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## MARIJUANA TAXATION: THEORY AND PRACTICE

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### ABSTRACT

*Marijuana legalization creates a host of complex legal problems, not the least of which is how to best tax the emerging legal market. This Essay attempts to bridge the gap between tax theory and marijuana policy to make some modest claims. First, it roots the discussion of state-level marijuana taxation in the theoretical distinction between ordinary revenue-raising taxes and “Pigouvian” or regulatory taxes. It makes the somewhat controversial claim that the best taxing strategy for states is to attempt to capture as much of the marijuana legalization premium as possible without driving consumers into the illegal market and that other Pigouvian policy concerns are likely to be less important. Second, it roots the discussion of federal taxes in the many factors that will change if federal prohibition ends, again recognizing the importance of possible additional legalization surplus if marijuana is legalized at the federal level. It concludes that the most pronounced difficulty at both levels of taxation is ensuring that excessive taxes do not stymie efforts to move consumers out of the existing illegal market and into the newly regulated legal market while keeping taxes high enough to capture the majority of the legalization surplus.*

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## INTRODUCTION

On April 9, 2014, the radio show (and podcast) *Planet Money* ran a story about a “fun, wonky question[]”: What is the best way to tax marijuana?<sup>1</sup> In the introduction to this four-minute piece, *Planet Money*’s host, Jacob Goldstein, promised that after listening to the episode, “you will be able to design a tax on marijuana.”<sup>2</sup> Needless to say, that claim was hyperbolic.<sup>3</sup> Designing a good tax on marijuana is actually an extremely challenging undertaking. A more accurate summary of the difficulty of designing a marijuana tax was provided by Pat Oglesby, the leading expert on marijuana taxation: “We don’t know the best way to tax marijuana, and even if we knew at first, that way would soon prove wrong.”<sup>4</sup>

I make no claim that after reading this Essay you will be able to design a tax on marijuana.<sup>5</sup> Instead, I hope to provide a very brief theoretical basis to discuss two major topics in the design of a marijuana tax. The first topic is relevant to designing a state tax on a newly legalized and regulated marijuana industry. The second topic relates to federal attempts to revise (or not) its current taxation of marijuana sales, especially if federal law is changed to decriminalize marijuana.

Part I discusses the design of a state marijuana tax. The conventional wisdom has it that there are two very different theoretical approaches to determining how much tax to apply to any particular behavior or transaction: “ordinary” revenue-maximizing taxes and so-called “Pigouvian” taxes.<sup>6</sup> All taxes increase the cost of the thing being taxed and therefore, at least theoretically, drive some actors away from that thing. Most voluntary transactions in a market economy increase overall social utility, so driving actors away from voluntary transactions

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<sup>1</sup> Planet Money, *Episode 530: Marijuana, Law School, and Centuries of Inequality*, NPR, at 0:42 (Apr. 9, 2014, 6:49 PM), <https://www.npr.org/sections/money/2014/04/09/301010519/episode-530-marijuana-law-school-and-centuries-of-inequality>. The story originally appeared as a segment on *All Things Considered*. All Things Considered, *What’s the Best Way to Tax Marijuana? It Depends on What You Want*, NPR (Nov. 22, 2013, 4:22 PM), <https://www.npr.org/blogs/money/2013/11/22/246743018/whats-the-best-way-to-tax-marijuana-it-depends-on-what-you-want> [<https://perma.cc/QLZ8-KTTP>].

<sup>2</sup> Planet Money, *supra* note 1, at 0:14.

<sup>3</sup> The episode was actually an excellent brief introduction to work by Jacob Goldin, who was then at Princeton University but is now an Assistant Professor at Stanford Law School. Planet Money, *supra* note 1, at 1:21. He discussed how consumers differentially respond to sales taxes applied at the cash register versus those built into the sticker price of goods. See, e.g., Jacob Goldin, Note, *Sales Tax Not Included: Designing Commodity Taxes for Inattentive Consumers*, 122 YALE L.J. 258, 260 (2012).

<sup>4</sup> Pat Oglesby, *Marijuana Taxes — Present and Future Traps*, 83 ST. TAX NOTES 391, 392 (2017) [hereinafter Oglesby, *Present and Future Traps*].

<sup>5</sup> In this Essay, I consistently use the term “marijuana,” despite its flaws, instead of “cannabis,” because the term marijuana generally applies to cannabis products that have historically been subject to state and federal prohibition.

<sup>6</sup> Pigouvian taxes are also called corrective or regulatory taxes. See, e.g., Victor Fleischer, *Curb Your Enthusiasm for Pigovian Taxes*, 68 VAND. L. REV. 1673, 1675 (2015).

generally decreases overall social utility.<sup>7</sup> The goal of ordinary revenue-maximizing taxes, then, is to raise revenue while decreasing participation in the transaction as little as possible.<sup>8</sup> Pigouvian taxes, on the other hand, are taxes that apply to transactions that *decrease* overall social utility, even though they are voluntary, generally because the transactions produce externalities.<sup>9</sup> In this case, decreasing participation in the transactions through taxes both raises revenue for the government *and* increases overall social utility by reducing participation in a harmful transaction.<sup>10</sup> Pigouvian taxes are a win-win from an efficiency perspective. While it is widely recognized that marijuana taxes may be ordinary or Pigouvian, explanations that bridge theory and practice are rare and sometimes misleading. I attempt an explanation, concluding that for the purposes of creating a taxing regime for a newly legalized marijuana market,<sup>11</sup> an ordinary analysis will generally be more important than a Pigouvian analysis.

Part II addresses federal marijuana taxes. The conventional wisdom is that the existing taxing regime under § 280E of the Internal Revenue Code (or “Tax Code”) is ludicrously bad policy and that it should be repealed or replaced with an alternative taxing regime.<sup>12</sup> Section 280E is a provision of the Tax Code that denies marijuana sellers the ability to deduct any ordinary business expenses (other than cost of goods sold) in calculating their taxable income.<sup>13</sup> It effectively turns the taxation of marijuana businesses into a (partial) gross receipts tax instead of an income tax.<sup>14</sup> It is better policy to replace § 280E with some sort of federal excise or sales tax on marijuana—especially if marijuana is legalized or decriminalized at the federal level. Here again, I attempt an explanation that grounds the discussion in tax policy theory.

## I. STATE TAXATION OF MARIJUANA BUSINESSES

### A. *Introduction to Tax Theory*

When an essay has a grandiose title, like “Marijuana Taxation: Theory and Practice,” it is probably best to start as close to the beginning as possible. So, what is the beginning of tax policy theory? Modern tax policy theory is grounded

<sup>7</sup> See N. GREGORY MANKIW, *PRINCIPLES OF MICROECONOMICS* 163 (5th ed. 2009).

<sup>8</sup> See Lawrence B. Lindsey, *Individual Taxpayer Response to Tax Cuts: 1982–1984*, 33 J. PUB. ECON. 173, 174 (1987) (“[T]he revenue maximizing rate provides an upper bound on the range of socially optimal tax rates.”).

<sup>9</sup> Fleischer, *supra* note 6, at 1687.

<sup>10</sup> *Id.* at 1683–84.

<sup>11</sup> This Essay refers to marijuana markets in states that have legalized and are regulating these markets as “legal” to distinguish them from marijuana markets that continue to be illegal under state law. Of course, all marijuana markets in the United States are federally illegal unless and until Congress changes federal law. See 21 U.S.C. § 812.

<sup>12</sup> See Benjamin Moses Leff, *Tax Planning for Marijuana Dealers*, 99 IOWA L. REV. 523, 532 (2014) [hereinafter Leff, *Tax Planning*] (noting the large impediment that I.R.C. § 280E poses to the legal marijuana industry).

<sup>13</sup> I.R.C. § 280E.

<sup>14</sup> Leff, *Tax Planning*, *supra* note 12, at 532–33.

in some very basic assumptions derived from classical economics. First, voluntary market transactions generally increase social utility.<sup>15</sup> Second, increases in price generally result in decreases in demand as some consumers at the margins substitute something for the transaction that has become more expensive.<sup>16</sup> Third, increases in price caused by taxation are different from increases in price caused by other sources, and therefore the reduction in demand caused by the increase in price is inefficient because it reduces overall social utility.<sup>17</sup> Fourth, some voluntary market transactions do *not* increase social utility, probably because of externalities.<sup>18</sup> Fifth, in those cases, taxes (called Pigouvian taxes) may increase social utility because the decline in demand caused by the increase in price is actually a good thing that increases efficiency rather than decreasing it.<sup>19</sup> This Section explains each step a little more fully.

The most basic assumption in any discussion of taxation is that imposing a financial cost on some activity affects the incentives of actors to participate in that activity.<sup>20</sup> So, for example, if the cost of producing marijuana goes up, that increase in cost will affect the supply curve and may result in less marijuana being sold depending on the shape of the demand curve. A tax is an example of a cost of production that is imposed by the government; the interaction of the supply curve and the demand curve will determine the extent to which a tax-induced increase in the cost of production will change the behavior of consumers and producers.<sup>21</sup>

Generally, this change in behavior is viewed negatively because a tax is likely to raise prices and drive out of the market the consumers who would like the good at the market price but are unwilling to pay for the good once the cost of the tax is added to the market price.<sup>22</sup> Thus, the tax results in a suboptimal distribution of the product. How much the tax affects behavior is an empirical question in each case. And it may be a very complicated one because it depends in each instance on difficult questions like the elasticity of supply and demand.<sup>23</sup> Of course, just because the tax decreases efficiency in the transaction does not mean that it is a bad thing in each case. If it were, taxation would have no economic justification. In fact, so long as the government uses the revenue it raises for something that increases social utility in excess of the loss of utility caused by the tax itself, then the tax is justified.<sup>24</sup> The trick is to raise as much

<sup>15</sup> E.g., MANKIW, *supra* note 7, at 147-50.

<sup>16</sup> *Id.* at 137-46.

<sup>17</sup> Jerry A. Hausman, *Taxes and Labor Supply*, in 1 HANDBOOK OF PUBLIC ECONOMICS 213, 244 (Alan J. Auerbach & Martin Feldstein eds., 1985).

<sup>18</sup> A.C. PIGOU, *THE ECONOMICS OF WELFARE* 222 (4th ed. 1932).

<sup>19</sup> *Id.* at 224.

<sup>20</sup> E.g., MANKIW, *supra* note 7, at 4-5.

<sup>21</sup> *Id.* at 123-27.

<sup>22</sup> *Id.* at 160-62.

<sup>23</sup> E.g., Shanjun Li, Joshua Linn & Erich Muehlegger, *Gasoline Taxes and Consumer Behavior*, AM. ECON. J.: ECON. POL'Y, Nov. 2014, at 302, 304 (using price elasticities to predict consumer response to gasoline taxes).

<sup>24</sup> Incidentally, this justification for taxation is also, plausibly, the justification for having

revenue for social-utility-enhancing government expenditures with the least possible taxation-caused inefficiency. That is, maximize the revenue raised with minimal distortion to market outcomes. This is the goal of what I have been calling ordinary revenue-maximizing taxation.<sup>25</sup>

Our most common taxes generally fall into this category of ordinary revenue-maximizing taxes. For example, taxes on labor income are generally believed to affect workers' choices of whether to work and earn money or, instead, not work and substitute leisure for labor.<sup>26</sup> While a thousand caveats are recognized, it is generally presumed that sufficiently competitive markets overall create labor/leisure choices that are good for the workers, their employers, and the overall society.<sup>27</sup> Taxes increase the cost of labor for employers, decrease the return on labor for workers, or both, thereby distorting the labor market to the detriment of both workers and employers.<sup>28</sup> This type of distortion is inevitable in almost all taxes, and again, good tax policy seeks to minimize its effect when possible.

However, at least since the philosopher/economist Arthur Pigou pointed it out, tax theorists have recognized that there are some cases in which a tax—rather than distorting the optimal market distribution—actually *improves* the efficiency of a transaction.<sup>29</sup> This improvement may be possible when the transaction includes externalities.<sup>30</sup> The efficiency of a market transaction depends on the idea that the costs of the transaction are internalized to the parties agreeing to a price. If there are costs that are not borne by the transacting parties, they are externalized to other noncontracting parties. In that case, those costs will not be considered in the transaction, and the quantity of the good produced will be above a socially optimal level. Some social actors will experience costs (or harms) created by the transaction, but because they are not parties to the transaction, they will not be compensated for their costs. Thus, the price will be too low to reflect the costs of producing the good, and so the transaction is inefficient.

Pigou argued that in externality-producing transactions, governmentally imposed taxes can be used to force the externalities to be internalized into the transaction.<sup>31</sup> If the taxes equal the cost of the externalities, then the transaction

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any government at all. Cf. PIGOU, *supra* note 18, at 224.

<sup>25</sup> See David Gamage & Darien Shanske, *Tax Cannibalization and Fiscal Federalism in the United States*, 111 NW. U. L. REV. 295, 311 (2017).

<sup>26</sup> See Hausman, *supra* note 17, at 240-43.

<sup>27</sup> See *id.* at 216.

<sup>28</sup> *Id.* at 244.

<sup>29</sup> PIGOU, *supra* note 18, at 223-25.

<sup>30</sup> *Id.*; see also Jonathan S. Masur & Eric A. Posner, *Toward a Pigouvian State*, 164 U. PA. L. REV. 93, 100 (2015).

<sup>31</sup> PIGOU, *supra* note 18, at 224 (“[F]or every industry in which the value of the marginal social net product is less than that of the marginal private net product, there will be certain rates of tax, the imposition of which by the State would increase the size of the national dividend and increase economic welfare; and one rate of tax, which would have the *optimum* effect in this respect.”).

will produce an efficient and therefore socially optimal result.<sup>32</sup> The most commonly used example of a Pigouvian tax is a tax on air pollution. Air pollution is a harm that is caused by certain behaviors and that is not fully absorbed by the participants in those behaviors. So, for example, when I burn gasoline, I cause air pollution that harms not only me and the gasoline producer (or retailer) but also all of my neighbors and fellow human beings around the globe. This harm accrues to all because of the interaction of carbon dioxide and global warming. Therefore, if the cost of gasoline were increased by the imposition of a tax, then the demand for gasoline would go down, better reflecting the aggregate social costs and benefits associated with my use of gasoline. If the tax could perfectly match the aggregate harm to all other parties from the use of gasoline, then the transaction—my purchase of gasoline—would be efficient because the external harms to others would be internalized into the price.<sup>33</sup>

Pigouvian taxes are therefore the holy grail of taxes, at least theoretically. They raise revenue for the government, which is presumably good if government expenditures improve social welfare. *And* they avoid the negative effect of other taxes because, rather than decreasing the efficiency of transactions by imposing nonmarket disincentives to transact at an optimal level, they increase the efficiency of transactions by internalizing at least some negative externalities. Contemporary popular Pigouvian tax enthusiasts, such as Robert Frank, laud Pigouvian taxes for “kill[ing] two birds with one stone, helping to bring government budgets into balance while discouraging activities that cause more harm than good.”<sup>34</sup>

#### B. *Implications of Theory for Marijuana Taxation*

The vast majority of scholars and commentators who have discussed taxes on marijuana have identified this tension between taxes meant to raise revenue and those meant to discourage consumption.<sup>35</sup> While marijuana policy

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<sup>32</sup> See, e.g., Masur & Posner, *supra* note 30, at 95 (explaining how Pigouvian taxes achieve socially positive results from activities with externalities); see also Dennis W. Carlton & Glenn C. Loury, *The Limitations of Pigouvian Taxes as a Long-Run Remedy for Externalities*, 95 Q.J. ECON. 559, 559 (1980) (criticizing Pigouvian taxes, but arguing that charging taxes equal to externalities in a lump sum rather than per unit will achieve optimal results).

<sup>33</sup> See MANKIW, *supra* note 7, at 211-14.

<sup>34</sup> ROBERT H. FRANK, *THE DARWIN ECONOMY: LIBERTY, COMPETITION, AND THE COMMON GOOD* 172 (2011).

<sup>35</sup> For example, a decade ago, Robert Mikos thoughtfully explained that a state tax on marijuana would serve two purposes. Robert A. Mikos, *State Taxation of Marijuana Distribution and Other Federal Crimes*, 2010 U. CHI. LEGAL F. 223, 228-29 (noting that as a “vice tax,” a state tax would “internalize some of the societal costs of drug use[,] . . . bring[ing] marijuana use closer to the socially optimal level, namely, where private benefits most exceed total social costs,” and explaining that the tax is intended to raise revenue). The 2014 *Planet Money* episode that promised the listener they “would be able to design a tax on marijuana” explained that good design of a marijuana tax depended on whether the tax was a Pigouvian tax (though they used the term “sin tax”) or an ordinary revenue-

commentators understand the primacy of revenue-raising concerns, there is a strong temptation to import the theoretical apparatus of Pigouvian taxes.<sup>36</sup> In this Section, I attempt to explain why tax policy theory permits a convergence of these two apparently divergent approaches, and I correct potential misapplications of theory to practice.

One excellent recent analysis illustrates well how an emphasis on traditional Pigouvian analysis could lead one astray in designing a marijuana tax for a newly emergent legal market.<sup>37</sup> Among the six “Key Points” of a recent Tax Foundation’s *Fiscal Fact*, the third is that “[a]n excise tax on recreational marijuana should target the externality and raise sufficient revenue to fund marijuana-related spending while simultaneously outcompeting illicit operators. Excise taxes should not be implemented in an effort to raise general fund revenue.”<sup>38</sup> The sixth point similarly states, “A potency- and weight-based tax defined by [tetrahydrocannabinol (“THC”)] levels may be the best short-term solution for lawmakers assuming that THC is an appropriate proxy for the externalities associated with consuming marijuana.”<sup>39</sup> Both of these observations come from traditional Pigouvian analysis: a tax meant to internalize externalities should attempt to match the level of tax to the magnitude of those externalities and should not be used generally to raise revenue.<sup>40</sup> Identifying the costs of the externalities related to marijuana consumption is both inherently difficult and controversial. A traditional Pigouvian analysis compels policy makers to attempt to ascertain this information as a prerequisite to designing a good tax.

There is a hint about how to integrate the Pigouvian analysis with ordinary revenue-maximizing analysis in the *Fiscal Facts* quoted above. The author,

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maximizing tax. Planet Money, *supra* note 1, at 2:46; *see also* Benjamin M. Leff, *Tax Benefits of Government-Owned Marijuana Stores*, 50 U.C. DAVIS L. REV. 659, 684-85 (2016) [hereinafter Leff, *Tax Benefits*] (arguing that a functional marijuana-tax regime must balance keeping marijuana prices low enough to avoid driving consumers back into the illegal market with keeping prices high enough to avoid creating “dramatic growth in demand, since most people still view marijuana as having some adverse medical or social effects”).

<sup>36</sup> *See* ULRIK BOESEN, TAX FOUND., FISCAL FACT NO. 713, A ROAD MAP TO RECREATIONAL MARIJUANA TAXATION 23 (2020) [hereinafter BOESEN, ROAD MAP], <https://files.taxfoundation.org/20200608144852/A-Road-Map-to-Recreational-Marijuana-Taxation.pdf> [<https://perma.cc/8QD6-UE3Z>].

<sup>37</sup> *Id.* at 1 (“Low taxes may allow easy conversion from the illicit market but could increase consumption among non-users and minors.”); *see also* Ulrik Boesen, *Flawed Federal Taxation of Recreational Marijuana*, TAX FOUND. (Sept. 3, 2020) [hereinafter Boesen, *Flawed Federal Taxation*], <https://taxfoundation.org/more-act-federal-taxation-of-recreational-marijuana/> [<https://perma.cc/S623-EYA8>] (criticizing federal marijuana ad valorem tax proposal in the MORE Act of 2020, H.R. 3884, 116th Cong. (2020), because “[a]n excise tax should correspond to the harm it is addressing, or the cost it is internalizing,” and arguing that “excise taxes should only be levied when appropriate to capture some externality or to create a ‘user pays’ system”).

<sup>38</sup> BOESEN, ROAD MAP, *supra* note 36, at 1.

<sup>39</sup> *Id.*

<sup>40</sup> *See* PIGOU, *supra* note 18, at 224.



Ulrik Boesen, argued that marijuana taxes should “target the externality” (an insight from Pigouvian analysis) “while simultaneously outcompeting illicit operators.”<sup>41</sup> It is this second observation that is the key to understanding how to integrate Pigouvian with ordinary analysis. Both Pigouvian and ordinary revenue-maximizing analyses assume that when taxes raise prices for the taxed transaction, some actors on the margin will decrease their participation in that transaction.<sup>42</sup> The key point is that the decrease in participation in the transaction being taxed is caused by those actors switching to *some other transaction*: a second-best substitute.<sup>43</sup> The only way to know whether the decrease in participation in the taxed transaction decreases social utility (like ordinary revenue-maximizing taxes) or increases social utility (like Pigouvian taxes) is to compare the original transaction to the substituted transaction. If the externalities associated with the substituted transaction are worse than the externalities associated with the original transaction, then the tax is not Pigouvian, even if the tax perfectly matches the costs of the externalities associated with the original transaction.<sup>44</sup>

A simple example can illustrate the point: imagine a tax on gasoline imposed because the burning of gasoline pollutes the atmosphere and causes global warming.<sup>45</sup> If the tax on gasoline raises the price so that consumers of gasoline respond exclusively by substituting coal for gasoline, and if coal is more polluting than gasoline, then the tax is not Pigouvian, and social utility is decreased by the imposition of the tax.<sup>46</sup>

When Boesen says that a marijuana tax must permit taxed sellers to “outcompete illicit operators,”<sup>47</sup> he is acknowledging the most important substitute for most consumers in the legal taxed marijuana market: *illegal* marijuana.<sup>48</sup> Boesen relied on an estimate that illegal sales would account for

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<sup>41</sup> BOESEN, ROAD MAP, *supra* note 36, at 1.

<sup>42</sup> See *supra* note 20 and accompanying text.

<sup>43</sup> See Meenakshi Sabina Subbaraman, *Substitution and Complementarity of Alcohol and Cannabis: A Review of the Literature*, 51 SUBSTANCE USE & MISUSE 1399, 1411 (2016).

<sup>44</sup> See *supra* note 31-32 and accompanying text.

<sup>45</sup> See Li, Linn & Muehlegger, *supra* note 23, at 302.

<sup>46</sup> Of course, the tax may still enhance overall utility because of the way the government spends the revenue generated from the tax, just as with any revenue-maximizing tax. But the fact that the tax decreases consumption of gasoline is not beneficial because the decreased consumption of gasoline is matched by increased consumption of an even more harmful product—coal.

<sup>47</sup> BOESEN, ROAD MAP, *supra* note 36, at 22.

<sup>48</sup> It should also be noted that jurisdictions with thriving legal *medical* marijuana markets may find that their newly legalized *recreational* marijuana markets face competition from existing medical markets, which may not be subject to the same taxes. See Sam Kamin, *Marijuana Legalization in Colorado - Lessons for Colombia*, 75 REV. INSTITUTO COLOMBIANO DE DERECHO TRIBUTARIO 339, 352 (2016). The implications of cross elasticity of demand between medical and recreational marijuana presents its own challenges to the design of a marijuana tax regime.

approximately 78% of the U.S. marijuana market in 2020.<sup>49</sup> That is after quite a few years of maturity of the leading legal marijuana markets.<sup>50</sup> When a jurisdiction introduces a new legal marijuana market, it is generally contending with an existing illegal market that is very large and in which many consumers have been obtaining illegal marijuana for years.<sup>51</sup> The most important challenge for any newly introduced legal marijuana regime is to move existing consumers from the well-entrenched and functional illegal market to the legal market.<sup>52</sup> For most existing marijuana consumers, the substitute for legal marijuana is illegal marijuana. Therefore, if taxes drive people away from legal marijuana transactions, it drives them to untaxed illegal marijuana.

While it is notoriously controversial to estimate the social cost of marijuana consumption (and difficult to decide which costs are rightly considered externalities and which should be considered internalities), it is quite clear that marijuana sold on an illegal market produces more social costs than marijuana sold on a legal market.<sup>53</sup> That is because many of the clearest social costs of marijuana consumption come not from the effects of the product itself but from illegality.<sup>54</sup> These costs include the devastation caused to communities, especially communities of color, driven by overpolicing, police violence, and mass incarceration.<sup>55</sup> They also likely include the costs of at least some violence or other harmful criminal activity by producers or distributors in some marijuana markets. These costs are high enough that it seems uncontroversial to assert that if consumers substitute *illegal* marijuana for a purchase of legal marijuana,

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<sup>49</sup> BOESEN, ROAD MAP, *supra* note 36, at 5.

<sup>50</sup> *See id.* at 11 (noting that Colorado's recreational marijuana market opened in 2014).

<sup>51</sup> Of course, some consumers in the new legal market may not have previously been marijuana consumers or may have been infrequent marijuana consumers. For these consumers, the substitute for legal marijuana may truly be abstinence, or it may be some other substance, legal or not, such as alcohol, prescription opiates, or antidepressants. *See* Subbaraman, *supra* note 43, at 1411-12. The primary point is that a Pigouvian tax is one for which the substitute transaction has fewer social costs than the transaction being taxed, and in the case of a newly legal marijuana market there are many reasons to believe that the substitute transaction will have more social costs for the vast majority of consumers. *See* BOESEN, ROAD MAP, *supra* note 36, at 23-24.

<sup>52</sup> *See, e.g.,* Kamin, *supra* note 48, at 349 (“[I]t became evident early in the regulatory process [in Colorado] that . . . a punitive sin-tax on marijuana would keep the prices in the regulated market artificially high, allowing a black market to thrive and giving licensed entities incentives to avoid the tax.”).

<sup>53</sup> *Id.* at 342.

<sup>54</sup> *See id.* at 345 (recognizing that the Obama Justice Department reprioritized enforcement around marijuana to, *inter alia*, prevent criminal enterprises from receiving money from marijuana sales).

<sup>55</sup> *See* ACLU, A TALE OF TWO COUNTRIES: RACIALLY TARGETED ARRESTS IN THE ERA OF MARIJUANA REFORM 5 (2020), [https://www.aclu.org/sites/default/files/field\\_document/tale\\_of\\_two\\_countries\\_racially\\_targeted\\_arrests\\_in\\_the\\_era\\_of\\_marijuana\\_reform\\_revised\\_7.1.20\\_0.pdf](https://www.aclu.org/sites/default/files/field_document/tale_of_two_countries_racially_targeted_arrests_in_the_era_of_marijuana_reform_revised_7.1.20_0.pdf) [<https://perma.cc/T6FY-3RSC>] (“On average, a Black person is 3.64 times more likely to be arrested for marijuana possession than a white person, even though Black and white people use marijuana at similar rates.”).

social utility will not increase. In fact, one of the major reasons that jurisdictions legalize marijuana is to decrease or mitigate the perceived social harms caused by the illegal market.<sup>56</sup>

If marijuana taxes are too high, that might make prices of marijuana in the newly legal market too high, which might cause some consumers to choose to purchase marijuana in the illegal market or to continue to do so.<sup>57</sup> Obviously, taxes are only one among many factors that influence whether consumers who are used to purchasing marijuana on an illegal market move to the legal market.<sup>58</sup> But the point is that a tax is only Pigouvian if the increase in cost that it produces causes some consumers on the margin to replace the high-social-cost transaction with a *lower*-social-cost transaction. In any case in which the consumer purchases illegal marijuana (more social harm) instead of legal marijuana (less social harm) because of a tax on legal marijuana, the total social harm has increased, so the tax is not Pigouvian.

Why does it matter if designers of a marijuana tax are guided by Pigouvian analysis or not? One possibility is that the implications are primarily or exclusively “academic,” in the sense that they are only interesting to people who care about tax theory and do not impact the design of a good tax on marijuana. On the other hand, because a good Pigouvian tax matches the level of tax to the externalities produced by the taxed transaction, the design of a Pigouvian tax demands some consensus on what those externalities are. This consensus is notoriously difficult to achieve.<sup>59</sup> Boesen (to take just one example) argued that special marijuana taxes should be based on weight or potency because he assumes “that THC is an appropriate proxy for the externalities associated with consuming marijuana.”<sup>60</sup> But it is not at all clear that potency is an appropriate proxy for the harms caused by marijuana. As is often pointed out, the majority of marijuana is consumed by a minority of consumers, and it is not at all clear that externalities rise in tandem with these users’ quantity or potency of use.<sup>61</sup> In addition, significant harm may be caused by relatively small quantities of use

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<sup>56</sup> Natalie Fertig, *How Legal Marijuana Is Helping the Black Market*, POLITICO MAG. (July 21, 2019), <https://www.politico.com/magazine/story/2019/07/21/legal-marijuana-black-market-227414> [<https://perma.cc/4855-RMQ3>].

<sup>57</sup> See Kamin, *supra* note 48, at 349.

<sup>58</sup> See, e.g., Pat Oglesby, *Marijuana Revenue Competition – Look Out Below*, 88 ST. TAX NOTES 541, 541 (2018) [hereinafter Oglesby, *Marijuana Revenue Competition*] (“Buyers will prefer legal marijuana over illegal marijuana for a variety of reasons, like quality assurance, safety, and legal recourse against sellers. But they still might buy the illegal product if it’s noticeably cheaper.”).

<sup>59</sup> Some critics of Pigouvian taxation argue that externalities can never be known sufficiently to design an efficient Pigouvian tax. E.g., R.H. Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1, 39-42 (1960).

<sup>60</sup> BOESEN, ROAD MAP, *supra* note 36, at 1.

<sup>61</sup> See, e.g., *id.* at 4 (noting that most marijuana is consumed by very “heavy users,” and that “[t]his point is important to remember when designing excise taxes as this group will pay most of the taxes, which in turn can increase the regressive effects of high excise taxes on marijuana. A similar characteristic is seen with alcohol consumption”).

by certain consumers, especially new users, children, or young adults.<sup>62</sup> Pigouvian analysis is generally a poor tool for reducing harm when the harm caused is unevenly distributed among different consumers of the taxed transaction.<sup>63</sup> In addition to everything else, because money itself has heterogeneous marginal utility, taxes (especially those that do not depend on income or wealth) impact different consumers differently and have a presumably smaller impact on wealthier consumers than on less wealthy ones.<sup>64</sup> This critique of Pigouvian taxes as applied to goods like marijuana might lead policy makers to decide to set marijuana tax rates very low or eliminate them entirely.<sup>65</sup> When marijuana taxes are compared to other revenue-maximizing taxes as a means of raising general revenue, these flaws with the application of Pigouvian analysis to marijuana dissipate.

So, if Pigouvian analysis is generally inappropriate for a new legal marijuana market, what is the correct analysis? Boesen says, “While excise taxes should not be considered a tool to raise funds for general spending due to their narrow bases and distortionary effects, other taxes, like sales taxes, property taxes, and income taxes levied on newly-legal businesses can provide meaningful revenue for all levels of government.”<sup>66</sup> Presumably, he means that these other taxes should be applied to newly legal marijuana businesses on the same terms as they are applied to all other businesses. But it would be appropriate to apply *special* taxes to newly legal marijuana businesses that are not applied to other businesses, even if the revenue from those taxes is used for general spending (so long as general spending is socially beneficial). The question, then, just like with any tax, is how to raise the most revenue possible while driving as few people as possible out of the newly legal marijuana market and into the existing illegal marijuana market? The answer to that question will determine whether the “special” tax on marijuana would be better as an excise tax, a sales tax, a property tax, or an income tax.

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<sup>62</sup> Kara S. Bagot, Robert Milin & Yifrah Kaminer, *Adolescent Initiation of Cannabis Use and Early-Onset Psychosis*, 36 SUBSTANCE ABUSE 524, 524-25 (2015).

<sup>63</sup> See, e.g., Fleischer, *supra* note 6, at 1676-77 (“[W]hen marginal social cost varies, average cost does not equal marginal cost, and Pigouvian taxes may not lead to an optimal allocation of economic resources.”).

<sup>64</sup> Sarah B. Lawskey, *On the Edge: Declining Marginal Utility and Tax Policy*, 95 MINN. L. REV. 904, 904 (2011).

<sup>65</sup> One recent critique of certain “state-level controlled substance taxes” goes even further, arguing that some taxes on controlled substances are not justified by ordinary revenue-maximizing or Pigouvian taxation but are instead designed to avoid procedural safeguards in the enforcement of direct regulation of controlled substances, and therefore are “insidious regulatory taxes.” Hayes R. Holderness, *Insidious Regulatory Taxes* 3 (Jan. 24, 2021) (unpublished manuscript), [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3665440](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3665440) [<https://perma.cc/X4KG-LHE2>]. Evaluating marijuana taxes under a normal revenue-raising paradigm enables policy makers to avoid both creating insidious regulatory taxes and becoming involved with the difficult or contentious issues associated with Pigouvian taxes.

<sup>66</sup> BOESEN, ROAD MAP, *supra* note 36, at 6.

In the case of a newly legalized marijuana market, the most important factor in creating an optimal taxing instrument is the prediction that legalization is likely to cause the retail price of marijuana to fall precipitously.<sup>67</sup> That prediction has been, at least partially, confirmed repeatedly.<sup>68</sup> The price is predicted to fall, and actually falls, because marijuana prohibition limits competition and creates the very dramatic costs mentioned above.<sup>69</sup> Marijuana producers, distributors, and sellers “must operate covertly, forgo advertising, pay higher wages to compensate for the risk of arrest, and lack recourse to civil courts for resolving contract disputes. Legal companies in contrast endure none of these costs and also can benefit from economies of scale that push production costs down.”<sup>70</sup> Therefore, legalization creates *surplus value* as costs associated with production, transportation, and selling marijuana go down. In a competitive market, one would expect much of the surplus to result in a price drop as the surplus is captured by consumers. Traditional revenue-maximizing tax policy theory would ask: What portion of this legalization surplus can and should the government capture with special marijuana taxes?<sup>71</sup>

Proponents of Pigouvian taxation of marijuana point out that as the price drops, one would predict that demand would increase assuming that (1) some existing consumers of marijuana will increase their consumption as prices go down and (2) some new consumers who were kept out of the market by existing high prices will now enter the market.<sup>72</sup> The legalization price drop, therefore,

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<sup>67</sup> See, e.g., Kamin, *supra* note 48, at 351 (“[T]he price has since fallen, taking much of the profit out of the black market.”); Oglesby, *Marijuana Revenue Competition*, *supra* note 58, at 542 (“After legalization, pretax marijuana prices fall, as the legal market gains efficiency and cuts costs.”); Keith Humphreys, *So, Something Interesting Happens to Weed After It’s Legal*, WASH. POST (May 4, 2016, 6:30 AM) [hereinafter Humphreys, *Something Interesting*], <https://www.washingtonpost.com/news/wonk/wp/2016/05/04/the-price-of-legal-pot-is-collapsing/> (quoting Jonathan Caulkins, “It’s just a plant. . . . [N]o-frills generic forms could become cheap enough to give away as a loss leader – the way bars give patrons beer nuts and hotels leave chocolates on your pillow”).

<sup>68</sup> See, e.g., Keith Humphreys, *How Legalization Caused the Price of Marijuana to Collapse*, WASH. POST (Sept. 5, 2017, 8:42 AM), <https://www.washingtonpost.com/news/wonk/wp/2017/09/05/how-legalization-caused-the-price-of-marijuana-to-collapse/> (reporting that in Washington State “[t]he current [2017] retail price of \$7.38 per gram (including tax) represents a 67 percent decrease in just three years of the legalization, with more decline likely in the future” (citation omitted)).

<sup>69</sup> See *supra* text accompanying notes 55-56.

<sup>70</sup> Humphreys, *Something Interesting*, *supra* note 67 (citing JONATHAN P. CAULKINS, BEAU KILMER & MARK A.R. KLEIMAN, *MARIJUANA LEGALIZATION: WHAT EVERYONE NEEDS TO KNOW* (2d ed. 2016)).

<sup>71</sup> See Pat Oglesby, *States May Be Stuck with Second-Best Marijuana Taxes*, 72 ST. TAX NOTES 539, 539 (2014) [hereinafter Oglesby, *Second-Best Marijuana Taxes*] (“After marijuana is legalized, the costs of producing and selling it will collapse and a windfall economic gain will be up for grabs. . . . [T]hrough revenue measures, [policy makers] might direct the gain to society as a whole.”).

<sup>72</sup> It is also possible that some potential consumers of marijuana were kept out of the market by illegality not just because of high prices but also because of other factors associated

might cause demand from consumers who may substitute less use or abstinence (instead of illegal marijuana) for legal marijuana if the price of legal marijuana were higher. In this case, a Pigouvian analysis is appropriate for them and may justify taxes on marijuana to prevent prices from dropping due to legalization. But even when Pigouvian analysis supports taxes on marijuana to prevent the price from dropping, it is unnecessary. Ordinary revenue-maximizing tax theory justifies attempting to keep taxes as high as possible (while still avoiding driving consumers into the illegal market), so there is no need to ascertain the externalities associated with increased marijuana consumption.<sup>73</sup> Avoiding this conceptually and practically difficult question makes designing the appropriate taxing instrument at least a little simpler.

Once it is clear that the goal of the taxation of a newly legalized marijuana market is for the government to take the appropriate portion of the surplus value created by legalization, then a much stronger case can be made for the government to take a more substantial share than is commonly acknowledged in tax policy circles. In other words, if legalization creates surplus value as compared to prohibition, that surplus is available as a windfall for (1) newly legalized producers, (2) consumers in a newly legal market, or (3) government. There is a plausible argument that government claiming (some of) the surplus value created by legalization is less distortive than other sources of revenue so long as tax rates are kept low enough to avoid driving consumers back into the illegal market. If the government uses even some of the revenue generated from this legalization surplus to mitigate the damage caused to communities by decades of prohibition, then the government's claiming of a significant part of the surplus is even more justified.<sup>74</sup>

If the goal of a good marijuana tax is to capture a significant portion of the legalization surplus, then the most important consideration in designing such a tax is how to make that tax *dynamic*.<sup>75</sup> As others have repeated often, a tax on the legalization surplus must be low enough at the outset to permit legal suppliers to draw consumers out of the illegal market. But the legalization surplus grows over time, as the production and sale of marijuana gets cheaper and cheaper for legal suppliers, so the tax has to have some ability to increase as legalization creates this surplus. A tax on the price of marijuana (a sales tax or other ad valorem tax) does exactly the opposite: as the price falls, so does the

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with illegality (e.g., they did not like or trust the product, they did not like breaking the law, and/or they were prevented from finding the product due to a lack of advertising or fixed selling locations).

<sup>73</sup> See Pat Oglesby, *Gangs, Ganjapreneurs, or Government: Marijuana Revenue Up for Grabs*, 66 ST. TAX NOTES 255, 263 (2012) ("A priori, government might seem to be able to maintain [prelegalization] price — and to claim nearly all that price as revenue — by seizing the entire illegality premium that compensates lawbreakers for risk.").

<sup>74</sup> Jonathan P. Caulkins, *A Principled Approach to Taxing Marijuana*, NAT'L AFFS., Summer 2017, at 22, 24-25.

<sup>75</sup> George Theofanis, Note, *The Golden State's 'High' Expectations: Will California Realize the Fiscal Benefits of Cannabis Legalization?*, 49 U. PAC. L. REV. 155, 158-59 (2017).

quantity of tax.<sup>76</sup> An excise tax on weight or potency at least does not decrease as the price drops, but neither does it increase.<sup>77</sup> There is no known tax that is inversely related to price, and so no currently existing tax instrument serves the need of a good marijuana tax to be dynamic. This has led astute commentators such as Oglesby to advocate for a government monopoly on marijuana sales, because that is the best way for the government to dynamically capture the legalization surplus.<sup>78</sup>

In other words, even without any Pigouvian analysis, designers of marijuana taxes for newly legalized marijuana markets have theoretical justification for seeking a “Goldilocks” tax: low enough to enable the regulatory regime to bring consumers into the newly legal market but high enough to capture a significant portion (as much as possible?) of the legalization surplus. Designers of a marijuana tax should not get distracted by asking (1) what are the externalities (if any) associated with expanded marijuana consumption, or (2) what tax is best designed to minimize these externalities. They should focus on designing a tax instrument that enables taxing authorities to capture the legalization surplus dynamically as it is created—which is no small feat.

## II. FEDERAL TAXATION OF MARIJUANA BUSINESSES

As described in the previous Section, the most important issue in designing a state tax on marijuana businesses is choosing a taxing instrument that optimizes the state government’s ability to simultaneously set rates low enough to facilitate the transition from the illegal to the newly legal market and high enough to capture as much of the legalization surplus as possible. The same challenges of choosing the right “Goldilocks” taxing instrument and setting the right rates are likely the most important issues in designing a federal tax as well. If federal legalization ever occurs, it is likely to alter the legal landscape in multiple ways relevant to taxation, and that will impact the legalization surplus in a way that will play out over time. Therefore, it will be important to adopt a federal taxing instrument that enables the federal government to coordinate its tax with state taxing jurisdictions, ideally dynamically, to meet the challenge of finding the right tax rate and design.<sup>79</sup>

The purpose of this Essay is to explicitly root discussion of marijuana tax design in tax policy theory. A discussion of the federal taxation of marijuana, then, must start with the theory of interjurisdictional tax coordination, which is generally called “fiscal federalism.”<sup>80</sup> Fiscal federalism attempts to answer the

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<sup>76</sup> See Oglesby, *Present and Future Traps*, *supra* note 4, at 393.

<sup>77</sup> See *id.* at 393-94.

<sup>78</sup> See Oglesby, *Second-Best Marijuana Taxes*, *supra* note 71, at 540-41; see also Leff, *supra* note 35, at 664.

<sup>79</sup> Boesen, *Flawed Federal Taxation*, *supra* note 36, at 37 (“Designing [federal] excise taxes (and regulations) will play a key role in allowing the legal market to undercut and outcompete the illicit market, which should be one of the first priorities.”).

<sup>80</sup> Richard M. Bird, *Fiscal Federalism*, in *THE ENCYCLOPEDIA OF TAXATION & TAX POLICY* 146, 146-47 (Joseph J. Cordes, Robert D. Ebel & Jane G. Gravelle eds., 2d ed. 2005).

questions of how taxation and provision of government services should be divided across levels of government. While any actual discussion of fiscal federalism is well beyond the scope of this brief Essay, a few points are worth making. First, federal taxes on marijuana may well crowd out state taxes on marijuana or otherwise impede state tax efforts to create a “Goldilocks” tax on marijuana. Second, federal legalization (if it ever occurs) is likely to create additional legalization surplus, which will create additional dynamic effects in the price of marijuana. And, finally, federal legalization is likely to create dramatic changes to price competition between the states in which marijuana sales are legal, and these dynamic changes will affect states’ attempts to craft good marijuana taxes as well.

The general question of whether and to what degree taxes at one jurisdictional level crowd out taxes at another jurisdictional level is contested.<sup>81</sup> One jurisdiction’s tax would be said to “crowd out” another jurisdiction’s tax if the imposition of that tax makes it more difficult for the second jurisdiction to impose its own tax.<sup>82</sup> While there is some intuitive appeal to the general idea that aggregate high federal taxes limit the ability of state or local governments to impose overall tax burdens as high as they would want,<sup>83</sup> Brian Galle has argued that the empirical evidence for a general theory of crowd out is lacking, and there is evidence (including his own study) to suggest that the opposite effect may be more common.<sup>84</sup> The intuitive case that a federal tax on a specific base would crowd out the state’s ability to tax that very same base is stronger though. One would imagine that very high taxes on cigarettes, for example, would make it harder for states to raise revenue by taxing cigarettes. That is because one would expect that the higher the price on cigarettes, the stronger the incentive for consumers to substitute abstinence or some other product for cigarettes. But even in this context, the empirical evidence is mixed, with some studies showing evidence of crowd out and some not.<sup>85</sup> As Galle points out, “[T]he outcome depends on how humans respond to changes in the price of different commodities—the elasticity of demand and supply.”<sup>86</sup> And the choices that humans make are subject to countless factors, including whether they aggregate the different taxes when considering the price of the goods sold.<sup>87</sup>

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<sup>81</sup> Brian Galle, *Does Federal Spending “Coerce” States? Evidence from State Budgets*, 108 NW. U. L. REV. 989, 1001 (2014).

<sup>82</sup> *Id.* at 992, 1001.

<sup>83</sup> See, e.g., *Nat’l Fed’n of Indep. Bus. v. Sebelius*, 567 U.S. 519, 680 n.13 (2012) (Scalia, Kennedy, Thomas, & Alito, JJ., dissenting) (“[H]eavy federal taxation diminishes the practical ability of States to collect their own taxes.”).

<sup>84</sup> Galle, *supra* note 81, at 993.

<sup>85</sup> *Id.* at 1018.

<sup>86</sup> *Id.* at 1003.

<sup>87</sup> The *Planet Money* podcast, *supra* note 1, featured Jacob Goldin’s work about the differential “salience” of sales taxes depending on whether the posted price included the sales tax or not. Goldin found that consumers respond differently to different designs, even when the rate of tax was the same. Goldin, *supra* note 3, at 281-82.



However, in the case of the search for a “Goldilocks” marijuana tax instrument, the intuitive case for crowd out is arguably the strongest. Certainly, to the degree that states consider the prices available in the illegal market to be a ceiling on their ability to tax marijuana in the legal market, they would need to consider any federal tax on legal sales that appears in the sticker price of marijuana sold in the legal market. If the federal tax is built in to the price of marijuana sold in their states, the chance is highest that consumers would react to the aggregate federal and state tax imposed. In which case, federal taxes imposed in a way that increases marijuana prices too high, at least, would presumably crowd out state taxes.<sup>88</sup>

It is possible, of course, that state marijuana taxes could crowd out federal marijuana taxes (instead of the other way around), in the sense that existing state taxes will impede the ability of the federal government to impose taxes as high as it would like. One could think about this either as an economic question (what will happen if the federal government imposes taxes too high when combined with existing state taxes?) or as a political question (will federal legislators choose to impose lower taxes because of the existence of state taxes?). Since the same federal taxes will apply to multiple states, each with their own distinct taxing regime, the number of variations will be very high indeed. But the bottom line is that a good federal tax design should account for its effect on the price of marijuana in various states by keeping the price low enough to not fundamentally undermine the regulation of marijuana by driving a significant number of consumers back into illegal markets.<sup>89</sup>

The competition between the federal government and state governments over marijuana revenue will be mitigated, at least partially, by the fact that federal legalization is likely to create additional legalization surplus value.<sup>90</sup> Federal prohibition makes problems for producers and suppliers by making banking and revenue raising from investors difficult and by preventing the creation of large interstate markets. There may also be costs associated with fear of more robust criminal prohibition at the federal level, which creates very serious (if unlikely) risks for entrepreneurs in the market. Once these federal impediments are removed, the cost of producing and distributing marijuana should decrease, creating additional surplus value available to be taxed.

In addition, federal legalization may destroy state internal monopolies on marijuana production and distribution, permitting interstate competition. As Oglesby has pointed out, “As long as marijuana is federally illegal, states can legally prevent imports, so they can tax consumption by taxing producers.”<sup>91</sup> But as soon as the federal government legalizes marijuana, the U.S. Constitution’s

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<sup>88</sup> Oglesby, *Marijuana Revenue Competition*, *supra* note 58, at 545-46 (“[A] new federal [excise] tax may constitute in itself a kind of tax competition for states, which may need to adjust to collect less tax to keep the illegal market at bay – by keeping the after-all-taxes price down.”).

<sup>89</sup> *Id.*

<sup>90</sup> *See id.* at 546.

<sup>91</sup> *Id.* at 545.

Interstate Commerce Clause is likely to prevent states from prohibiting the sale within their borders of out-of-state marijuana.<sup>92</sup> That will produce competition between the states, including competition to decrease the taxes applied to producers. Oglesby identifies this prospective competition between states as an argument for high federal taxes, since state producer taxes will be subject to tax competition.<sup>93</sup> If the prospect of the federal government cannibalizing state revenue from marijuana legalization is distressing (or unjust), Oglesby argues that the federal government could share revenue from its marijuana taxes with the states.<sup>94</sup> This is an extremely common solution when taxing is most efficient at the federal level, while spending choices are more appropriate at the state level.

#### CONCLUSION

What, then, is the best way to tax marijuana? The answer is that taxing marijuana well is a devilishly difficult problem. But the primary considerations are *not* those (also devilishly difficult) problems associated with designing a good Pigouvian or regulatory tax: How to craft the tax to increase costs where externalities are pronounced and refrain from taxing where externalities are low? Rather, the most pronounced difficulty is ensuring that excessive taxes do not stymie efforts to move consumers out of the existing illegal market and into the newly regulated legal market while keeping taxes high enough to capture the majority of the legalization surplus. This is a difficult question primarily because legalization induces changes in market conditions in a dynamic way—what is true in the early days of a legal market changes over time, and higher taxes become more justified as prices drop.

This central question is deeply complicated by changes that are likely to occur if or when the federal government legalizes or decriminalizes marijuana at the federal level. The federal government is likely to become a competitor and collaborator in the project of taxing marijuana, and that will introduce a new round of unpredictable and evolving alterations to the economic realities of marijuana markets. Thus, the challenge is to create flexible, dynamic marijuana taxes at both the state and federal level with designs that permit coordination of both taxing regimes in multiple jurisdictions.

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<sup>92</sup> See *id.*; U.S. CONST. art. I, § 8, cl. 3.

<sup>93</sup> See Oglesby, *Present and Future Traps*, *supra* note 4, at 399 (“Unless federal taxation dominates, a race to the bottom may put every competing jurisdiction’s marijuana taxes at risk. . . . A high federal tax, high enough to dominate the field, would address that problem.”).

<sup>94</sup> See Oglesby, *Marijuana Revenue Competition*, *supra* note 58, at 546.