in taxes, she is no worse off when she reallocates one hour from (A) to (B) (that is, from leisure to labor). She has $70 in additional after-tax income, and this compensates her for the hour less of leisure time that she has. Society benefits because her extra work leads her to pay additional taxes, which can then be used to provide more public goods or to reduce other taxes.

The example considered a choice between working and leisure time, but the same logic holds for other choices that taxpayers make. For instance, suppose that our taxpayer is choosing between working in the formal (taxable) sector of the economy and working in the informal (untaxed) sector. The untaxed sector includes both businesses that improperly fail to report income (such as cash businesses) and work that is simply untaxed (such as housework and child care).

Once again, the taxpayer will allocate time and effort so that the after-tax returns in the two sectors are equal. If the tax rate is 30 percent, our taxpayer whose wage rate in the formal sector is $100 per hour will be indifferent between (1) working an additional hour in the informal sector and paying zero in taxes, and (2) working an additional hour in the formal sector, earning $100, and paying $30 in taxes. Thus, a change to a tax rule that makes informal-sector labor slightly less attractive — and therefore causes the taxpayer to reallocate one unit of labor from the informal sector to the formal sector — will have no effect on that taxpayer’s well-being but will yield a social benefit in the form of greater revenue. As with the choice between labor and leisure, the MRR instructs that the marginal increase in revenue resulting from the change in taxpayer behavior be counted as a benefit in the cost-benefit calculus.

The examples above involved changes in taxpayer behavior (that is, how many hours the taxpayer works, and whether that work is in the formal or informal sector). The same insight applies to decisions about reporting (that is, whether the taxpayer truthfully reveals income to the IRS). The reason is that regardless of whether it is behavior or reporting, the taxpayer makes choices so that she is indifferent between her options. If she is not, she is leaving money on the table.

To illustrate: Imagine again that the tax rate is 30 percent and that a taxpayer is deciding whether to report a $100 item of income. A taxpayer at the margin is indifferent between the two options (that is, not reporting and reporting).

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23In economic terms, the regulatory change has no first-order effects. It may, however, have second-order effects. That is, the regulatory change will not directly affect her welfare, but it will change the set of choices she faces in the future.

24OMB Circular A-4, at 38.
For example, it might cost $30 for the taxpayer to set up an offshore bank account that allows her to hide the item of income from tax authorities. She is thus indifferent between bearing the $30 cost of evasion and paying the $30 tax. Or perhaps she is worried about potential criminal penalties for evasion, and the disutility of the potential penalty multiplied by the probability of punishment is equal to the $30 cost of paying the tax. Or perhaps the taxpayer experiences some “moral disutility” from not complying with the law, to which she assigns the same weight as the $30 tax. The key point is that for taxpayers at the margin, interventions that affect reporting — like interventions that affect other behaviors — have no effect on the taxpayer’s utility but do have effects on government revenue. Therefore, under the MRR, an increase in revenue resulting from a change in reporting should be considered a benefit for cost-benefit purposes.

2. Transfers.

Suppose that instead of a single taxpayer, there are now many taxpayers, and consider a regulation that increases the probability that a taxpayer’s failure to report a particular item of income will be detected. Some individuals will fail to report the item of income regardless of the new regulation. They are what we might call “inframarginal” evaders. Other individuals are “inframarginal compliers” — that is, they will report the item of income honestly whether or not the new regulation is in place. Marginal taxpayers are those who shift from not reporting to reporting as a result of the new rule.

The new regulation will generate revenue from two sources: (1) marginal taxpayers who shift from not reporting to reporting; and (2) inframarginal evaders who continue not to report but now are more likely to be caught. The increase in revenue from marginal taxpayers is a net social benefit. Because those taxpayers were close to indifferent between evading and complying before, the shift from evasion to compliance has approximately no effect on their utility, but it improves social welfare by raising revenue. By contrast, the MRR treats the increase in revenue from inframarginal evaders as a transfer — not as a net social cost or net social benefit. The reason is that the inframarginal evaders (who under the new regulation are caught and must pay taxes) are worse off by the additional taxes they must pay. Therefore, the cost to the inframarginal evader offsets the revenue gain.

3. Compliance and administrative cost.

Our examples so far have ignored tax compliance and administrative costs, focusing only on the benefits of revenue-raising regulations (or, conversely, only on the cost side of regulations that lead to revenue losses). Tax collection is never costless, however, and cost-benefit analysis should take those costs into account. Paying accountants, lawyers, and return preparers, keeping records, filling out forms, and so forth, are all real costs that our tax system imposes on society, as are the costs of running the IRS. Indeed, Circular A-4 explicitly recognizes “private sector compliance costs” as well as “government administrative costs” as important estimates to include in a regulatory impact analysis.25

Consider again our single taxpayer who is indifferent between an additional hour of work in the informal sector and an additional hour of work in the formal sector. Imagine that now she is subject to a new regulation that is costly to comply with — say, a rule that forces her to keep additional records — but that also makes it more likely that informal-sector income will be detected by the IRS. As a result of the deterrence effect of the new regulation, she shifts an additional hour from the informal sector to the formal sector. Although she is no worse off from that shift, the compliance costs from keeping additional records do make her worse off. Keeping the records is an additional cost she must bear that she did not have to bear before the change to the regulation. Therefore, if a regulation raises compliance costs on private individuals or businesses, those compliance costs reduce the net benefits of the regulation.

The same holds true for administrative costs borne by the IRS. Those are real costs that someone must pay for. Those costs also count against any benefits of a regulation. That is, in evaluating a revenue-raising regulation’s overall effect on social welfare, the net increase in revenue resulting from reporting and behavioral

25 Id. at 37.
changes should be compared with the net increase in administrative and compliance costs. If the regulation has non-revenue-based effects, of course, those costs and benefits should also be included as part of a traditional regulatory impact analysis. In other words, although the MRR allows analysts to isolate the social benefits of increases in revenue resulting from reporting and behavioral changes, those revenue effects are not the only possible benefits of tax regulations, and it is the sum total of benefits (rather than exclusively the revenue-related benefits) that should be compared with the costs.

For example, regulations related to the taxation of alcohol and tobacco products may affect the incidence of cancer and other diseases. Those health effects should be incorporated into the cost-benefit analysis of alcohol and tobacco tax regulations just as health effects are incorporated into the cost-benefit analysis of nontax regulations. OIRA and executive agencies have decades of experience in evaluating the costs and benefits of health, safety, and environmental regulations. The MRR supplements but does not supplant the use of well-developed analytical tools to assess the non-revenue costs and benefits of regulations.

We are now at a point where we can state the core insight of MRR: In a cost-benefit analysis of tax rules or regulations, (1) the net increase in revenue attributable to behavioral or reporting changes should be counted as a social benefit; (2) the revenue-related benefits should be added to any non-revenue-related benefits of the regulation; (3) the total social benefits (revenue-related and non-revenue-related) should be compared with the total social costs, including administrative and compliance costs; and (4) changes in taxes paid by inframarginal taxpayers (those who do not change their behavior or reporting) should be treated as transfers rather than as benefits or costs. If the total social benefits exceed the social costs, the regulation passes the cost-benefit test.

B. The Value of Government Revenue

The earlier analysis did not adjust the cost-benefit calculation for the social value of any change in tax revenue. It thus implicitly assumed that the value of that revenue in the government’s hands is the same as it is in the hands of taxpayers. We also did not adjust the analysis for distributional impacts — that is, how the regulation affects the rich versus the poor.

Tax regulations, more than other regulations, are likely to affect overall government revenue and the distribution of tax burdens. The very purpose of the tax law is to finance the government and to do so by imposing the burden in an appropriate manner. Although questions about the appropriate size of government and distributive issues are inevitably contentious, any cost-benefit analysis of tax regulations ultimately must deal with them because of their centrality to taxation.26

We provide a brief discussion of these issues here, outlining the implications of different approaches. We argue that the MRR is flexible enough to accommodate different views on the size of government and distributive matters, but also that one way to resolve them is to require tax-related cost-benefit analyses to separately state the efficiency, distributional, and revenue effects of the regulation. The MRR, under this approach, measures the efficiency effects. We provide a more complete discussion and a presentation of our own views on the proper treatment of transfers due to tax regulations in the online Appendix.27

For ease of exposition, we use the letter $g$ to denote the ratio of (1) the value of $1$ in the government’s hands to (2) the value of $1$ in private hands. If $g > 1$, the value of $1$ in the government’s hands is greater than the value of $1$ in private hands, and pure transfers from private parties to the government increase social welfare. If $g < 1$, the value of $1$ in the government’s hands is less than the value of $1$ in private hands, and pure transfers from private parties to the government reduce social welfare. Our earlier

26. In fact, many otherwise desirable tax regulations may seem to fail cost-benefit analysis if we look only at the efficiency effects and demand that the benefits outweigh the costs. The reason is that taxes create deadweight losses, and regulations that increase tax payments, as many do and should, will often increase deadweight loss. This is not true uniformly. For example, base-broadening regulations and regulations that sufficiently reduce administrative or compliance costs may on net be cost-benefit positive even if they increase tax payments.

treatment of transfers implicitly set \( g = 1 \), but we recognize that a range of values may be reasonable.

With that notation, we make four points:

First, the marginal revenue rule can be tailored to any value of \( g \). To do so, an analyst would calculate the sum of (1) the change in revenue resulting from behavioral and reporting changes and (2) the total change in revenue multiplied by \( g - 1 \). This approach would be consistent with the MRR’s instruction that revenue resulting from behavioral and reporting changes be treated differently in cost-benefit analysis than revenue resulting from pure transfers.

Second, setting \( g = 1 \) means that the MRR tells us whether a change to a regulation increases or reduces total resources available to society. The reason is that transfers between taxpayers and the government do not directly affect total resources, while changes in revenue resulting from behavioral or reporting responses do. By focusing only on the latter, the MRR measures whether a regulation changes total resources. That is, with \( g = 1 \), the MRR is a measure of the efficiency of a regulation.

Third, the implications of setting \( g \) at a value other than 1 are complex and depend on several empirical facts and normative views. For example, some have argued that revenue in the hands of the government should be valued differently than in the hands of taxpayers to account for the distortionary effects of taxation.\(^{28}\)

We might require \$1\) in the government’s hands to be worth more than \$1\) in the taxpayers’ hands because taxing income leads to deadweight loss. On this view, the only way to rationalize government spending is if \$1\) of government spending produces more than \$1\) of social benefits, because otherwise there would be no reason to impose a distortionary income tax rather than a lump sum tax. Another way to state the claim is that an additional \$1\) in the hands of the government can be used to offset \$1\) that otherwise would be raised through distortionary income taxation, thereby producing more than \$1\) of social benefit because of the deadweight loss that it avoids.

Our choice to have an income tax, however, reflects a balance between the distortions that it causes (such as reduced work effort and reduced savings) and the distributive benefits (that is, ensuring that those with a higher ability to pay will pay more taxes). The optimal income tax would be set such that the distortionary costs of an additional \$1\) of taxation precisely equal the distributive benefits. If those two effects were perfectly balanced, the value of \$1\) in the hands of the government would be \$1\).\(^{29}\)

Choosing a value of \( g \) other than 1 would reflect views on whether the current income tax appropriately balances the redistributive benefits with the efficiency costs. Some might think the tax system redistributes too much, in which case they would value \$1\) in the government’s hands at more than \$1\) because any additional government revenue could be used to reduce the distortionary effect of the income tax. Some might think the reverse, in which case they would value a \$1\) lump sum transfer from a private party to the government at less than \$1\) because they would prefer that revenue to be raised through a redistributive income tax instead.\(^{30}\)

Setting \( g \) at a value other than 1 simultaneously reflects views about the use of government revenue in addition to views about the optimal amount of redistribution. For example, some may think that there are valuable government projects that are not funded (such as improving infrastructure or schools). In that case, revenue is more valuable in the hands of the government than in the hands of taxpayers,

\(^{28}\) See Keen and Slemrod, supra note 22, at 135.


\(^{30}\) See Jacobs, supra note 29, at 21.
implying $g > 1$. Others may think that the
government routinely wastes money, pursuing
projects (for example, the infamous “bridge to
nowhere”\(^{31}\)) that produce benefits less than their
costs, implying $g < 1$.\(^{32}\)

We are not in a position to make those
judgments, which require empirical data as well
as normative choices arrived at by politically
accountable actors. One may believe, for example,
that the government does not redistribute enough
and that there are valuable but unfunded
government projects, but the implications for $g$
are unclear because the two beliefs point in
opposite directions. The same is true if one
believes that the government redistributes too
much and that it is too big — the implications for
the value of $g$ are ambiguous. Consequently, the
relevant actors — most likely Treasury and OMB
— need to carefully weigh the implications of a
choice of $g$. They may want to consider public
input into this question because it will have a
central effect on the cost-benefit analysis of tax
regulations.

Fourth, when making this choice, we suggest
that the transparency and stability of the resulting
cost-benefit analysis method be central
considerations. Transparency in cost-benefit
analysis makes agencies clearly state the effects of
their actions, allowing politically accountable
officials within the executive branch, members of
Congress, and the public to understand what
agencies are doing and to monitor their actions.\(^{33}\)
Transparency supports separately stating the
efficiency, distributional, and revenue effects of a
regulation rather than combining those effects
into a single measure. The MRR can be used to
estimate the efficiency effects by setting $g = 1$:
Only revenue changes resulting from behavioral
and reporting changes alter total resources. Any
other value combines efficiency effects,
distributional effects, and revenue effects.
Moreover, separately stating the efficiency and
distributional effects of a regulation is consistent
with Circular A-4. It instructs: “Your regulatory
analysis should provide a separate description of
distributional effects . . . so that decision makers
can properly consider them along with the effects
on economic efficiency.”

Under this approach, the MRR would be
estimated setting $g = 1$. The distributional and
revenue effects would be estimated the same way
that they are for tax legislation. Note that the
estimates of the distributional effects and revenue
effects of a regulation apply to all changes in
payments, including those resulting from pure
transfers as well as those resulting from changes in
behavior and reporting.

The stability of $g$ over time and across
administrations is also an important
consideration. Stability has several benefits. It
promotes transparency because it allows the
public to compare different cost-benefit analyses
over time. It promotes effective cost-benefit
analysis because analysts at Treasury, OIRA, or
other agencies would be using a single method
and could develop expertise in that method.
Stability also improves public confidence that tax
regulations are more than mere political choices.
Choosing a value of $g$ that promotes stability —
one that people with different views about
redistribution and the size of government might
agree on as a compromise — is therefore an
important goal.

In the online Appendix, we suggest that these
considerations, and other related arguments,
support choosing a value of $g$ equal to 1, but we
understand that not everyone will agree. Again,
the MRR is compatible with other values of $g$ that
should be chosen by the appropriate institutional
actors.

C. Extensions and Discussion

The earlier examples illustrated the logic of
the MRR using relatively simple cases. We
consider additional issues raised by, as well as
limitations on the use of, the MRR.

1. Information requirements.

The MRR approach relies on information that
the federal government can already generate or
could quickly develop the ability to generate.

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\(^{32}\) Note that a regulation that increases transfers from taxpayers to the
government will not necessarily affect total spending. That is because
the additional revenue may instead be used to reduce other taxes,
holding overall spending constant.

\(^{33}\) See Matthew D. Adler and Eric A. Posner, New Foundations of Cost-
OTA provides revenue estimates of tax legislative proposals. To implement the MRR, OTA can apply the same models to regulations. Although the MRR is not a revenue estimate because it ignores changes in revenue that do not result from behavioral and reporting changes, the relevant revenue estimating techniques should be the same. When, for example, OTA estimates the revenue that will be raised from a legislative enhancement of information reporting requirements, it considers (A) the revenue that will be raised from behavioral and reporting changes, and (B) the revenue that will be raised from the imposition of taxes and penalties on taxpayers whose behavior and reporting do not change. The MRR instructs Treasury and the IRS to count A but not B among the social benefits. Because Treasury already has the capacity to estimate $A + B$, it presumably can estimate $A$ alone. OIRA could develop a similar expertise to review Treasury’s cost-benefit analysis, either by using OTA’s models or by developing its own.

The MRR also requires information about compliance and administrative costs. Treasury may now have less of this information because it is not required for the agency’s revenue estimating function. Information on compliance costs may be particularly hard to estimate because compliance costs are private costs, which are not normally reported to the government. Any cost-benefit analysis of tax regulations, however, would also need this information, as would any reasonable alternative to cost-benefit analysis, because the compliance cost effects of regulations are central to their evaluation. Indeed, a virtue of requiring cost-benefit analysis of tax regulations is that it will promote collection and consideration of how regulations affect compliance and administrative costs.

2. Discrete choice.

The earlier examples all considered cases in which taxpayers could choose freely among a set of options, such as hours worked or the amount of income to report. Many choices, however, are discrete. For example, many people will be unable to set their work hours. Instead, they can choose to work or not. Similarly, in a case we discuss later, corporations must choose to either invert (that is, to move their domicile to another country) or keep their domicile in the United States. They cannot invert just a little bit.

Our analysis extends to cases in which taxpayers face discrete choices as long as there are many taxpayers subject to the changed regulation. If many taxpayers are subject to the changed regulation, some will be on the border between the two choices, evenly balanced between the two. Others will be inframarginal, with a clear choice between the two options. The change in the regulation will cause marginal taxpayers — those who were evenly balanced between the two choices — to shift their behavior while not affecting inframarginal taxpayers’ behavior.

We can apply the same analysis as earlier to understand the costs and benefits of these effects. Those who were on the margin and shift their behavior as a result of the regulation experience no loss in welfare, but their tax payments will change. The MRR applies to those changes in revenue. Inframarginal taxpayers may pay more or less taxes because of the changed regulation. Those changes are just transfers.

To illustrate: Imagine that there are many taxpayers, each choosing between working full-time in the formal sector and not working at all. A taxpayer at the margin is indifferent between the two options. A change to a regulation that nudges the marginal taxpayer from not working to working has no effect on that taxpayer’s utility but generates a social benefit equal to the amount of revenue raised. Those whose behavior is unchanged by the new regulation — either because they were working full-time already and continue to do so or because they were not working at all and continue not working — may pay more or pay less tax, but those changes in tax payments are transfers and do not count in the cost-benefit analysis of the regulation.

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35 See id. at 269.
36 In theory, agencies already are required to produce some of this information to comply with the Paperwork Reduction Act, 44 U.S.C. sections 3501-3531, although that obligation is often honored in the breach. See Government Accountability Office, “Paperwork Reduction Act: Agencies Could Better Leverage Review Processes and Public Outreach to Improve Burden Estimates” (July 2018).
The same logic applies when each taxpayer chooses between working full-time in the informal sector and working full-time in the formal sector. The taxpayer at the margin is one for whom the two options are equally attractive, and thus a shift from informal-sector labor to formal-sector labor leaves the marginal taxpayer just as well off as before. And the same applies to inversions: The corporation at the margin is the one for which inverting and not inverting are equally attractive. A shift toward not inverting leaves that corporation indifferent but may raise revenue.

3. More than one margin.

In the earlier examples, we considered regulations that affected only one choice, such as the choice to work in the formal or informal sector or to report or not report income. Many regulations, however, will affect more than one margin. For example, as we discuss in greater detail later, rules regulating corporate inversions directly affect the choice to invert or not, but they may also affect the choice to incorporate in the United States in the first place. And beyond the inversion example, a rule designed to eliminate a particular tax shelter will cause taxpayers to shift away from that shelter but may also cause taxpayers to shift toward other shelters.

If a regulation affects more than one margin, the MRR should be applied to each. The logic of the MRR — that those who shift behavior have no change in their utility but do change their tax payments — applies equally to each decision when a regulation affects more than one decision. The full MRR is simply the sum of the MRR as applied to each margin.

4. Multiple tax bases.

Changes to tax regulations may cause taxpayers to switch their activities to different tax bases, such as from operating in a corporation to operating in a partnership. The MRR treats those changes as behavioral changes that affect real resource use. The net revenue increase (decrease) from taxpayers at the margin is a social benefit (cost).

To illustrate, consider a taxpayer who works 10 hours at $100 an hour as an employee of an enterprise. Assume that employees face a tax rate of 30 percent, such that this taxpayer pays $300 in total tax. Assume as well that the employee could rearrange her affairs to qualify as an independent contractor and would thereby become eligible for a lower passthrough rate (for simplicity, say a 20 percent rate). By doing so, she would save $100 in taxes. However, qualifying as an independent contractor would entail a real resource cost of $100, so the taxpayer is indifferent between the two options.

Now imagine that a new regulation makes it slightly more attractive for the taxpayer to switch from an employee to an independent contractor. Because the taxpayer was indifferent between the two options before, the switch has no first-order effect on her utility. Society, however, is $100 worse off because of the switch because the government now collects $100 less in taxes. The MRR treats the reduction in revenue as a social cost.

5. Non-marginal changes to the law.

The logic behind the MRR has implicitly assumed that the relevant change to the tax law was small. This assumption lay behind the argument that there are no direct effects on the welfare of marginal taxpayers who shift their behavior because of the change. Most regulatory changes are indeed small enough that the MRR is a reasonable estimate of the costs and benefits. Even the most important regulations are modest in comparison with the overall economy and the size of the tax system. Indeed, as explained in Section V.C, we think the MRR reasonably captures the costs and benefits of one of the largest regulatory changes in recent memory: the 2016 regulations restricting corporate inversions.

Even if a regulatory change is large enough to have a first-order effect on the utility of taxpayers who shift their behavior or reporting practices, the MRR can shed light on the regulation’s costs and benefits. To illustrate: Imagine that the tax rate is 30 percent and that a large regulatory change significantly increases the cost of

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37 We thank Michael Schler for suggesting this example to us.
38 If the lower rate for independent contractors prompts the individual to work more hours, the taxes that she pays on those additional hours of work should count as a social benefit. For a further explanation, see Hemel, Nou, and Weisbach, “Cost-Benefit Analysis of Tax Regulations: A Case Study,” Medium: Whatever Source Derived (July 27, 2018).
sheltering income (for example, by raising the penalty for failure to report or by making detection more likely). The taxpayer previously at the margin between reporting and not reporting an additional $100 item of income will now choose to report. That switch will have no first-order effect on the marginal taxpayer’s utility, so the additional $30 of taxes collected from that taxpayer should count as a social benefit, according to the MRR. But the regulatory change may also affect the decision of a previously inframarginal non-reporter — for example, a taxpayer who could shelter an additional $100 item of income for a cost of only $29. If that taxpayer switches from not reporting to reporting as a result of the regulatory change, revenue increases by $30 but the taxpayer’s utility decreases by $1. The net social benefit thus is not $30 but $29 (the $30 in additional revenue minus the $1 loss of utility for the taxpayer). In this case, the MRR gives us an upper-bound estimate of the social benefit of the resulting revenue increase.

For large regulatory changes that lead to shifts in the opposite direction, the analysis is symmetrical. Imagine the same setup as before except that now the regulatory change significantly reduces the penalty for failing to report or significantly reduces the probability of detection. Now, the regulatory change may affect the decision of a previously inframarginal reporter — for example, a taxpayer who would have been indifferent between sheltering an additional $100 item of income and paying a tax of $31. If that taxpayer switches from not reporting to reporting as a result of the regulatory change, revenue falls by $30 but the social loss is $31. In that case, the MRR gives us a lower-bound estimate of the social cost of the resulting revenue reduction.


The MRR requires taxpayers to be at the margin between different activities so that making a small change in behavior has no first-order effect on their utility. In some cases, a taxpayer may be doing as much of, or as little of, an activity as possible and therefore is not indifferent between one more or one fewer unit of that activity. A regulation that causes the taxpayer to shift away from his previous choice of activities may have first-order effects on his utility. The logic of the MRR does not apply in this context.

For example, suppose a taxpayer shelters all of a particular type of income and that a new regulation is issued that forces him to report some or all of that income. The shift in his behavior — reporting income — will reduce his utility because previously he was not indifferent between reporting and not reporting.

The extent to which there are corners depends in part on how one defines the relevant activity. A taxpayer engaging in, say, a tax shelter of type 1 may not engage in any of type 2 and therefore could be said to be in a corner. But if we think of that taxpayer as optimizing tax sheltering more generally, he would be indifferent between a little bit more sheltering and a little bit less. We suspect that in most cases, estimates of the MRR can be made workable using approaches like this.


Finally, note that the MRR applies to any regulation that affects tax collections, not just to tax regulations. For example, a regulation that reduces or increases employment may affect the taxes paid on earnings. To illustrate, consider a regulation that reduces employment-related expenses by making commuting less costly. Some individuals who previously did not work will now decide to work. Because they were on the margin before the enactment of the new regulation, they are indifferent after the new regulation but now pay additional taxes. The MRR applies to those individuals: The regulation generates a net social benefit that should be included in its cost–benefit analysis even though it is not a tax regulation. As earlier, the net increase in revenue resulting from behavioral changes should be added to other non-revenue-related social benefits (for example, environmental benefits from a regulation that makes public transportation more attractive than commuting by car, or health benefits from a regulation that makes bicycle commuting more attractive than other alternatives). Those social benefits should then be compared with the regulation’s social costs.
IV. Evaluating Alternatives

While we think that the MRR is the appropriate way for cost-benefit analysis to account for revenue effects in most tax regulatory contexts, it is not the only possible approach. Here, we evaluate two alternatives: one that focuses on the marginal benefit of public projects, and a second that applies a cost-effectiveness analysis approach. We explain why we believe the MRR is preferable to both those alternatives.

A. Marginal Benefit of Public Projects

The marginal benefit of public projects (MBP) refers to the net social value of an additional dollar of government expenditures. The MBP is the spending-side analogue to the marginal cost of funds (MCF), which refers to the net social cost of raising an additional dollar of government revenue. The MBP approach posits that the government should raise revenue up to the point at which the net social benefit of an additional dollar of public spending equals the net social cost of raising an additional dollar through taxation or other instruments.

As applied to the cost-benefit analysis of tax regulations, the MBP approach would account for revenue raised as a result of regulatory actions by multiplying the increase in revenue by an estimate of the MBP, and then by including the direct cost to taxpayers on the cost side of the ledger. For example, if the MBP is 1.25, a regulation that raises an additional $100 million of revenue would yield a benefit of $125 million, plus any non-revenue benefits that the regulation generates (for example, health benefits of a cigarette tax, or environmental benefits of a gas tax). Those benefits would then be weighed against the $100 million direct cost to taxpayers, plus administrative costs, compliance costs, and other social costs of the regulation.

Although the apparent simplicity of the MBP approach might seem attractive, it suffers from serious flaws. First and foremost, the MBP approach fails to capture the real social benefits of behavioral and reporting changes that result in greater revenue. As emphasized in Section III, when a taxpayer at the margin between not reporting and reporting an additional item of income shifts toward reporting, the resulting revenue increase is a pure social benefit, even when the marginal social value of an additional dollar in the government’s hands equals the marginal social value of an additional dollar in private pockets. And so too when a taxpayer at the margin from informal-sector to formal-sector work or from leisure to labor. To treat these reporting and behavioral changes the same way as mechanical transfers from taxpayers to the government would be to miss the fact that from a social welfare perspective, they are not the same.

Moreover, the MBP approach treats mere transfers from taxpayers to the government as having positive net value: $1 taken from a taxpayer and given to the government is, under the numbers we used earlier, worth $1.25. This is inconsistent with the approach of Circular A-4. It also has a strong ideological valence: It implies that additional government spending improves social welfare, which is not a view that all administrations will share.

Finally, the net social value of an additional dollar of government spending is virtually impossible to estimate. If the federal government raised an additional dollar, or an additional $100 million, what would Congress do with the extra funds? Would it cut taxes (and if so, which taxes, and on whom)? Would it increase spending (and if so, on what)? Would it reduce the deficit (and if so, what is the social benefit of debt reduction)? Will the answers to these questions change based on the partisan alignment of the executive and legislative branches (that is, should Treasury, the IRS, and OIRA use a lower estimate for the MBP when Congress is controlled by the opposition party and when the president thinks that Congress’s spending priorities are warped)? As noted earlier, this would undermine the policy stability benefits of cost-benefit analysis and entangle cost-benefit analysis in ideological battles.

B. Cost-Effectiveness Analysis

A second alternative to the MRR is cost-effectiveness analysis. Under this approach, the analyst takes as given an objective (that is, transfer

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$X from A to B) and then seeks to identify the least socially costly means of achieving that objective.  
Circular A-4 explains that “cost-effectiveness analysis is designed to compare a set of regulatory actions with the same primary outcome.”
Imagine, for example, that Congress decides to distribute $100 million to victims of a terrorist attack. Cost-effectiveness analysis would seek to determine the most efficient way of moving $100 million from government coffers to the intended beneficiaries, without second-guessing Congress’s decision to engage in that transfer. Cost-effectiveness analysis of tax regulations might proceed along similar lines.

Executive Order 12866 and the April 2018 memorandum of agreement mandate that Treasury and the IRS apply cost-benefit analysis, and cost-effectiveness analysis is not at all the same as cost-benefit analysis. A regulation may be the most effective way to achieve a given goal, but it may still fail cost-benefit analysis because achieving that goal, even through the best way possible, may produce costs that are greater than the benefits. Resorting to cost-effectiveness analysis might be warranted when there is no feasible procedure for performing cost-benefit analysis, but as we showed earlier, cost-benefit analysis of tax regulations is straightforward in most circumstances.

Moreover, resorting to cost-effectiveness analysis does not help regulators weigh the benefits of additional revenue-raising against administrative costs, compliance costs, and other social costs. Circular A-4 itself reflects this point. While noting that “cost-effectiveness analysis can provide a rigorous way to identify options that achieve the most effective use of the resources available without requiring monetization of all of relevant benefits or costs,” it goes on to warn that cost-effectiveness analysis “becomes more difficult to interpret” when “there is more than one measure of effectiveness to incorporate in the analysis.” For example, Treasury may have a choice between a regulatory option that raises the most revenue and a regulatory option that does the most to reduce administrative and compliance costs. Cost-effectiveness analysis offers no guidance on how to evaluate those trade-offs.

To illustrate: The Tax Cuts and Jobs Act (P.L. 115-97) added section 199A, which provides a 20 percent deduction for the qualified business income of some passthrough businesses (that is, partnerships, S corporations, and sole proprietorships). The law states that qualified business income does not include income from performing services as an employee or “reasonable compensation paid to the taxpayer by any qualified trade or business for services rendered.” The law also states that Treasury “shall prescribe such regulations as are necessary to carry out the purposes of this section, including regulations for requiring or restricting the allocation of items and wages.”

These provisions have given rise to the question: Should Treasury require partnerships and sole proprietorships to pay a reasonable wage to partners-proprietors who provide services to the partnership-proprietorship? (Treasury already imposes a similar requirement for S corporation shareholders.) The text and legislative history of new section 199A are largely silent on this. Clearly, a regulation requiring partnerships and sole proprietorships to pay a reasonable wage to their service partners-proprietors will raise revenue because it will reduce the amount of income eligible for the 20 percent deduction. Just as clearly, a regulation that explicitly exempts partnerships and sole proprietorships from the requirement to pay a reasonable wage to their service partners-proprietors will reduce administrative and compliance costs because it will avoid entangling taxpayers and the IRS in fact-intensive disputes over what wage should be considered reasonable. To say that Treasury should choose the more cost-effective option still requires it to weigh the revenue-related benefits of a reasonable wage requirement against the various costs.

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41 Circular A-4, at 10-11.
42 Id. at 11-12.
43 Section 199A(c)(4) and (d)(1)(B).
44 Section 199A(l)(4).
45 Proposed regulations published by Treasury and the IRS in August do not extend the reasonable wage requirement to partnerships and sole proprietorships. See REG-107892-18.
The MRR, by contrast, does provide regulators with guidance. The MRR instructs that the social benefit of revenue generated by a reasonable wage requirement is equal to the net increase in revenue resulting from behavioral or reporting changes. There are at least three ways in which a reasonable wage requirement would affect taxpayer behavior and reporting. First, by reducing the tax benefit of earning qualified business income, it would cause more taxpayers to work as employees (who are ineligible for the qualified business income benefit) rather than independent contractors (who generally are eligible). Second, by reducing the benefit of being a partnership or sole proprietorship relative to a C corporation, the regulation would cause more enterprises to organize as C corporations rather than as partnerships or sole proprietorships. Third, by increasing the effective tax rate on partnerships and sole proprietorships, it would cause participants in those enterprises to work less, invest less, and report less. The MRR directs Treasury, the IRS, and OIRA to count the net increase in revenue from taxpayers who respond along these margins as a social benefit; that benefit, along with any non-revenue benefit, can then be compared with the total social cost. The MRR offers a tractable analytical framework when cost-effectiveness analysis does not.

A final problem with cost-effectiveness analysis is choosing the goal to be achieved in the most cost-effective manner. The results of a cost-effectiveness analysis will depend on whether the goal is framed broadly or narrowly. At the broadest level, Treasury could seek to raise a given amount of revenue in the most cost-effective manner (for example, the most cost-effective way to raise $3.3 trillion). More narrowly, Treasury could seek to raise a given amount of revenue from a particular set of taxpayers or a particular type of entity in the most cost-effective manner (for example, the most cost-effective way to raise a specified sum from C corporations). Or Treasury might set an even narrower goal of taxing a particular type of transaction in the most cost-effective way (for example, the most cost-effective way to raise a given amount of revenue from corporate mergers and acquisitions). Or it might seek to find the most cost-effective way to pursue a very particular goal of a code section or subsection (for example, the most cost-effective way to allow tax-free reorganizations). Each of these approaches will likely yield different results. Cost-effectiveness analysis provides no way to determine the level of generality at which the overarching goal should be chosen.

V. Applications
This section illustrates the application of the MRR through three examples: a proposal to adjust the reporting threshold for winnings from specific gambling activities, the centralized partnership audit rules adopted by Treasury and the IRS in January, and regulations addressing corporate inversion transactions. These examples show that the MRR can guide cost-benefit analysis for a wide range of tax regulatory actions.

A. Winnings From Bingo, Keno, and Slots
Section 6041 provides that all persons engaged in a trade or business who make payments to another person of $600 or more in a year shall (with some exceptions not relevant here) file an information return with the IRS reporting the amount of the payment and the name and address of the recipient. Since 1977 Treasury and the IRS have set higher reporting thresholds for payments of winnings from bingo, keno, and slot machines ($1,200 for bingo and slot machines, $1,500 for keno). In 2015 Treasury and the IRS requested comments from the public regarding the possibility of repealing those higher thresholds and requiring information returns for all payments of $600 and above. Several commentators suggested that the regulations could reduce casino profits by more than $100 million a year. Under the new Treasury-OMB memorandum of agreement, that regulation could thus be considered economically

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46 T.D. 9829.
47 REG-132253-11, 80 F.R. 11600, 11601 (Mar. 4, 2015).
significant. (Treasury and the IRS ultimately decided not to modify the reporting thresholds.49)

The MRR provides a practicable framework for quantifying the costs and benefits of lower reporting thresholds for bingo, keno, and slot machine winnings. Taxpayers with bingo, keno, and slot machine winnings include inframarginal evaders (that is, those who will not report winnings regardless of whether the casino files an information return, or who will report winnings but claim offsetting deductions for phantom losses), inframarginal compliers (that is, those who will report winnings honestly and pay taxes accordingly even if the casino does not file an information return), and marginal taxpayers (that is, those who will evade if the casino does not file a return but will comply if it does). The MRR instructs that the additional revenue raised from marginal taxpayers — those who shift from not reporting to reporting their bingo, keno, and slot machine winnings as a result of the regulation — be treated as a social benefit.

The social costs of the lower reporting threshold include the compliance costs borne by casinos in filing the returns as well as the administrative costs borne by the IRS in processing them. Although casinos may be able to pass some of those costs on to customers, if regulators agree with our argument that $1 should be weighted the same regardless of who holds it, these costs count the same whether borne by the casinos or by their customers. Distributional effects, although potentially relevant to the agency’s ultimate decision, should be stated separately.

The reporting regulations not only affect the decision of bingo, keno, and slot machine players to report their income but also may raise the effective tax rate on those activities compared with other gambling, and on gambling compared with other forms of recreation. This will cause some individuals to shift their behavior. The MRR applies to these shifts in behavior as well. For example, if people shift away from gambling, they may pay lower taxes because we tax gambling winnings but limit the deductibility of gambling losses. That reduction in taxes would reduce the benefit of the regulations.50

The regulations also may affect state revenues from gambling, either because they change participation in state-sponsored gambling or because they affect state revenue from taxes on gambling. Cost-benefit analysis does not differentiate who receives benefits and who bears costs, so changes to state revenues are counted under the MRR the same way as changes to federal revenue.

Finally, gambling activities may generate externalities — positive or negative — within and beyond the jurisdictions in which they occur.51 We take no position on the welfare effects of gambling apart from the revenue-related effects. The former would be included in the regulatory impact analysis in standard ways. The key point for our purposes is that there is no conceptual difference between non-revenue externalities arising from tax regulations and non-revenue externalities arising from other rules.

Treasury and the IRS already have — or can easily acquire — the ability to generate most or all of the estimates necessary for a comprehensive cost-benefit analysis of lower reporting thresholds for bingo, keno, and slot machine winnings. For example, in 1997 Treasury estimated that a separate proposal to impose new withholding obligations on casinos for bingo and keno winnings would raise $24 million in revenue over five years.52 While the 2015 request for comments focused on information returns rather than withholding obligations, the same tools used to generate revenue estimates in one context can be applied to the other. Data on the marginal cost of processing additional information returns already exist within Treasury and the IRS. And the challenge of calculating the compliance costs borne by the gambling industry is no more

49 See T.D. 9807.

50 Gains from wagering transactions are included in income for all taxpayers, but wagering losses are deductible only for individuals who forgo the standard deduction (and then only up to the extent of wagering gains). See section 165(d). Thus, for most taxpayers, the code’s treatment of wagering gains and losses amounts to a “heads I win, tails we tie” arrangement from the perspective of the federal fisc.


difficult than, for example, estimating the compliance costs borne by automobile manufacturers as a result of new safety regulations or the compliance costs borne by electric utilities as a result of new emissions standards. Beyond the challenge of translating revenue effects into welfare effects (a challenge that the MRR addresses), cost-benefit analysis of tax regulations poses no unique difficulties for the executive branch.

B. Centralized Partnership Audit Rules

While the previous example involved a regulatory action that Treasury and the IRS decided not to undertake, we also seek to illustrate the MRR’s application to rules that have been promulgated. A recent high-profile example is the centralized partnership audit regime regulations finalized in January. These rules come as part of a comprehensive change in the IRS’s approach to audits of partnerships, with important implications for the taxation of noncorporate business entities.

The passthrough system has presented the IRS with challenges in partnership audits. Before 2018, if the IRS determined through an audit that the partnership had understated its income, the agency would then have to initiate separate actions against each of the partnership’s members to collect back taxes. This proved to be especially cumbersome when a partnership had hundreds of members.

With the Bipartisan Budget Act of 2015 (BBA), Congress sought to streamline the assessment and collection of back taxes following a partnership audit. That law set out a centralized regime for partnership audits and adjustments, scheduled to take effect in 2018. Under the new centralized regime, the IRS can assess and collect taxes at the partnership level, even if the partners at the time of assessment and collection are different than the partners who failed to pay the proper amount in taxes. A partnership also has the option of pushing out the underpayment to its partners (that is, requiring the current partners rather than the partnership itself to pay back taxes). Either way, the IRS no longer needs to initiate separate deficiency proceedings against individual partners to collect back taxes.

Not all partnerships are subject to the new centralized regime. The BBA states that partnerships with 100 or fewer partners may elect out of the centralized regime if each of those partners is an eligible partner (an individual, C corporation, foreign corporation, S corporation, or estate of a deceased partner) and specified other conditions are met. Congress did not, however, specify all relevant details in the election-out provisions. For example, it arguably left some ambiguity on whether two partners who are married and file a joint return should be counted as two partners or one. Congress also gave Treasury authority to expand the definition of eligible partner to include additional entities such as trusts, which would mean that more partnerships would be able to elect out of the centralized regime.

The January 2018 regulations seek to fill in some of the details of the election-out regime. The new rules state, for example, that two spouses with separate interests in a partnership count as two partners for purposes of the 100-or-fewer threshold but that a second spouse who has only a community property interest in a first spouse’s partnership interest does not count as a separate partner. The new rules also state that despite several comments asking Treasury and the IRS to include trusts within the definition of eligible partners, partnerships with members that are trusts will not be eligible to elect out of the centralized regime. Other elements of the new rules specify the steps that a partnership must take when it elects out of the centralized regime (for example, whether the election can be made on an amended return, whether a partnership may revoke its election, whether the partnership must provide a taxpayer identification number for all partners, and so on). Treasury and the IRS have not explained whether — or why — these and

53 See T.D. 9829.
other choices in the new regulations are cost-justified.

Although these regulations are highly technical, their significance should not be understated. In tax year 2014, partnerships filed more than 3.6 million tax returns, and those returns represented more than 27 million partners.\(^6\) If the election-out procedures impose just a few extra dollars in compliance costs per partner, they would exceed the $100 million annual-economic-effect threshold necessary to trigger the requirement of a quantitative cost-benefit analysis under the April memorandum of agreement. Although it is not immediately clear whether the regulations exceed that threshold, it is certainly plausible that they could. If so, the MRR approach would provide the appropriate framework for evaluating the regulations’ costs and benefits.

A decision to expand the scope of the centralized regime (for example, to count spouses as two partners rather than one and thereby bring more partnerships above the 100-member threshold, or to prevent partnerships with trusts as members from electing out) affects revenue through several channels. First, an expansion of the centralized regime makes it easier for the IRS to collect back taxes and penalties from partnerships that have understated their liabilities in the recent past. Payments of back taxes and penalties certainly generate revenue — but not through behavioral or reporting changes. Thus, assuming regulators agree with our argument that the value of \(g\) should be set to 1, payments of back taxes and penalties should be considered transfers rather than net social benefits or costs. Second, partnerships that are subject to the centralized regime presumably will be at least somewhat less likely to evade taxes, given the higher probability that the IRS will be able to assess and collect back taxes and penalties. Insofar as the centralized regime raises revenue through a deterrence effect on partnerships that are subject to its provisions, that is an increase in revenue through behavioral or reporting changes. That additional revenue should be counted as a benefit for cost-benefit analysis purposes.

Expanding the scope of the centralized regime will not necessarily affect administrative costs. If the IRS devotes the same amount of resources to partnership audits and collections, its administrative costs will neither rise nor fall. But it will be able to conduct more audits overall because it will be able to collect back taxes and penalties more cost-effectively when a partnership-level audit reveals an understatement. That affects private sector compliance costs in two ways. First, by reducing the number of separate deficiency proceedings each time the IRS seeks to collect from a partnership and its partners, the centralized regime cuts private sector compliance costs. But second, because audits themselves impose compliance costs on taxpayers, an increase in the number of partnership audits under the centralized regime would raise private sector compliance costs. The net increase (or decrease) in compliance costs as a result of the regime should be counted as a social cost (or social benefit) of the new regime.

Finally, the centralized regime creates uncertainty for individuals and companies that join an existing partnership, because now they are potentially liable for back taxes and penalties from prior years. Some potential partners will invest resources in investigating the partnership’s Form 1065 filings from prior years. The cost of that investigation counts as a compliance cost. Others may purchase insurance to protect themselves against liability for understatements that occurred before they joined the partnership. The transaction costs associated with those insurance purchases also count as social costs of the new regime.\(^6\) Others may retain the risk of having to pay back taxes and penalties. The disutility that they experience from that risk (over and above the risk-neutral expected value of potential liabilities) also counts as a social cost.

OTA already has the ability to estimate the social benefits from changes in revenue resulting from the January 2018 regulations. It projected in

\(^6\) Note that the portion of insurance premiums that compensates the insurer for expected claims is not a social cost because it is simply the first step of the transfer from taxpayers to the government. Moreover, any economic rents that accrue to the insurer should be considered “within-private transfers” and not net social costs. See Chetty, supra note 21, at 44-45.
2015 that streamlined audit and adjustment procedures for partnerships — with an opportunity for partnerships having 100 or fewer members to elect out — would generate $2.407 billion in additional revenue over the following decade. That projection reflects subsidiary estimates of (1) the number of partnerships that will be subject to the regime, (2) the expected increase in revenue resulting from additional back taxes and penalties paid by those partnerships, and (3) the expected increase in revenue resulting from behavioral and reporting changes among those partnerships. Given those existing estimation capabilities, OTA presumably can produce estimates of the number of additional partnerships that will be subject to the centralized regime if, for example, spouses with separate interests are counted as two partners rather than one, as well as the revenue raised from those additional partnerships (separating transfers from revenue generated by behavioral and reporting changes).

On the other side of the ledger, OTA can rely on a convenient shortcut when estimating the compliance costs of an incremental expansion of the centralized regime’s scope. It can compare (A) the price of an interest in a partnership that is not subject to the centralized regime with (B) the price of an interest in an otherwise-equivalent partnership that is subject to the centralized regime and (C) the risk-neutral expected value of the additional back taxes and penalties to be paid for prior years by a partnership subject to the regime. The formula $A - B - C$ represents the reduction in the value of a partnership subject to the centralized regime that is not merely a transfer to the IRS. The increasingly liquid secondary market in private equity interests would allow OTA to compare prices for interests in partnerships above and below the 100-or-fewer threshold — in other words, to gauge the market’s estimate of $A - B$. That information, combined with the revenue-related estimates that OTA already has produced, would allow for a comprehensive cost-benefit analysis of the January 2018 regulations.

C. Corporate Inversion Regulations

A corporate inversion is a transaction in which a U.S.-based multinational corporation changes its tax residence to another country by merging with a smaller foreign company, thus avoiding U.S. tax on its worldwide income. The name “inversion” stems from the fact that in these transactions, the smaller foreign company technically acquires the larger U.S. corporation, so that the U.S. corporation takes on the foreign company’s tax residence. Although inversions date back several decades, their pace picked up in the 1990s, as a number of high-profile companies — including technological manufacturer Flextronics, consumer goods company Helen of Troy, security firm Tyco International, and underwear manufacturer Fruit of the Loom — all changed their tax residence to lower-tax jurisdictions (Singapore, Bermuda, Ireland, and the Cayman Islands, respectively). Fearful that these and other inversion transactions would erode the U.S. corporate income tax base, Congress responded in 2004 by adding an anti-inversion statute, section 7874, to the code.

Section 7874 imposes a tax — at the normal U.S. income tax rate — on the inversion gain of an expatriated entity. The term “expatriated entity” includes a U.S. corporation that is acquired by a foreign corporation if, after the acquisition, at least 60 percent of the stock of the combined entity is held by former shareholders of the U.S. corporation, unless the combined entity has substantial business activities in the foreign country where it is a tax resident. The term “inversion gain” refers to any income received by the expatriated entity because of transactions with foreign related persons in the 10 years following an inversion. A special rule applies when 80 percent or more of the stock of the combined entity is held by former shareholders of the U.S. corporation. In that case, the inversion is disregarded altogether, and the combined entity

65 Section 7874(a).
66 Section 7874(d)(2).
continues to be treated as a U.S. corporation subject to U.S. tax.\textsuperscript{67}

The enactment of section 7874 in 2004 temporarily slowed the pace of inversions. By 2012, however, their number reached an all-time high.\textsuperscript{68} Treasury responded with a series of notices and temporary regulations, none of which stemmed the tide.\textsuperscript{69} Then, in April 2016, Treasury issued a broad set of regulations seeking to strengthen the section 7874 regime and to limit the tax benefits from corporate expatriations.

These regulations came in two pieces. The first was a set of regulations that targets groups that have engaged in a series of inversions or acquisitions (so-called serial inverters) and that also restricts post-inversion asset dilution (a technique for inverted corporations to avoid U.S. tax).\textsuperscript{70} The second was a set of regulations aimed at earnings-stripping transactions.\textsuperscript{71} These latter regulations characterize some forms of related-party debt as equity, reducing interest deductions by U.S. corporations. The two sets of regulations were finalized at different times and therefore would have been subject to separate cost-benefit analysis. We focus here on the first set, those focused directly on inversions, leaving aside the debt-equity regulations.

The inversion regulations were complex, and a complete examination of their details is beyond the scope of our inquiry. A full cost-benefit analysis of these regulations would have to delve into the details. For our purposes of demonstrating the MRR, we can think of the regulations as broadly raising the costs of inverting, and then we can analyze the costs and benefits of that general approach.

The regulations have effects on multiple margins. Each margin should be analyzed using the MRR: In each case, we want to know how the regulations affected tax payments by marginal taxpayers and how they changed overall compliance and administrative costs (for everyone, not just marginal taxpayers).

The first, and most central, margin is that the regulations made it more difficult for companies to invert. After the regulations were issued, several companies that had previously announced inversions either canceled them or changed their plans. Those marginal taxpayers included, most prominently, Pfizer, which canceled its intended merger with Allergan, an Irish company. The Congressional Research Service reports that acquisitions of U.S. companies by foreigners, which rose substantially in 2015, fell by 15 percent in 2016. Focusing on countries associated with inversions, such as Ireland, merger volume fell from $176 billion in 2015 to $35 billion in 2016.\textsuperscript{72}

Nevertheless, some companies decided to invert despite the new regulations. These inframarginal inverters include biopharmaceutical company Baxalta, which merged with Shire (an Irish company); electronics manufacturer Johnson Controls, which merged with Tyco (a previously inverted company now based in Ireland); and Burger King, which merged with Tim Hortons (a Canadian-based chain specializing in coffee and donuts).

Most corporations are inframarginal non-inverters — that is, they will retain U.S. tax residence even in the absence of the anti-inversion regulations. For example, the CEO of U.S.-based pharmaceutical company Merck said in September 2014 that his company would not pursue an inversion transaction because “the size of transactions that would make [Merck] eligible for an inversion” would be inconsistent with the company’s strategy of buying smaller companies based on their commercial and scientific potential.\textsuperscript{73}

The MRR treats the additional corporate taxes paid by those who otherwise would have inverted but did not as a gain. This is based on the assumption that for the marginal inverters, the

\textsuperscript{67}Section 7874(b).

\textsuperscript{68}Michelle Clark Neely and Larry D. Sherrer, “A Look at Corporate Inversions, Inside and Out,” The Regional Economist, at 1, 2, and fig. 2 (1st quarter 2017).


\textsuperscript{70}T.D. 9761.

\textsuperscript{71}REG-108060-15; T.D. 9790.


benefits of inversion approximate the costs. Those costs include additional foreign taxes, transaction costs associated with a multinational merger, and the cost of integrating the U.S. and foreign companies after the inversion. For a company at the margin between inverting and not inverting, these benefits and costs roughly balance, so cost-benefit analysis can focus on the net increase in revenue. Note, though, that insofar as the regulation results in more revenue from inframarginal inverters (for example, because those companies now must pay the special tax on inversion gain), that revenue should be considered a transfer rather than a net social benefit or cost.

The second margin affected by the regulations is the choice of where to incorporate. By reducing the opportunity for inversions, the regulations increased the effective tax rate on U.S. corporations. As a result, some new businesses that might otherwise have incorporated in the United States will incorporate elsewhere. That is, if you are a new business and you now know that you will be unable to invert in the future, you might incorporate abroad from the start so that you never need to invert. Revenue losses from that shift away from U.S. incorporation should be counted as a cost of the regulations.

The inversion regulations may affect revenue through other channels as well. For example, they will change the market for corporate control, favoring domestic purchasers and large foreign purchasers over smaller foreign companies seeking to acquire U.S. businesses. The regulations also may encourage some U.S. corporations to slim down so that it is easier for them to invert in the future. And by shutting down one strategy for reducing taxes, the inversion regulations make other strategies relatively more attractive.

The MRR adds up the revenue effects from these various margins. The net benefit must then be reduced by any increase in compliance costs because of the regulations (or increased by any reduction in compliance costs). Note that because the MRR assumes that marginal taxpayers are roughly indifferent between the two relevant alternatives (here, not inverting versus inverting), the nontax costs of inversions — such as transaction costs associated with a merger — need not be accounted for separately. Those costs are, by hypothesis, equal to the revenue raised from behavioral changes; to count transaction cost savings as a social benefit would amount to double-counting.

The inversion regulations will likely have effects in foreign countries as well. For example, by reducing inversions, the regulations may reduce tax revenue received by foreign governments. Circular A-4 is ambiguous on how to treat effects in foreign countries. Although this is important, it is not a tax-specific problem and thus does not demand a tax-specific solution. Regulations in many contexts have cross-border effects.

Again, the inputs into a cost-benefit analysis of these regulations lie within Treasury’s existing estimation capabilities. OTA has on prior occasions produced revenue estimates of other changes to inversion rules, such as a legislative proposal under the Obama administration that would have lowered the 80 percent threshold under section 7874 to a 50 percent threshold (that is, it would have applied U.S. corporate income tax to the worldwide income of any entity formed through the merger of a U.S. corporation and a foreign corporation if, after the merger, more than 50 percent of the stock in the combined entity were held by former shareholders of the U.S. corporation). OTA estimated that the proposal would generate $13.39 billion in additional revenue over the next decade. OTA presumably can apply the same method that it used to estimate the revenue effects of that proposal when

76See Pfizer, “Historical Price Lookup” (compare closing price on April 4, 2016, with opening price on April 5, 2016). The company’s shares rose an additional 5 percent on the day that Pfizer and Allergan officially called off the deal. See Nathan Boney and Kevin McCoy, “$160 Billion Pfizer, Allergan Inversion Scrapped,” USA Today, Apr. 6, 2016.
77See fiscal 2017 green book, supra note 34, at 28.
78Id. at 265.
estimating the various revenue effects (positive and negative) of the 2016 anti-inversion regulations. After separating the revenue effects from behavioral changes and the revenue effects from inframarginal inverters, OTA would have almost all the inputs to the cost-benefit calculation outlined earlier.\textsuperscript{79}

VI. Conclusion

Treasury and the IRS will have to continue to prepare regulatory impact analyses for economically significant tax regulations subject to OIRA review under the April 2018 framework. In doing so, they will have to decide how to account for the revenue effects of tax regulations within a cost-benefit analysis framework. The MRR offers a solution: Net increases in revenue resulting from behavioral and reporting changes should be counted as social benefits, while additional revenues raised from inframarginal taxpayers should be treated as transfers that do not change the total resources available to society. Revenue-related benefits estimated according to the MRR should be added to non-revenue social benefits of the regulation, and those benefits should be weighed against the administrative costs, compliance costs, and other social costs that the regulation is expected to generate.

The MRR is consistent with the principles underlying Circular A-4, the document that has guided agencies in their preparation of regulatory impact analyses for the past 15 years. It allows Treasury, the IRS, and OIRA to avoid ideologically contentious questions about the desirability of additional government spending, it leverages revenue estimating capabilities that already exist within the federal government, and it is firmly rooted in economic theory. Moreover, as illustrated by the applications discussed in this report, it is a practicable approach that Treasury, the IRS, and OIRA can implement. A range of recently contemplated and promulgated regulations — including actions related to the reporting of gambling winnings, centralized audits of large partnerships, and the tax treatment of corporate inversion transactions — are candidates for analysis under the MRR.

Treasury and the IRS should adopt the MRR explicitly. The Internal Revenue Manual’s instructions to IRS drafting teams regarding regulatory impact analyses would be an appropriate vehicle for the agency to convey this guidance.\textsuperscript{80} OIRA could assist Treasury and the IRS by issuing a memorandum announcing that it will apply the MRR in its review of tax regulations. With those measures, Treasury, the IRS, and OIRA can help ensure that cost-benefit analysis serves as a useful aid in the development of tax regulatory policy.

\textsuperscript{79} In July Treasury issued rules that finalized some temporary elements of the April 2016 inversion regulations. In the preamble, Treasury said that “given the limited nature of the changes made by these final regulations,” the final regulations “are not economically significant under Executive Order 12866.” T.D. 9834, 83 F.R. 32524, at 32532 (July 12, 2018).

\textsuperscript{80} See IRM section 32.1.5.4.7.5.3.