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Cross-Subsidies: Government's Hidden Pocketbook

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Cross-Subsidies: Government’s Hidden Pocketbook

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Abstract

Governments can use regulation to pay for public goods out of the pockets of consumers, rather than taxpayers. For example, the Affordable Care Act underwrites care for women and the infirm through higher insurance premium payments by healthy men. Building on a classic article from Richard Posner, we show that these “cross-subsidies” between consumers are a common feature of modern law, ranging from telecommunications to intellectual property to employee benefits.

Critics of the ACA, and even some of its supporters, argue that taxes would be a better choice. Taxes are said to be more transparent, and to fit better with the recommendations of public finance economics. We show how these same arguments can be extended to many other contemporary cross-subsidies.

We also argue, however, that the critics may well be wrong. Drawing on recent theoretical and empirical advances, we show that cross-subsidies can be more efficient than taxes, especially when they are used to redistribute wealth on grounds other than income, such as the ACA’s transfer from men to women. We then apply our analysis to several key contemporary cross-subsidies, including personal-injury law, patents, class action lawsuits, paid family leave, and of course the ACA.

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Introduction

What does the Affordable Care Act have in common with local telephone service? What common factor unites tort law and net neutrality? Patents and paid family leave? Higher education financing and postal deliveries? The answer, in all cases, is that lawmakers have chosen to use cross-subsidies, rather than general tax revenues, as a way to underwrite their chosen policy goals. A cross-subsidy, simply put, arises when two similar consumers of a good pay different prices—or, equivalently, when two consumers impose different costs on a service provider but are charged the same price—and the excess funds from one are used to make up the shortfall for the other.¹ Cross-subsidies, in other words, are a way of paying for public goods out of the pockets of consumers (or other private actors), rather than taxpayers.²

Although cross-subsidies are a pervasive phenomenon, scholarly analysis of them is not.³ Some fundamental principles of public finance economics suggest that cross-subsidies are usually the wrong policy choice. While this is a point that has been made recently by critics of the ACA, it has yet to be extended to all the other modern instances in which the legal system relies on cross-subsidies.⁴ One of our

³ This gap has been noted by leading public finance economists. Raj Chetty & Amy Finkelstein, Social Insurance: Connecting Theory to Data, in 5 HANDBOOK OF PUBLIC ECONOMICS 111, 185 (Alan J. Auerbach et al. eds., 2013); Amy Finkelstein, James Poterba, & Casey Rothschild, Redistribution by Insurance Market Regulation: Analyzing a Ban on Gender-Based Retirement Annuities, 91 J. FIN. ECON. 38, 54 (2009) (“[W]hy insurance markets rather than, say, the tax system are a natural locus for ...transfers....warrant[s] discussion and research.”).
⁴ By far our closest antecedent is Kyle Logue & Ronen Avraham, Redistributing Optimally: Of Tax Rules, Legal Rules, and Insurance, 56 TAX L. REV. 157 (2003). Logue and Avraham consider whether insurers
goals here is therefore simply to identify the many legal rules that in effect duplicate the ACA’s underlying structure.

We also want to show, however, that the criticism directed at the ACA’s cross-subsidy system is far too simple in most cases. A more nuanced understanding of the economics of cross-subsidies reveals that there are times when cross-subsidies are at least defensible, and sometimes are clearly the best policy choice. That said, for all their

should be permitted to price according to an insured’s genetic information, as well as whether the tort system should include compensation for pain and suffering damages. Id. at 208–48. In both these contexts, their analysis centers on whether government should use “pooling or cross-subsidies” to redistribute or whether instead it should use the “tax and transfer system.” Id. at 249. We build on their key insight that redistribution based on factors that do not correlate with incentives to work will function very differently than redistribution based on income. As the reader will see, we also expand the discussion to cover many other legal contexts, and work in a variety of other analytic considerations, such as the last fifteen years of development in the public finance economics literature.

Somewhat farther removed from our analysis, Yoram Margalioth, The Many Faces of Mandates: Beyond Traditional Accommodation Mandates and Other Cases, 40 SAN DIEGO L. REV. 645 (2003), argues that cross-subsidies can have tax-like effects on efficiency, and that these should be compared to the impacts of a formal tax alternative, without exploring closely how that comparison should be made, id. at 648–49, 699–700.

commonalities, policies that rely on cross-subsidies can also differ in important ways. Thus, our larger goal is to encourage lawmakers to consider the pros and cons of cross-subsidies, in all their complexity, for each policy that relies on them. We begin that process here by analyzing a small handful of cross-subsidies with the new array of tools we lay out.

That is the big picture of our argument; let us now say a bit more about the details. It’s helpful to be concrete, so we’ll focus for now on the Affordable Care Act, which is probably the example most familiar to our readers.

Critics of the ACA suggest that it inefficiently relies on cross-subsidies, rather than general tax revenues. What kind of cross-subsidies does the ACA use? For one, the ACA requires insurers to cover everyone who applies for insurance, regardless of how expensive it will be to cover any particular person. And, with a couple of exceptions, an insurer must charge everyone in a given plan the same rate, even if it expects that any one member of the pool is likely to cost more. The result is, on average, that customers likely to have high health-care costs will pay less than they would have in the absence of the ACA. For example, early ACA data report that premiums for women of child-bearing age are cheaper, relatively speaking, than before the Act. But if the pool is to break even, this means that premiums for everyone else in the pool are relatively more expensive than before the Act. The ACA finances the health care of young

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7 *Id.* at 1589–90.
8 *Id.* at 1602.
women and families in part from higher insurance premiums from single men and women not of child-bearing age.

Most economists view this structure as an unfortunate choice, albeit maybe one that was driven by political necessity. The objection isn't to the decision to support women's health, but instead how that choice was paid for. The basic argument is that it would have been more economically efficient to simply allow insurers to charge an “actuarially fair” price—to let women pay more. But then the government would write checks to women to make up the difference. We'll call this alternative approach the “tax and transfer” method.

The putative superiority of tax and transfer over cross-subsidies rests on two central results from the public finance and law-and-economics literatures. The first, sometimes known to legal scholars as the “double distortion” argument, derives from a key 1976 work by Anthony Atkinson and Joseph Stiglitz (“A-S”). A-S shows that, in most situations, it is inefficient for the government to impose a differentiated consumption tax, or a tax on consumer goods whose rate varies by the product purchased. The intuition is simple: such a tax distorts consumers’ choices about what to buy,

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11 In insurance lingo, a premium is “actuarially fair” if the total premiums paid equal the expected value of any payments from the insurer. In expectation and on average, the transaction would be a wash, even though a given insured might receive more or less than she paid in.

while many alternatives, such as the income tax, do not. \^13 While the income tax has its own unwanted effects, such as potentially reducing workers’ incentives to earn income, A-S shows that any consumption tax also has these same unwanted effects. Thus, A-S argue that the differentiated consumption tax is always at least as bad as, and usually worse than, an income tax.

The second key result is that taxes, and risks of loss more generally, should be spread as widely as possible across the potential taxpaying public. Taxes have less impact on the economy when they can be imposed at lower rates, which sharing the tax burden more widely allows.

Cross-subsidies often seem to violate both these prescriptions. The ACA, by charging groups with low health-care costs, such as healthy young men, more than they would pay otherwise in effect imposes a sales tax on young men’s purchase of health care. \^14 By switching to a more general tax and transfer system, we could instead spread the costs around and collect a much smaller amount from each taxpayer. Doing so could avoid any negative effects of the higher sales tax on young men while still raising enough revenue to fund women’s health.

We could say much the same about any number of other government policies. \^15 Net neutrality rules shift some of the cost of heavy internet users onto low-intensity subscribers. Modern student loan programs shift some of the cost of educating public interest lawyers onto corporate law partners. Product liability torts shift some of the cost of paying for harms inflicted on the most vulnerable purchasers to other purchasers who are at less risk. \^16 Each of these subsidies could instead be paid for with tax and transfer. \^17

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\^14 See Krueger, supra note 10, at 20–21 (explaining potential labor distortions of health insurance mandate).
\^15 Posner, supra note 2, at 23–24.
\^16 Logue & Avraham, supra note 4, at 229.
\^17 For example, in New Zealand, the government compensates tort victims directly. Peter H. Schuck, Tort Reform, Kiwi Style, 27 YALE L. &
Although this standard story says that tax and transfer is superior to cross-subsidization, reality is not quite so simple. In several important instances, the assumptions that underlie the double-distortion and tax-spreading arguments might not hold. In many cases we find that cross-subsidies can be justified at least some of the time, as we illustrate with a series of real-world examples.

By way of brief preview, we see four key reasons why cross-subsidies can sometimes be the best choice, economically speaking. The first two have largely been recognized already in the literature, though we provide some important corrections and complications; the second two are, we think, mostly new to us.

First, there can be times when a cross-subsidy works as a better income tax than the income tax—that is, the cross-subsidy is better at identifying taxpayers with a higher ability to pay than the traditional income-tax system, or is able to do so with fewer distortions and bad incentives.

Second, cross-subsidies can serve as a kind of “benefit” tax, in which people willingly bear a cost because it’s the only way they can get something they want. This argument is based on a well-known 1989 paper by Larry Summers.\(^{18}\) We show, however, that Summers and most of the literature that follows him neglect parts of both the A-S and risk-spreading arguments we just mentioned, so that his claims may apply less widely than is generally understood.

Third, cross-subsidies may be a way of rooting out “infra-marginal” beneficiaries of government transfers—people who would have engaged in an activity the government wants to subsidize even without a subsidy. By reducing the amount spent on these folks, cross-subsidies help to shrink the total amount of the bill imposed on individuals.

Fourth, cross-subsidies can operate as a kind of “hidden tax.” Others have mentioned the hidden features of

cross-subsidies, but only in the sense that this makes them easier to enact.\textsuperscript{19} We show that the opacity of cross-subsidies is not only politically useful but also more efficient in some cases.

Continuing with the ACA, our primary example, we can see each of these effects at work to some degree. First, rather than only taxing those with high income, the ACA’s cross-subsidy structure instead puts some costs on those with good health; it is, essentially, a health tax rather than an income tax. This mitigates some of the potentially negative effects of income taxation because one is less likely to manipulate one’s health than one’s taxable income. Second, using multiple tax (and tax-like) instruments is likely superior to using only an income tax. Third, although the mandate to buy health insurance is analogous to a tax, it comes with the benefits of insurance and thus any negative effects should be further mitigated. Last, for all the political pain of the ACA, it was probably easier to pass than a single-payer tax-and-transfer alternative, and the degree of redistribution within the program is still somewhat hidden and opaque, again mitigating some of the distortion of a redistributive income tax.

We expand on these and other points below. In Part I we explain more about what cross-subsidies are and provide the standard economic argument against them. Part II complicates the story by showing that policymakers have used cross-subsidies frequently across a number of different policy spaces. Demonstrating the ubiquity of cross-subsidization is one of the contributions of the article. If cross-subsidies are an inferior policy instrument, why are they so common? Part III answers this question by presenting our four reasons why cross-subsidies can work well, and may even be superior to tax-and-transfer. Part IV applies these insights in short case studies, including of the

\textsuperscript{19} Most notoriously, the ACA architect Jonathan Gruber has joked that cross-subsidies work politically because of the “stupidity of the American voter.” See also Krueger, supra note 10, at 3 (“The costs of mandates are hidden, which makes them politically feasible.”).
Affordable Care Act, paid family leave laws, intellectual property incentives, tort payments for pain and suffering, and class action lawsuits.

I. Background

A. What Is a Cross-Subsidy?

A cross-subsidy exists when, within a pool of people (most often consumers), one segment of the pool pays more than they would pay outside the pool so that another segment of the pool pays less than they would pay outside the pool. The former group are “transferors” (or “payors”); the latter are “transferees” (or “payees”). The key is that prices paid by the transferors effectively subsidize the transferees. Although cross-subsidies often result in everyone in the pool paying the same price, that does not have to be the case; strictly speaking, a cross-subsidy involves any situation in which one pool segment pays more than it would outside the pool so that another segment pays less.

Cross-subsidies have some very well-known manifestations (a few of which we will discuss shortly), but are in general undertheorized. Absent some market failure or regulation, the presumption is that cross-subsidies will

20 Faulhaber, supra note 1, at 968–69. This assumes that the good or service is functionally the same across the pool; if, for example, the good being sold to the transferees is really a worse good, than the price adjustment is attributable to quality, not a subsidy. Helmuth Cremer et al., Universal Service: An Economic Perspective, 72 ANNALS PUB. & COOP. ECON. 5, 11–12 (2001). Further, as Faulhaber shows, in some cases adding new customers allows fixed costs to be spread over more payors; even if these new payors are charged less, there is no cross-subsidy so long as their inclusion in the pool reduces costs to the initial payors by more than the incremental cost of providing service to the newcomer. Faulhaber, supra note 1, at 968–70.

21 In contrast, a direct government subsidy is one in which public funds are used to lower the prices paid by one group without any direct effect on the price paid by those in any other group.

22 Id.
quickly vanish, because transferors will refuse to pay an inflated price.\textsuperscript{23} While that is in large part true, it turns out that there are many instances in which market irregularities or regulation (often regulation that was enacted for some purpose other than to create a cross-subsidy) operate to sustain cross-subsidies. We are particularly interested here in cross-subsidies created by legal rules, with the (implicit or explicit) effect of introducing a degree of redistribution into the market for a good or service.

In contemporary times, the best-known example of a cross-subsidy is in health insurance markets. Because of asymmetric information and adverse selection, it is extremely difficult for insurers to sell actuarially fair policies in an open market.\textsuperscript{24} As the story goes, those most likely to seek insurance are those most likely to use it, which, because of natural and legal limits on the ability of insurers to underwrite, makes it very difficult to properly price a policy for a potential individual insured. Insurers protect themselves by charging higher premiums, but that drives away the better risks, and very quickly the insurance market breaks down. We oversimplify, but that is the gist.

One solution is the public provision of health care (or relatedly, health insurance), which the United States does with respect to both the elderly and poor populations. For everyone else, the nation relies on cross-subsidies to make private insurance work.\textsuperscript{25}

For employed persons (and their dependents), the law

\textsuperscript{23} Gerald L. Faulhaber, \textit{Cross-Subsidy Analysis With More Than Two Services}, 1 J. COMPE\textsuperscript{24} TITION L. \& ECON. 441, 442 (2005); Posner, \textit{supra} note 2, at 29.


\textsuperscript{25} Cross-subsidies generally exist in insurance markets, but are most prominent in the health insurance context. Generally speaking: when insurance uses perfect experience rating, there would be no cross-subsidy. But insurance rarely uses perfect experience rating—because doing so is difficult and because it would probably make the overall market smaller than using hidden cross-subsidies—and thus some level of cross-subsidy occurs in in many insurance or quasi-insurance settings.
requires the insurance purchasing unit to be the employee group.\textsuperscript{26} Groups reduce risk variance, which makes underwriting easier, and the larger the group the more it poses a risk that matches the community risk, i.e., the risk an average member of the community would present, for which a proper premium is, actuarially speaking, easy to determine.\textsuperscript{27} That, of course, is nothing more than using a cross-subsidy to create a stable insurance market; some employees on their own would be highly risky insureds who would pay a higher rate on their own rather than the group rate; others would be low-risk insureds who would pay a lower rate. The group rate is a thus a cross-subsidy from the low-risk members of the pool to the high-risk members.

Much of the hysteria associated with the Affordable Care Act stemmed from its effort to use cross-subsidies in the non-group market. Two of the ACA’s central reforms were requiring that health insurance be guaranteed issue, and that it be available without underwriting, i.e., at community rates. The problem of those reforms is that no insurance company could survive if it wrote policies on those terms. The pool of people that would buy insurance in those circumstances are those who are sick or most likely to be sick; in contrast, the incentive for good risks to buy insurance would be extremely small. That is simply another way of saying the resulting pool would lack a sufficient cross-subsidy to allow insurers to profitably sell policies at community-rated prices. The individual mandate (and associated penalty-tax) was the primary regulatory means by which the government intended to create a non-group pool large and healthy enough for the cross-subsidy to permit insurers to sell into that market at community rates. Some did not find that approach congenial.

One might be tempted to conclude that cross-subsidies can only live in a regulatory regime where we compel transferors to purchase the good or service we seek to cross-

\textsuperscript{26} I.R.C. § 89.
\textsuperscript{27} Gruber, Labor Market, \textit{supra} note 24, at 651.
subsidize. Otherwise, why would the transferors willingly submit to cross-subsidizing? But while a mandate is an obvious way to create a cross subsidy, they can and do arise in other settings. Indeed, for decades employment-based insurance has existed because of the underlying cross-subsidy that permits insurers to sell into that market, and before 2010 there was no insurance mandate of any kind, i.e., no employer had any obligation to offer health insurance as a benefit. Yet most employers provided health insurance, at the demands of even their low-risk employees. Other employment-based benefits (particularly traditional pensions, which are nothing more than annuities), owe part of their stability and frequency to cross-subsidies at play in the employee group, again, without any mandate. When non-group markets are impaired by adverse selection or other market failures, the appeal of group participation can overcome the pain of the cross-subsidy.

Nor is the involvement of an employer anything other than incidental; as we explain below, cross-subsidies appear in numerous settings, including with respect to student loans, legal remedies, consumer bankruptcy, and quasi-public utilities. Cross-subsidies can arise in a variety of market and regulatory settings—far more, we think, than has been commonly understood. In addition, cross-subsidies are an interesting regulatory tool for another reason: as some

28 Cf. Faulhaber, supra note 1, at 972 (arguing that government must ban competition in order to prevent entrepreneurs from undercutting industries with cross-subsidies); Lynne Holt & Mary Galligan, Mapping the Field: Retrospective of Federal Universal Service Programs, 37 TELECOMMUNICATIONS POL’Y 773, 774 (2013) (same). For more in-depth analysis of when entry is likely, see Jean-Jacques Laffont & Jean Tirole, Optimal Bypass and Cream-Skimming, 80 AM. ECON. REV. 1042 (1990).

29 Michael A. Morrisey, Taxing the Uninsured, in AMERICAN HEALTH POLICY, supra note 9, at 133, 138.

30 Prior the ACA, ERISA had for some years required that members of the employment group be treated equally, that is, while an insurer could underwrite across groups, it could not underwrite within groups. 29 U.S.C. § 1182(b)(1)-(2). A group of miners, for example, could be charged more than a group of accountants, but there could be no rate differentiation within each group.
of the illustrative examples we’ve noted reveal, cross-subsidies often do not involve transfers from “rich” to “poor” players; the transfers in question are frequently orthogonal to wealth. A more robust theoretical treatment of them will be broadly useful to policymakers beyond those fields in which they have most famously attracted attention.\textsuperscript{31}

B. The Standard Economic Account of Cross-Subsidies in Health Insurance

A number of economic commentators have argued that cross-subsidies in health insurance are inefficient.\textsuperscript{32} Instead, this account holds, government should underwrite health insurance benefits through general tax revenues.\textsuperscript{33} That claim rests on two central pillars of modern public finance economics. First, governments should not impose differentiated consumption taxes, and a cross-subsidy is in effect exactly that.\textsuperscript{34} Second, tax burdens should be spread out over as many taxpayers as possible, and cross-subsidies are in effect a tax imposed on a rather narrow base of

\textsuperscript{31} That is, our analysis has some common elements with, but ultimately neither agrees nor disagrees with, the claim that legal rules should not be used to redistribute on the basis of wealth. Louis Kaplow & Steven Shavell, \textit{Why the Legal System is Less Efficient Than the Income Tax in Redistributing Income}, 23 J. LEG. STUDIES 667, 667–68 (1994).


\textsuperscript{33} Commentators have generally overlooked the fact that even cross-subsidies can be partly financed through tax revenue. Health insurance is not taxed to workers when paid by employers, I.R.C. § 106, and deductible when paid by the self-employed, id. § 162(l). As a result of these provisions, the government effectively pays a portion of the incremental costs of cross-subsidies. Cf. Morrisey, \textit{supra} note 29, at 140 (explaining that tax exclusions are government co-pays for health insurance costs).

\textsuperscript{34} Pauley, \textit{supra} note 32, at 410.
payors. Both these points probably need some additional explication for readers not already steeped in public finance economics.

1. Avoid Differentiated Consumption Taxes

Anthony Atkinson and Joseph Stiglitz, in their foundational 1976 article, set out the case against imposing taxes on some consumption goods but not others. In the legal literature, these arguments have come to be called the “double distortion” claim, and are best known through the work of Louis Kaplow and Steven Shavell. The argument begins with the premise that, though taxes inevitably distort private decisions, the most efficient tax system is one that minimizes these distortions. Taxes imposed on the products of our labor, such as the income tax, tend to discourage work by reducing the after-tax payoff to those labors.

A key premise on which Atkinson & Stiglitz (hereafter, “A-S”) rely is that government cannot escape these labor distortions even if it nominally imposes its tax on the purchase of goods rather than on work itself. The reason is that for the most part we don’t want money for its own sake; we want money because it allows us to buy other things. Taxes on consumption therefore reduce our incentive to

36 Atkinson & Stiglitz, supra note 12.
39 Atkinson & Stiglitz, supra note 12, at 70.
40 See “Doppelgangland,” Buffy the Vampire Slayer (first aired Feb. 23, 1999) (“Money can be used to acquire goods and services.”).
work, just as the tax on labor itself does. A-S build on the point that a labor income tax is, in effect, no different than a uniform tax on all possible consumption choices.\textsuperscript{41}

Of course, in the real world many sales tax regimes impose different prices on different goods, and A-S argue that this choice is inefficient.\textsuperscript{42} By taxing some products and not others, government is distorting consumers’ choices between the taxed and untaxed goods.\textsuperscript{43} And, since the sales tax will also reduce labor supply to the same extent as an income tax that raised the same revenue, under some basic assumptions the “differentiated” consumption tax can never be as efficient as a tax on labor alone.\textsuperscript{44}

It’s worth emphasizing that this “double distortion” result depends on the assumptions that underlie it. In particular, A-S assume that individuals do not differ in their consumption preferences, and that the consumption goods that are taxed do not have any direct effect on an individual’s choice about how much labor to supply.\textsuperscript{45} As we will explore in more detail in Part III.A., A-S and many authors after them have acknowledged that the A-S result—labor taxes are always more efficient than a differentiated consumption tax—would not necessarily hold if these assumptions fail.

In any event, a cross-subsidy is a differentiated consumption tax in the A-S sense. Individuals in the pool who are net payors are, in effect, taxed on their consumption of the pooled good, discouraging their participation in the pool.\textsuperscript{46}

\textsuperscript{41} Atkinson & Stiglitz, supra note 12, at 64; see Ian Crawford, Michael Keen, & Stephen Smith, \textit{Value Added Taxes and Excises, in Dimensions of Tax Design} 275, 281 (James A. Mirrlees ed., 2010).

\textsuperscript{42} Atkinson & Stiglitz, supra note 12, at 70.

\textsuperscript{43} \textit{Id.}

\textsuperscript{44} \textit{Id.}

\textsuperscript{45} This is sometimes known as the “separability” assumption. Atkinson & Stiglitz, \textit{supra} note 12, at 68.

\textsuperscript{46} \textit{The World Bank, Kristin Komives Et Al., Water, Electricity, and the Poor: Who Benefits from Utility Subsidies} 14 (2005); Posner, \textit{supra} note 2, at 23–24. Posner argued that “it is not obvious that raising income tax rates would be a more efficient method of providing ...services than [cross-]subsidization,” \textit{id.} at 42, but he was writing well before
We would add to this story that differentiated consumption taxes are particularly problematic in the special context where many cross-subsidies are employed. Government subsidies are often used to encourage the production of positive externalities. Cross-subsidies in effect tax some positive externalities and subsidize others. Imagine, for example, that Congress wants to encourage home installation of solar cells. It awards grants of $100 per cell for 10,000 households, funded by a tax of $100 per cell on another 10,000 households. As we will see in Part III.C., it is possible to imagine scenarios where this would not be absurd. But at first blush, at least, it’s not a promising plan.

Finally, we should note that Atkinson-Stiglitz is itself open to criticism and is not necessarily the final word on this subject. Here we take it as a given because of the force and intuition of its arguments, and the fact that it has become a touchstone in the legal academy, especially among tax academics. But it is also highly stylized and relies on some simplistic assumptions, some of which we address in Part IV below. We use it here as much as an organizing device for analysis as we do for the result itself. All that said, however, we still take as a starting point the general conclusion that, all else equal, differentiated consumption taxes should be

Atkinson & Stiglitz.

We don’t mean to suggest that estimating the deadweight loss of cross-subsidies is always straightforward, especially in complex markets. See Finkelstein, Poterba, & Rothschild, supra note 3, at 47–53 (2009) (examining welfare effects of nondiscrimination rules for pension annuities when annuity sellers can offset distortions with contracts).


avoided.

2. Broaden the Tax Base

Let’s return now to the second pillar, which is that the tax base should include as many taxpayers as possible. As with A-S, this is a theory about the distortiveness of the tax system. In general, the social cost of taxes increases exponentially with the tax rate. One hundred dollars raised from Jake alone is twice as distortive as if we collected fifty each from Jake and Brendan. If we distribute the burdens of government as widely as possible, each individual contributor can face a lower rate, allowing for a lower social cost for any given amount of revenue. This same point can also be put in terms of risk, as in Guido Calabresi’s account of the costs of accidents: because of the diminishing marginal utility of wealth and related factors, societies should strive to distribute risk, including the risk of having to support government, as widely and thinly as possible.

Cross-subsidies often violate this principle. Usually, the net payor members of a pool will number much fewer than all taxpayers. They therefore will effectively face a

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49 Auerbach & Hines, supra note 38, at 1349–54.
50 Id.
51 Cremer et al., supra note 20, at 29; Gruber, Incidence, supra note 35, at 626.

This claim assumes that the administrative costs of the tax system are unaffected by the number of taxpayers. It is plausible that there are relatively fixed costs of tax compliance per taxpayer, which would imply that adding new taxpayers will slightly increase the costs of the tax system as a whole. Similarly, it may be that greater numbers of taxpayers make for more difficult enforcement and collections. These costs would have to be weighed against the gains from base-broadening.

53 WORLD BANK, supra note 46, at 18–19; Gruber, Incidence, supra note 35, at 626; Lester, supra note 4, at 62. The story may be more complicated in markets with many interacting factors, such as in private annuity sales. Finkelstein, Poterba, & Rothschild, supra note 3, at 52.
54 Id. This might not be the case, of course, if the pool includes individuals from outside the taxing jurisdiction.
higher tax rate increase than would be needed if the same total payments were contributed from general revenues.\textsuperscript{55} A less well-known, but related, point is that by assigning costs to the Treasury, rather than a pool, policy makers can also spread the resulting tax burden out over time, through government borrowing.\textsuperscript{56} Cross-subsidies make this kind of inter-temporal burden sharing more complex, if not impossible.

Calabresi recognized that his argument about risk spreading implied that the costs of accidents should be borne by society as a whole, but he suggested that the necessary risk spreading could often be accomplished without the need to impose taxes. Instead, he claimed that private arrangements with and between insurers could accomplish the same task.\textsuperscript{57} Consider the tort liability of careless drivers. The driver can distribute the risk of paying a tort award by buying auto insurance, which shares the costs of payment among other customers of the insurer. The insurer, in turn, can purchase reinsurance, to help cover itself against the risk of claims in excess of paid-in premia.\textsuperscript{58} Reinsurers can themselves reinsure further, often by dipping into a global investor market.\textsuperscript{59} The ability to recapitalize also effectively gives insurers the capacity, like governments, to share current payment burdens with future contributors.\textsuperscript{60}

\begin{thebibliography}{9}
\bibitem{Chetty} Chetty & Finkelstein, \textit{supra} note 3, at 140.
\bibitem{Calabresi} CALABRESI, \textit{supra} note 52, at 45, 47–48.
\end{thebibliography}
The burden-spreading argument against cross-subsidies, then, turns on the efficacy of private substitutes for taxation. If insurance and reinsurance markets work perfectly, then the burdens of a cross-subsidy can potentially be shifted to be at least as broad as a general tax on the population. On the other hand, if there are failures at any step along the way, whether between the insured and the primary insurer, or between insurer and reinsurer, general revenues might be preferable to pooling.

Of course, in many cases insurance markets are incomplete or nonexistent. Asymmetric information is the usual culprit: if the insured knows more about their own risks than the insurer can observe, the insurer may be unable to price its policy appropriately. Moral hazard, or the tendency of those with insurance to neglect to minimize their exposure to risk, is also a concern. These factors combine to eliminate private credit or insurance markets in many essential areas, such as unemployment risk, and to severely curtail others, such as student borrowing and long-term disability.

One last point to raise before we move on is that taxes and cross-subsidy payments don’t always burden the party who bears the legal obligation to pay them. This question of

65 Chetty & Finkelstein, supra note 3, at 118–19.
who bears the real economic burden of a tax is called the “incidence” of the tax. 67

We mention the incidence point now because it goes directly to the burden-spreading critique of cross-subsidies. If the economic incidence of a cross-subsidy payment is shifted, to others, then the effective tax rate on the pool’s payors may be much less than it seems at first glance. 68 Many cities “pay” for affordable housing by requiring developers of new housing to set aside some as affordable. 69 This looks like a cross-subsidy, in which developers and purchasers of market-rate housing subsidize homes for low-income residents. Superficially, it seems as though this imposes a needlessly high tax rate on the market-rate buyers, relative to financing that drew on all of the city’s taxpayers. But what is the incidence of the affordable-housing mandate? Some economists believe that taxes on real estate are borne, effectively, by all investors in capital. 70 That would actually be a much wider pool than the city’s own taxpayers. In short, we have to know the incidence of any given cross-subsidy

Think of two parallel roads, one of which is newly subject to a toll. Traffic will predictably shift to the other road. We should expect drivers to choose the toll-free road up to the point at which the hassle and delay of the added traffic “costs” them (in intangible aggravation and real lost wages) exactly the toll amount—that is, in equilibrium, it will always be equally costly to drive on either road. Drivers on the toll road will get back some of their toll in the form of a faster ride. Drivers on the toll-free road, in effect, are paying some of the new toll.

67 GRUBER, PUBLIC FINANCE, supra note 66, at 607.
68 See Alfred E. Kahn, The Road to More Intelligent Telephone Pricing, 1 YALE J. REG. 139, 144 (1984) (observing that apparent cross-subsidy burdening business was actually passed on to business customers).
70 Don Fullerton & Gilbert E. Metcalf, Tax Incidence, in 3 HANDBOOK OF PUBLIC ECONOMICS, supra note 38, at 1787, 1815–16. The story is that, by making housing less desirable as an investment, money is channeled to other places, and given the law of supply and demand, these alternative investments will no longer need to pay as well. Consumers may bear a portion of the affordable-housing mandate, however, to the extent that it is imposed non-uniformly. Id.
payment before we know whether a base-broadening critique of it makes sense.

II. The Ubiquity of Cross-Subsidies

If critics of the Affordable Care Act are right, then many aspects of the U.S. legal system are also problematic. As we’ve just seen, any policy in which resources are transferred “horizontally” between consumers of the same good, or between suppliers of the same service or product, can be a cross-subsidy. If that transfer of resources could instead have been funded with taxpayer dollars, it is open to the same critique that commentators have offered for the ACA. In his influential early article, Richard Posner identified a wide variety of potential cross-subsidies. In this Part we wish to highlight some of these, and point out a number of others.

First, there are a number of policies that are recognized as cross-subsidies, at least among sophisticated commentators. Public utilities are a classic example. Because they depend on a physical infrastructure for transmission, telephone, electricity, gas, and water are all more costly to provide to rural customers. Nonetheless, in most countries customers pay a uniform rate, so that in effect urban customers are paying a portion of the cost of delivering service to rural households. The same is largely true, by statute and FCC regulation, of other modern telecommunications services in the United States.

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71 Posner, supra note 2, at 23–24.
72 WORLD BANK, supra note 46, at 1; Faulhaber, supra note 1, at 966.
73 WORLD BANK, supra note 46, at 10; Hausman, supra note 10, at 34 n.17.
74 WORLD BANK, supra note 46, at 19–27. The World Bank’s monograph, id. at 11, discusses other cross-subsidy vectors in utilities, such as (deliberate) failure to shut off households that illegitimately connect to the network.
75 Cremer et al., supra note 20, at 6; Ross C. Eriksson, David L. Kaserman, & John W. Mayo, Targeted and Untargeted Subsidy Schemes: Evidence from Postdivestiture Efforts to Promote Universal Telephone
Likewise, the U.S. postal service charges the same delivery fee for every household, even though delivering to suburban and rural areas is much more expensive than delivering to urban areas. 76

Commentators have noted that many workplace regulations, including anti-discrimination laws as well as wage and hour regulations, potentially redistribute income among workers. 77 For example, the Americans with Disabilities Act requires employers to make reasonable accommodations for individuals who meet the essential qualifications of a position; these expenses likely reduce average wages. 78 Minimum wage laws transfer income to low-wage workers from those who just miss out on landing an entry-level job. 79

Kyle Logue and Ronen Avraham have shown that products-liability torts create cross-subsidies. 80 The tort system is, among other things, a form of mandatory insurance for injury, such as pain and suffering, that

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76 Cremer et al., supra note 20, at 16–17.
77 Jolls, Labor Market, supra note 4, at 375–76; Rabin-Margalioth, supra note 10, at 323–43. Nondiscriminatory employer-provided pensions offer another example. Finkelstein, Poterba, & Rothschild, supra note 3, at 39, 41.
78 Jolls, Labor Market, supra note 4, at 376. As Professor Jolls emphasizes, however, to the extent that anti-discrimination laws are not fully enforceable, other workplace rules benefitting protected groups, such as the ADA or the Family and Medical Leave Act, may not result in cross-subsidies. Rather, if employers are somewhat free to do so, they will impose the costs of those mandates on the protected group itself, resulting in no or only partial net welfare gains. Jolls, Accommodation, supra note 4, at 242–52. Jolls argues that empirical evidence implies that policies aimed at redistributing to women largely fail for this reason. Id. at 248. Whether the ADA had net benefits for individuals with disabilities is more contentious; we agree with the assessment that it likely did. Samuel R. Bagenstos, Has the Americans With Disabilities Act Reduced Employment for People With Disabilities?, 25 BERKELEY J. EMP & LAB. L. 527, 530 (2004).
79 Rabin-Margalioth, supra note 10, at 343; Shaviro, supra note 48, at 416–17.
80 Logue & Avraham, supra note 4, at 229.
consumers would otherwise find difficult to insure. When consumers buy a product, they are also purchasing the unwaivable right to sue the manufacturer in the event the consumer is injured by actionable design or other defects. This contract, however, is not priced differently for insureds who present different risks for the insurer. Therefore, low-risk purchasers of the product are paying a premium to cover the expected costs of high-risk purchasers.

We would add to this account by observing that the tax system shifts some, but not all, of these costs to the general public. Tort awards other than punitive damages are not usually taxed, which often allows the tortfeasor to make a less than fully compensatory payment. In effect, this portion of the tort award is paid from the Treasury: the injured person takes home the same after-tax award, but the tortfeasor pays less. Further, in the case of business-to-business sales, the cost of the cross-subsidy can be deducted from the payor’s tax, providing a 35% federal contribution to

82 The widespread use of mandatory arbitration provisions has recently moved us towards a world of at least partial waiver, at least for claims that are impracticable without a class action.
86 States can upend this rule if they instruct juries to take taxability into account when awarding damages. See Gregg D. Polsky & Dan Markel, Taxing Punitive Damages, 96 VA. L. REV. 1295, 1305–05 (2010) (making this point about jury awareness of tax treatment of tortfeasor).
the cost.\textsuperscript{87}

In prior work, we have pointed out yet other cross-subsidies. As Maher observes, defined-benefit pensions, such as are still widespread in public-sector jobs, promise an annuity, or fixed annual payment, for the life of the retiree.\textsuperscript{88} DB pensions are far more valuable to long-lived employees, yet it is likely that employers cannot individually adjust the salary paid to those it expects to live longest to reflect this higher expected payout. Brooks shows that the contemporary financing structure of student loans, including income-driven repayment programs, like Income-Based Repayment and Pay As You Earn, underwrites poets (and other students at greater risk of drop-out or default) at the expense of engineers (and other safe bets).\textsuperscript{89}

We now will detail several other important areas in which cross-subsidies play an important but so far largely neglected role.

\section*{A. Family Leave Benefits}

The United States is among the least generous developed countries in the world in its family leave policies.\textsuperscript{90} California, and recently New Jersey, Washington State, Rhode Island, and Washington, D.C., are notable exceptions, but for the most part U.S. employers have no legal obligation to pay workers on leave to care for family members, unless

\textsuperscript{87} Dodge, \textit{supra} note 85, at 175. Dodge and Polinsky & Shavell each argue that deduction is not a subsidy, because tort damage substitutes for precautions, and precautions are deductible. \textit{Id.} at 176; Mitchell Polinsky & Steven Shavell, \textit{Punitive Damages: An Economic Analysis}, 111 HARV. L. REV. 869, 929–30 (1998). This is wrong. Most precautions are capital investments, and must be capitalized (deducted slowly over time) rather than deducted. I.R.C. §§ 263, 263A. Thus, deduction is a subsidy at least to the extent that it accelerates the claiming of precaution costs.

\textsuperscript{88} Brendan S. Maher, \textit{Regulating Employment-Based Anything}, 100 MINN. L. REV. 1257, 1282 (2016).


\textsuperscript{90} Lester, \textit{supra} note 4, at 3.
specifically bargained for. Both major 2016 Democratic Party candidates for President proposed large expansions of paid family leave as part of their platform, however. In addition, the U.S. requires employers to offer unpaid family leave for up to six weeks, but that duration is modest by global standards.

As Gillian Lester has pointed out, family leave benefits, in combination with other rules prohibiting wage and hiring discrimination on the basis of gender, tend to create cross-subsidies in favor of households that include working women. In addition to paying wages for workers who are not working, employers must arrange their workforce to account for the possibility of family leave, such as by training employees to have overlapping skills, designing production processes to be able to accommodate missing essential employees, or simply hiring temporary fill-in workers.

In the absence of anti-discrimination laws, some employers might put these costs of mandatory leave on working women, who claim the bulk of family leave benefits. An employer focused only on its bottom line might pay women less or even refuse to hire women so as to try to control those costs. Since both these policies are at least

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94 Lester, *supra* note 4, at 58.
95 Jolls, *Labor Market*, *supra* note 4, at 374–75; *see id.* at 379 (summarizing studies finding that family-leave mandates reduce women's wages).
96 Employers likely do not value paid leave at its cost to them, because many of its benefits are externalities—they benefit individuals outside the firm, such as those who value gender equality. In this case, the employer will only offer benefits if workers will accept a corresponding salary reduction, but bargaining and other market failures often preclude
officially illegal, the employer’s alternative is to pay all workers less.\footnote{97} Thus, the costs of the family leave policy is at least in part borne by all workers, rather than just by those most likely to utilize it.\footnote{98}

\textbf{B. Patent Law}

Patent law and related intellectual property protections, such as copyright, offer interesting examples of cross-subsidies that flow across time. Because many inventions could easily be copied, inventors may not be inclined to innovate at socially optimal levels.\footnote{99} Intellectual property aims to reverse this market failure by granting inventors a temporary monopoly, such as twenty years for most U.S. patents and ninety-five years for most copyrights.\footnote{100} All individuals who purchase or make use of the invention benefit from its creation, but only those who pay for it during the monopoly period are contributing to the outcome. Lester, \emph{supra} note 4, at 10–11, 14–15. Of course, society as a whole would benefit from expanding female workforce participation and from pro-natal policies (and from gender equality generally), \emph{id.} at 18–33, but in many cases these policies would benefit a given company only marginally. Government may be needed to overcome this collective-action problem. \emph{See} Jolls, \emph{supra} note 4, at 364 (discussing externality rationales for workplace regulation).

\footnote{98} \emph{See} Jolls, \emph{Labor Market}, \emph{supra} note 4, at 376 (describing “targeted” workplace benefits generally). Some readers have questioned whether we should truly consider this a cross-subsidy from men (and women without children) toward women with children, since the proper baseline should not be a world in which childbearing women bear all of the costs of child care. But we could instead describe mandatory family leave as correcting a cross-penalty rather than introducing a cross-subsidy without altering our fundamental point. Our point is not about whether to share costs of child-rearing collectively or not; our point is, having decided to do so, cross-subsidization is one policy instrument that should be analyzed and compared to others.
\footnote{100} \emph{Id.} at 7, 11.
financing of the government's incentive. In effect, those who pay while the invention is on patent underwrite those who buy a later generic.

Patent scholars recognize that granting patent-holders a monopoly right in their invention is only one of several possible ways that governments could encourage innovation.101 Like taxes, monopolies create deadweight loss.102 Since the seller limits quantity to keep prices artificially high, there will be some consumers, who might otherwise have been willing to buy at a competitive price, who won't obtain the product. Competitors who might have earned profits in an open market also lose out.103 Whether this cost is greater or less than the social cost of simply awarding grants, paid for with general tax revenues, is a subject of intense recent debate.104

C. Class Actions

The central conceit of the class action is to provide a procedural device that permits numerous, similar, small value claims to be aggregated and litigated together. Given relatively fixed litigation and other costs, many small-value suits would not generate a positive expected value for individual litigants. Grouping claims together economizes on these costs and permits a remedy, and a potential deterrent effect, where none might otherwise arise. To be sure, there are contending considerations, as many others have

102 Gallini & Scotchmer, supra note 101, at 54.
103 The incidence of the patent cost may also fall on consumers who shift to substitute, unpatented products: as demand rises for the substitute product, so do prices.
explored. We need not delve into the intricacies of that rich body of literature here, other than to point out (because it is directly relevant to our claim here) that whatever the intent or merits of the class action device, it cannot and does not afford the type of individualized relief one commonly expects the American system to provide.\textsuperscript{105}

As a result, notwithstanding the right of plaintiffs to opt out in some cases or the use of sub-classes or damage formulas, the necessary practical consequence of the class action model is that stronger claims are packaged with weaker claims in constructing the true unit of relief, i.e., the class. It is that bundling that likely motivates the class action attorney to embark upon the litigation—the attorney only has to establish that class claims are sufficiently similar to satisfy Rule 23, not identical in all respects. Nor, when damages are calculated, is any real effort made to distinguish claims beyond some modest categorization, which cannot possibly correspond to the actual merit and value one would assign to each individualized claim. By authorizing the class attorney and the court to present and certify a class, one is greenlighting a cross-subsidy as a part of a larger strategy to effect socially valuable aims.\textsuperscript{106}

Why use the class action, rather than, say, public financing of attorneys who could bring small-value claims individually? That question has never been explored satisfactorily in all the large literature on class actions.


\textsuperscript{106} In addition, while some may explain the fact that fewer “strong” plaintiffs than one would expect opt out as a consequence of ignorance or apathy, they may be actors who are willing to forego pursuing a stronger claim in return for increasing the strength of the class action suit as a means to “stick it” to wrongdoers. Cf. Brendan S. Maher, \textit{The Civil Judicial Subsidy}, 85 IND. L.J. 1527, 1535 (2010) (discussing “ultimatum game” studies where participants chose to be worse off to prevent unfairness). Players willing to pay a fairness premium are, in our parlance, infra-marginal actors who might be desirably employed as regulatory adjuncts.
III. When Are Cross-Subsidies Efficient?

The prior Parts set up the main question this paper attempts to answer: If cross-subsidization is an inferior way of paying for public and social programs, why is it so ubiquitous? The answer in this Part is that cross-subsidization may not be so bad, and in some cases may actually be the preferred policy design choice. We describe four reasons that cross-subsidization may sometimes be a more efficient form of public financing than tax and transfer: it can better address exceptions to and weaknesses in the Atkinson-Stiglitz framework; it can better approximate nondistortionary benefit taxation; it can avoid over-subsidizing infra-marginal consumers; and it can take advantage of both the pure and political economic benefits of being less salient to individuals. We address these each in turn below.

A. Known Exceptions to the Atkinson-Stiglitz Framework and Their Application to Cross-Subsidies

While the conventional wisdom, as we’ve said, is that governments should avoid differentiated consumption taxes, the existing literature recognizes three major exceptions to that principle. Two of these are long-standing, and indeed are mentioned by Atkinson & Stiglitz in their original article. We’ll call these the “informational advantage” and “leisure complement” theories, respectively. A third theory, dealing with the possibility that tax avoidance is more important than labor/leisure distortions, is relatively recent, and has been developed most comprehensively by David Gamage. All three theories share the common feature that they describe ways in which consumption taxes can sometimes solve or improve on problems created by the income tax. Since the first two exceptions are well-known, our discussion of them will be brief and limited to highlighting the aspects that are
most important for cross-subsidies.107

1. Informational Advantages of Cross-Subsidies

Many commentators recognize that sometimes a differentiated consumption tax can help to overcome the informational shortcomings of an income tax.108 The basic problem is that governments usually can’t observe our underlying ability to earn money.109 I might have what it takes to be an investment banker, but also kind of like the lifestyle of a beachcomber. Since bankers earn more money, they also face higher tax rates, encouraging me to hit the beach.110

Ideally, taxing authorities would prefer that the tax system not influence our choice of careers, especially if tax pushes us in less productive directions.111 One way to achieve that goal would be to tax not income itself, but the underlying ability to earn income.112 If government could observe my banking chops it could impose the same tax on me whether or not I actually wear pinstripes, thereby

107 For a cogent summary on how taxing authorities should apply the first two exceptions to the design of tax systems, see Chris William Sanchirico, Tax Eclecticism, 64 TAX L. REV. 149, 194-218 (2011).
110 See Stiglitz, supra note 109, at 221 (showing that government’s problem is to choose policies so that “the more able do not wish to pretend to be less able”).
111 Id.
eliminating the tax incentive to beachcomb.\textsuperscript{113} That’s usually impossible (and maybe even morally objectionable), but perhaps there are some kinds of consumption that are favored by individuals with high, but not low, ability.\textsuperscript{114} Taxing these forms of consumption would be, in effect, a tax based on ability.\textsuperscript{115}

Cross-subsidies may in some cases serve as a tax on the ability to earn.\textsuperscript{116} Most straightforwardly, consider workplace rules guaranteeing paid family leave, sick time, and freedom from discrimination against individuals with disabilities.\textsuperscript{117} In an unregulated workplace, all the beneficiaries of these rules likely have lower earning power (due to employer discrimination or higher perceived costs of employing these groups) than other members of the pool, so that (to the extent the incidence of the mandate falls on other workers) the rule serves as tax on the higher “ability”

\textsuperscript{113} Ability taxes are most efficient when the underlying characteristic that is taxed is not readily changeable, so that there is little new distortion from the ability tax. But this need not be the case, as long as the distortion created by the ability tax is overall less costly than the distortions caused by the income taxes it replaces.


\textsuperscript{115} Saez, supra note 108, at 226; Stiglitz, supra note 109, at 238. Kaplow extends this framework to cases in which government wishes to tax individuals differently on bases other than ability to earn, such as variations in their preferences. Kaplow, Heterogeneous, supra note 108, at 15–19.

In a similar spirit are proposals that government provide in-kind benefits to low-ability earners, where those benefits would not be valued by individuals with high ability. See Boadway & Marchand, supra note 108, at 51, 54; Nichols & Zeckhauser, supra note 114, at 376; see Janet Currie & Firouz Gahvari, Transfers in Cash and In Kind: Theory Meets the Data, 46 J. ECON. LIT. 333, 353–56 (2008), for an exhaustive survey.

\textsuperscript{116} Boadway & Marchand, supra note 108, at 57–58; Cremer et al., supra note 20, at 15; Helmuth Cremer et al., The Economics of Universal Service: Theory, white paper at 4–5 (World Bank 1998).

workers. Subsidized water and other utilities for impoverished areas similarly channel resources to individuals who otherwise would have low lifetime productivity.

2. Taxing Leisure Complements

Another well-known limit on the Atkinson-Stiglitz result is that it may sometimes be appropriate for government to impose a higher burden on so-called “leisure complements.” Income taxes make it more appealing to skip work and go to the park instead; to counter this distortion, government could charge an entry fee at the park.

Implementing this tactic through cross-subsidies is tricky because, by definition, everyone in the pool is buying the same good. For instance, let’s say that access to high-speed internet is on net a leisure complement: by taxing it, government could encourage work by making leisure somewhat more expensive. Rules that require uniform internet access pricing for more rural or otherwise high-cost

118 Jolls, Accommodation, supra note 4, at 251. We emphasize again that “ability” in this context is not intended to convey any judgment about the worth of the individual, but rather is just a description of the worker's likely maximum salary.
119 Cf. WORLD BANK, supra note 46, at 5 (arguing that subsidized utilities redistribute to the poor on average). Public utilities in developing countries may also be inferior goods, which is to say that households with higher earnings prefer private consumption. Id. at 46–47. This further improves the “tagging” accuracy of the public system. Cf. id. (arguing that inferior goods are better targeted at poor populations). But see id. at 70 (reporting that actual design of many utility programs aimed at poor does not target money to poor effectively).
121 We don't intend to rule out the possibility that access to a really good streaming service could also encourage work productivity. Galle recommends a “Walking on Sunshine” Pandora station, but the other two of us think that he is a dork.
users would subsidize those users at the expense of others. So government is taxing the low-cost urban users, encouraging them to work, but it is also encouraging rural households to stay home and binge-watch “Master of None.” The labor losses from the subsidized users, in other words, may reduce or even outweigh any labor gains from the transferors.\textsuperscript{122}

We see a few possible instances where pooling could still serve as an effective tax on leisure complements. For one, net gains are possible when the labor response of transferees is less elastic than the labor response of transferors—that is, if transferees don’t much change their labor supply as a result of the new subsidy. If transferees reduce labor by 50 while transferors increase it by 100, we have a net gain in labor supply.

Differences like this are possible if we have some existing distortion that weighs more heavily on one group than another. A common example might be when transferees face lower effective income tax rates than the transferors. Recall that we expect the behavioral impact of a tax to rise exponentially with the effective rate. A cross-subsidy that changes the effective tax rate from 39 to 40% will change overall behavior by much more than one that changes it from 10% to 9%. This makes it possible that an internet cross-subsidy could increase the labor supply of high-tax households by more than it reduces the labor of low-tax households, even if those groups are equally numerous.\textsuperscript{123}

\textsuperscript{122} This same problem also interferes with a similar strategy, noted in Boadway & Marchand, \textit{supra} note 108, at 57–58, of subsidizing a good that competes with leisure.

\textsuperscript{123} See Shaviro, \textit{supra} note 48, at 422. Since most income tax systems are progressive, it may sound like we are in effect saying that cross-subsidies should run from people with high incomes to those with low, but our message is a bit more nuanced than that. Our claim is that the cross-subsidy may be more efficient than an income tax when being a beneficiary is \textit{correlated} with lower income, but not if a person can \textit{become} a transferee by lowering their income. If income determines whether a person is a payor or transferor, then the pool is just an income tax in disguise. Our internet example likely qualifies as a pool that taxes leisure efficiently and escapes this “income tax in disguise” problem,
By similar logic, taxing leisure complements might work when transferees greatly outnumber transferors. If there are only a few transferors and many transferees, the tax bill for each transferor is relatively big and the subsidy for each transferee is relatively small. Since labor effects grow exponentially with the size of the tax or subsidy, the added labor effects for the few transferors will be much larger, in the aggregate, than the lost labor of the transferees.\footnote{This assumes that the labor-elasticity of leisure and the amount transferred is equal on both sides.}

3. Minimizing Total Avoidance Costs

The third scenario in which cross-subsidies can improve over the traditional income tax is when cross-subsidies and income taxes distort different behaviors. In that case, shifting some of the burden from an income tax onto a cross-subsidy (or other form of consumption tax) will be more efficient than relying on an income tax alone. We’ve seen that the “double-distortion” argument of Atkinson & Stiglitz assumes that a consumption tax has just as much effect on labor decisions as an income tax has. In that case, it will make no difference if we use an income tax, a consumption tax, or a combination of the two—labor market decisions will be distorted the same no matter what. A 20% income tax, a 20% consumption tax, or a combination of two 10% taxes will all impose the same burden on labor market decisions—each dollar earned will take a 20% haircut before being consumed.

But, as David Gamage has argued, an income tax and

\footnote{Since it defines the transferor and transferee groups by geography, not income. Rural households are often lower income (and, since they have fewer government amenities, less taxed in general), Lisa R. Pruitt, \textit{Missing the Mark: Welfare Reform and Rural Poverty}, 10 J. GENDER RACE & JUST. 439, 445–47 (2007); see Gary Paul Green, \textit{Sustainability and Rural Communities}, KAN. J.L. & PUB. POL’Y, Spring 2014, at 421, 424, but one cannot get subsidized internet just by reducing one’s labor effort.}
a consumption tax may actually affect different behaviors.\textsuperscript{125} There is limited evidence that income taxes reduce labor supply for most workers.\textsuperscript{126} If an individual wants to reduce her income taxes, she’s more likely to resort to other behaviors, such as under-reporting income, over-reporting deductions, or engaging in outright evasion. Similarly, an individual wanting to reduce consumption taxes is more likely to, say, go to a cash-only dollar store, or ship purchased fine art to his New Hampshire office instead of his New York home.\textsuperscript{127} In that case, instead of having the labor distortions of a 20\% tax, we have the distinct evasion behaviors of two 10\% taxes. Because the deadweight loss of taxation increases with the square of the tax rate, we would prefer the latter; here, the whole truly is greater than the sum of the two parts.\textsuperscript{128} When there are different margins of distortion, like this, the government should keep shifting tax revenue over to the new tax until, at the margin, the next dollar raised through either tax would be equally socially costly.\textsuperscript{129}

\begin{footnotesize}
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\item[\textsuperscript{128}] A simple formula for the deadweight loss of taxation in this case is often given as $\frac{1}{2} \eta w l t^2$, where $w$ is the wage rate, $l$ is hours worked, $\eta$ is the elasticity of substitution between labor and leisure, and $t$ is the tax rate on labor. Auerbach & Hines, \textit{supra} note 38, at 1349–50. Thus, holding all else equal, an increase in tax rates from, say, 5\% to 10\% would increase DWL by 75, but an increase from 10\% to 15\% would increase DWL by 125. Note, however, that this formula is simplified and that individual responses to taxation, both in theory and in evidence, are more complicated. Nonetheless, “it remains true that ... the magnitude of excess burden is roughly proportional to the square of any [departure from marginal cost pricing, e.g., a tax].” \textit{Id.} at 1415.
\item[\textsuperscript{129}] Gamage, Framework, \textit{supra} note 125, at 41-44; see also Crawford,
\end{enumerate}
\end{footnotesize}
This argument comes with several important caveats, as Gamage recognizes. First, of course, it must actually be the case that the two tax instruments affect different margins of behavior. Gamage, Framework, supra note 125, at 35-39. That’s usually an empirical question. Next, there may be extra public administrative and private compliance costs to creating a new tax, which might reduce or eliminate the benefits of adding the new tax. And, finally, if the new tax is imposed on fewer people than the old, the burden it imposes may quickly catch up to the old tax—that is, Gamage’s overlap point doesn’t eliminate the importance of base-broadening.

With these cautions in mind, we turn now to cross-subsidies. Cross-subsidies may create efficiencies, up to a point, by allowing government to reduce income-tax rates. As cross-subsidies grow in magnitude, at some point the distortions they create will approach the costliness of the distortions created by the income tax. At that point it no longer will make economic sense to shift from general revenues to cross-subsidies. When the pool of subsidy-payers is much smaller than the pool of income-tax payers, that point will occur at a much smaller cross-subsidy than it would if the pools were of similar size.

The central assumption of this efficiency claim, however, is that subsidy payers’ responses to cross-subsidies must not overlap too much with their responses to the income tax. If the Affordable Care Act strongly motivates young men to avoid earning or reporting high income, there won’t be much net gain from relying on cross-subsidies rather than general revenues. In most cases, however, we believe that individuals will respond differently to different

Keen, & Smith, supra note 41, at 282 (noting that consumption tax may be fallback for evasion of income tax).
131 Gamage, The Case, supra note 126, at 387–400.
132 Gamage, Framework, supra note 125, at 32–34; see also Margalioth, supra note 4, at 680–81.
133 Gamage, Framework, supra note 125, at 20.
134 Cf. Posner, supra note 2, at 43 (noting that businesses may attempt to evade cross-subsidies).
instruments.\textsuperscript{135} There are no obvious avoidance tactics for simultaneously escaping the burdens of both the tort system and the income tax, for example.\textsuperscript{136}

The “overlap” requirement does imply one major limitation on the efficiency of cross-subsidies. Cross-subsidies likely cannot be used as a tool for redistributing on the basis of income \textit{qua} income. If government is going to provide health insurance to the poor, it must identify who is poor. Typically, that is accomplished by measuring household incomes.\textsuperscript{137} Even if this measurement is not done directly through the income tax itself,\textsuperscript{138} in most cases techniques for reducing income taxes will also reduce measured income for purposes of these transfer programs. On the other hand, returning to Gamage’s argument, it may be possible to redistribute to the poor by using some quality that correlates with poverty, and which cannot be manipulated in the same ways income can. For instance, in some countries transfers from urban to rural areas also on average transfer from rich to poor, and urban dwellers cannot conceal their urbanity by, e.g., getting paid in cash.

The “informal economy” may also be a constraint on our overlap argument. Many cross-subsidy systems depend on workplace regulation. It is possible that individuals can escape both from the income tax and from a costly cross-subsidy by working “under the table.”\textsuperscript{139} An employer who

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\textsuperscript{135} See Margalioth, \textit{supra} note 4, at 681 (arguing that typical tax avoidance behavior cannot reduce cross-subsidies).
\textsuperscript{136} This claim does depend somewhat on how the tax “base” and the regulation are defined. For example, if both are effectively per-unit charges, they may encourage overlapping shifts from quantity to quality. \textit{Cf.} Henry Smith, \textit{Ambiguous Quality Changes from Taxes and Legal Rules}, 67 U. CHI. L. REV. 647, 661–64 (2000) (describing incentives to change quality of products in response to unit charges).
\textsuperscript{138} For instance, before the Affordable Care Act, the definition of “income” for Medicaid eligibility purposes did not follow federal tax definitions, and was administered by states, not the IRS.
\textsuperscript{139} For a global overview of the informal economy, see Friedrich
\end{flushleft}
pays her employees in cash in order to evade payroll taxes is probably not offering health benefits or complying with ERISA pension rules either. In other words, cross-subsidies that rely on a regulated employment relationship may increase incentives to defect to the informal economy.\(^\text{140}\)

### B. Benefit Taxation

#### 1. Benefit Taxes Are Nondistortionary

Paying for public goods using cross-subsidies may also be efficient where the cross-subsidy is better at capturing the individualized benefit from the good than a tax is. The distortion and deadweight loss from taxation (or cross-subsidization) exists only to the extent that tax payments differ from the benefit received at the margin.\(^\text{141}\) Where an additional payment leads to additional benefit, then the extra cost that comes from working more (in the case of income taxation) or paying a higher price for the good or service (in the case of cross-subsidization) shouldn’t have negative behavioral effects, since the individual receives at least as much in return for that extra payment.\(^\text{142}\) To see this, consider the following trivial example: Suppose an individual’s payment of \(x\) more in tax leads to farm subsidies that make the individual’s groceries exactly \(x\) cheaper. The individual’s after-tax earnings go down by \(x\), but the cost of her consumption bundle also drops by \(x\), so there is no net effect on her utility from consumption and therefore no additional distortion to her labor effort.


Although, as the example shows, an income tax can theoretically approximate a benefit tax, that is highly unlikely in practice. Income taxation is a blunt instrument used to pay for a huge undifferentiated pool of public goods. A person would rarely associate the decision to work additional hours (or not) with incremental government benefits.\footnote{Cf. H.P. Young, N. Okada, & T. Hashimoto, \textit{Cost Allocation in Water Resource Development}, 18 \textit{WATER RESOURCES RESEARCH} 463, 465 (1982) (discussing game-theory problems with assigning costs of collective good among self-interested individuals).}

Cross-subsidies, on the other hand, can be more narrowly targeted and flexible, thus creating a clearer connection between costs and benefits, and leading potentially to less distortion. In the best case, the differential prices paid through the cross-subsidies would line up exactly with benefits, and would therefore be essentially a non-distortive benefit tax—despite still being a transfer from those with relatively high income to fund provision of the good for those with relatively low income.\footnote{Cf. Jolls, \textit{Labor Market}, \textit{supra note 4}, at 361–63 (explaining that mandated benefits can increase employment, depending on effects of mandate on labor supply and demand curves).}

Consider a government mandate that employers provide paid parental leave to their employees, an example that Larry Summers uses in a 1989 article.\footnote{Summers, \textit{supra note 18}. For a more detailed model of Summers’s argument, see Jonathan Gruber & Alan B. Krueger, \textit{The Incidence of Mandated Employer-Provided Insurance: Evidence from Workers Compensation}, \textit{in 5 TAX POLICY AND THE ECONOMY} 111 (David Bradford ed., 1991).} Suppose that the cost of providing the leave is $.10 per hour worked (because the employees earn more leave the more they work). In this case, one would expect in equilibrium that hourly wages would fall by $.10—since the employer is substituting the new fringe benefit for wages—but employees that value the benefit would not perceive their total compensation to fall by as much. As long as they put some positive value on the benefit, the “tax” on their labor is really the difference
between $.10 and their subjective value of the benefit. In other words, for each additional hour worked, they might earn $.10 less cash than before, but they also gain an incremental amount of paid leave—and only the net of the two is the real cost to the employee and the source of any distortion and deadweight loss. In the case where the employee values the paid leave at exactly $.10/hour, there is no distortion at all.

Contrast this with a tax-and-transfer approach. Suppose instead of mandating parental leave, the government simply imposed an income tax and used the revenue to pay parents during a leave. Even if taxpayers value the benefit, divorcing the benefit from the source of funding would cause the full amount of any tax increase to be distortionary. Only the cost, not the benefit, would be tied to labor market decisions—one could work less or hide income but still receive the same benefit.

In theory, however, costs and benefits could be tied together either at the employer level or through government

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146 Gruber, Labor Market, supra note 24, at 659–60. Taxes often further sweeten the deal, since in-kind benefits are typically exempt from income and payroll tax. Melese, supra note 97, at 64–65.
147 This result holds even if some of the costs of the mandate are passed on to third parties, such as consumers. Jolls, Accommodation, supra note 4, at 239.
148 Id. We simplify. Distortions are possible under a variety of conditions, such as if employers are constrained to offer similar insurance to low- and high-hour employees. In that case, since low-hour workers are made relatively more expensive by the mandate, employers will come to prefer fewer workers working more hours. Id. at 661; see generally David Cutler & Brigitte Madrian, Labor Market Responses to Rising Health Insurance Costs: Evidence on Hours Worked, 29 RAND J. ECON. 509 (1998) (measuring effect of health costs on hours).

The mandate case is further helped by the existence of infra-marginal workers who may be already receiving the benefit. Those employees who value paid leave at more than $.10/hour may have already negotiated that benefit. The new mandate thus does not affect them at all. Paying for this good through an employer mandate thus leads to expansion of the benefit without affecting those already receiving it. See infra Part III.C.
programs. Suppose that the public parental leave program were financed and provided just like the employer-mandated version, with an incremental $.10 tax on wages (at the employer or employee level) and paid leave that increased with hours worked. In that case, we would actually not expect any behavioral or distortionary differences between an employer mandate and the tax-benefit program. In both cases, an incremental hour of work carries the same additional costs (the $.10 tax) and benefits (the incremental leave), and so it should have the same effects on labor market decisions.\footnote{Lester, supra note 4, at 59.}

The difficulty for our argument, and for Summers, is that not many government programs are designed that way. Our key assumption is that under both the mandate and the tax-benefit structure both the value and cost increase proportionately with hours worked. But more commonly, public programs are designed to provide a universal lump-sum benefit. In that case, workers pay more taxes as their labor effort rises, but their benefit remains fixed. Workers can dodge taxes or work less and still claim the benefit.

That is, what distinguishes a successful benefit tax is not whether it is collected by employers or governments, but whether individuals view themselves as having to pay the tax to get the benefit. Income taxes generally cannot establish this link, because taxpayers believe that their small contribution to the fisc does not impact the overall level of services they receive. Their tax payments generally cannot be credibly tied to a specific set of benefits or policies.\footnote{Brian Galle & Kirk Stark, Beyond Bailouts: Federal Tools for Preventing State Budget Crises, 87 IND. L.J. 599, 626–27 (2012)} Furthermore, the income tax plays a particular role in policy discourse, tending to revolve around overall revenue needs and broader distributional goals, rather than targeted program funding.\footnote{The obvious counter-example here is the payroll tax, which is tightly linked to Social Security and Medicare. But this financing system separate from the income tax was created precisely to achieve that linkage, which would not have been available if New Deal reformers had} By contrast, an employer mandate (or
other form of cross-subsidy, about which more below) can be more tightly bound together with some other benefit; cable fees to support libraries will show up on the cable bill if a household wants cable, and workplace regulations must be borne in order to get paid for work.

2. Cross-Subsidies Across Large Pools Can Operate As Benefit Taxes

The discussion in this section thus far has focused on employer-mandated benefits. But that is just one category of cross-subsidy program, though a particularly large one. It encompasses not just, say, employer-provided health care, but also family leave, worker’s compensation insurance, unemployment insurance, minimum wages, and overtime requirements. It also includes programs that, while not required to be provided, do come with cross-subsidization rules when provided, such as ERISA non-discrimination requirements for pensions and retirement plans. It could even include softer forms of mandates, such as when public relations pressures or fairness norms drive employers to offer a new benefit to everyone in the absence of any legal rule (for example, Starbucks offering its employees online education programs through Arizona State University152).

But the benefit taxation argument also extends to other forms of cross-subsidization.153 For example, consider patent law. As noted above, patent law creates a way to fund innovation by essentially charging early consumers of a good a near-monopoly price in order to generate excess returns for the inventor. But by definition any person paying that price

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153 Smith, supra note 136, at 658.
for the good is likely to be receiving at least as much benefit, even at the monopoly price, or else they would not buy the good at all. The cross-subsidy for the inventor essentially comes out of the consumer surplus of the purchaser, but still leaves that purchaser better off than she was before purchasing. Contrast that with a traditional tax (e.g., to fund innovation grants) that would fall on everyone, regardless of benefit from the good, leading to a net loss for some individuals.154

This point leads to an additional complication that others, including Summers, have not considered in defending employer mandates and other forms of cross-subsidization, namely that the argument above depends in part on how universal or widespread the use of the good is. This is a point that we do not believe has appeared in the literature, but is an important one to consider in policy design.

Consider the patent case again. In the example above, we conceive of the patent as imposing a tax on the consumer in order to provide an additional transfer to inventors, and we contrast that to, say, an innovation grant program funded out of income tax revenues. But a tighter apples-to-apples comparison would actually be to a tax on only the consumption of the patented product. Suppose that instead of giving patents to Apple on various iPhone components, the government instead imposed a sales tax on iPhones, and distributed the proceeds to Apple. Leaving aside the obvious optics problem, the two policies would be roughly the same. But then what we’ve done is reintroduced the problem of differential consumption taxation discussed above. The Atkinson-Stiglitz argument would come back into play—wouldn’t it be better to fund this public good (such as it is) with an income tax rather than a differential consumption

154 Monopolies of course can create deadweight loss, but it is of a different sort than taxes. The deadweight loss of monopolies derives from destroying some of the surplus that would exist from exchanges under perfect competition; the deadweight loss from taxation (in the simple setting we’re discussing) derives from shifts away from labor toward leisure.
tax? The answer is: it might be, but two points deserve more elaboration.

First is just that the benefit taxation point is still relevant and can provide another counter-argument to A-S. In other words, the differential consumption tax is, as Summers said, not the full amount of the additional cost, but the difference between the cost and the benefit. If the benefit exceeds the additional cost, then there isn’t really a “tax” and it’s not clear that A-S even applies. For instance, if early adopters of iPhones earn huge consumer surpluses from purchase, they may not be deterred by the government’s upcharge.

Second, this differential cost would not really be differential if the goods were universally consumed by consumers who are equally costly to serve. If everyone owned an iPhone, then imposing a tax on (or charging monopoly prices for) iPhones is really just a lump-sum tax on everyone, and would not distort consumption or labor market decisions. More realistically, health care is a near-universal service, and thus building additional costs into the price of health care services themselves wouldn’t lead to substitution effects if everyone continued to consume health care. But this is less true of other goods with more limited consumption, such as parental leave and higher education.

In the case of parental leave, the benefit of the program is concentrated on current or future parents and others with dependents. In the Summers example, the assumption is that the generic employee has some positive marginal benefit from the program, but of course, many (i.e., those without present or future children) won’t perceive any subjective benefit at all. To them, the $.10/hour cost is entirely a “tax.”

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155 Summers notes that, “[i]n the case of health insurance, a lump sum tax is the appropriate benefit tax.” Summers, supra note 18, at 181.

156 Gruber, Incidence, supra note 35, at 626.

157 Cf. Jolls, Accommodation, supra note 4, at 257–60 (showing that mandates applicable to fewer than all workers can redistribute across workers); Donohue, supra note 66, at 903–05 (same). Jolls and Donohue do not explore the fact that these transfers are in effect differentiated
concentrating the cost of the program on those who actually use or anticipate using the program would get it closer to being a true benefit tax (even if there are still cross-subsidies among differential users). On the other hand, charging everyone spreads the cost more widely, lowering the per-person cost.\footnote{Gruber, Incidence, supra note 35, at 626.} Implementing this program through the employment system may be a good compromise between these two competing effects. The cost is imposed on a wider group than merely those who use the program (thus keeping per-person costs down) but limited to those who \textit{could} use the program (thus charging those who get at least get some insurance benefit even if they never actually take advantage of the program.)

In the case of higher education, the U.S. has long followed a cost-sharing model, splitting the costs between the student and the state (and private donors).\footnote{Brooks, supra note 89, at 245.} This likely reflects some understanding of the large private benefits that accrue to the student, and the large public externalities that come from having an educated population. But even if the average benefit from higher education more than offsets the average net tuition, there is substantial variability among former students (especially non-graduates), and also for a given former student across her life cycle. The income-driven student loans programs, such as IBR and PAYE, provide for some cross-subsidization from more successful graduates to less successful, and also from future selves to current selves. But one of us has argued that there should be more cross-subsidization, especially since the alternative is imposing additional costs on those who have not had higher education.\footnote{Id. at 269–71.} But, again, this would result in costs being spread less widely and impose differential consumption taxes on some groups and not others.

These are complex trade-offs, and there likely is no taxes or consider the implications of that fact in an Atkinson-Stiglitz framework.

\footnote{\textit{Id.} at 269–71.}
single right answer. But policymakers should understand the trade-offs. Indeed, it may be that the complex basket of instruments that we use to fund higher education, for example, in fact reflects these difficult trade-offs, and represent an attempt as best as possible to charge individuals something close to their individualized benefit.

C. Reducing Ineffective Payments

We now will move on to a third general category of reasons cross-subsidies could be efficient. Our argument, which we think we are the first to suggest, is that cross-subsidies may be a way of more effectively targeting government subsidies and reducing wasteful payments. In more technical terms, cross-subsidies may reduce payments to “infra-marginal” consumers or producers. By trimming out useless payments, governments are freed to reduce tax burdens or redirect resources to more productive uses.

In order to show how cross-subsidies solve the problem of infra-marginal payments, we first have to explain what that problem is. A “marginal” decision is one that is just on the knife’s edge of flipping from one choice to another: I’m willing to pay up to $200 for a new Droid, and it’s priced at $199.99. We call a consumer “infra-marginal” when their decision is not close to the margin: I’d pay up to $400 for a smart phone that’s selling for $199.99.

Government payments intended to change or facilitate consumer decisions are largely wasted if the consumer is infra-marginal. By definition, the infra-marginal consumer

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161 Summers hints at this argument somewhat when he notes that a tax to fund parental leave would cause employers with existing leave program to simply drop their program, thus leading to more overall distortion from the tax. Summers, supra note 18, at 181. But he does not develop the point further.

162 Eriksson, Kaserman, & Mayo, supra note 75 at 478. We assume, contrary to the analytic approach of KAPLOW, supra note 13, at 2, 13–34, that the government does not enact a distributively off-setting tax on the class of individuals who are eligible to receive the subsidy. In that setting, as Kaplow shows, it is optimal to ignore infra-marginal actors, as net of the tax only decisions on the margin matter. Id. at 213–15. While
was already willing and able to buy the good, so the government’s payment does nothing except perhaps enrich that consumer.\textsuperscript{163} To be sure, in some cases enrichment is itself the goal, as in the case of discounted access to essential utilities for the poor. But if the goal is simply to encourage more consumption of the good, transfers to infra-marginal consumers are wasteful.\textsuperscript{164}

While the exact portion of government spending wasted on infra-marginal consumers is not known, and surely varies from program to program, there are reasons to believe that the dollar figures are large. Chetty and Finkelstein argue, for example, that the costs of underwriting infra-marginal consumers may be so large in the health insurance context that no level of subsidy is justifiable.\textsuperscript{165} As many as nine out of ten buyers who claimed federal credits for energy-efficient appliances would have bought even without the credit.\textsuperscript{166}

\textsuperscript{163} Subsidies may not even enrich the recipients if producers of the good raise prices to capture the subsidy. \textit{See}, e.g., Steven Bourassa et al., \textit{Mortgage Interest Deductions and Homeownership: An International Survey}, 21 \textit{J. Real Estate Literature} 181, 182–200 (2013) (summarizing studies finding that sellers capture benefits of buyer’s home mortgage interest deduction).

\textsuperscript{164} \textit{World Bank}, \textit{supra} note 46, at 13. This is true regardless of whether transfers are funded by taxes or cross-subsidies, assuming the cross-subsidy is a departure from the efficient market price. Eriksson, Kaserman, & Mayo, \textit{supra} note 75, at 478.

\textsuperscript{165} Chetty & Finkelstein, \textit{supra} note 3, at 111, 120.

\textsuperscript{166} Sebastien Houde & Joseph E. Aldy, \textit{Belt and Suspenders and More: The Incremental Impact of Energy Efficiency Subsidies}, Resources for the
Cross-subsidies can sometimes improve over direct government support by better targeting subsidy dollars to those whose behavior is most likely to be changed by the subsidy.\textsuperscript{167} That is, in some cases a pool may transfer money from infra-marginal or inelastic consumers to marginal or elastic ones.\textsuperscript{168} In that scenario, there is a net increase in consumption of the product.

An example here might be student loan programs, which again pool high-earners with likely dropouts. We might expect that those who later prove to be high-earners for the most part are aware of the payoff they will earn from college and so are more likely to attend. Almost by definition, students who are at greatest risk of failing to complete school are marginal, in that they are relatively unlikely to attend without encouragement and financial support. If there is a positive externality for society from every college graduate, student loan pools are an effective way to fund that goal: large subsidies for marginal consumers are financed in part through higher payments from infra-marginal attendees. Free college, by contrast, would provide subsidies to both

\textsuperscript{167} Cf. Timothy Besley & Stephen Coate, \textit{Public Provision of Private Goods and the Redistribution of Income}, 81 AM. ECON. REV. 979, 984 (1991) (suggesting that advantage of in-kind provision of benefits could be that only those who could not afford to buy benefits on their own consume them).


Our argument here is similar to a point originally made in Ronald H. Coase, \textit{The Marginal Cost Controversy}, 13 ECONOMICA 169 (1946), about the pricing of utilities. Coase observed that utility customers might respond elastically on the intensive margin—the amount of water they use, for instance—but very inelastically on the extensive margin decision of whether to connect to the water & sewer system at all. He proposed that a connection fee would therefore be the equivalent of a lump-sum tax, and so more efficient than an income tax as a source of funding for the fixed costs of the utility. See also Hausman, supra note 10, at 43.
marginal and infra-marginal students, and would tax everyone more heavily to pay for it.

Another version of the targeting argument is that consumption by some members of the pool may be more socially valuable than others. There might be cases in which transferees on average create a larger positive externality for a given level of consumption than transferors, so that shifting money from one group to the other on net increases consumption of the desirable good. For instance, telecommunications law funds internet access for schools and libraries through higher fees on other telecom services.\textsuperscript{169} Arguably, the internet adds more social value when used for research and education than for Netflix.\textsuperscript{170} If higher fees open more educational opportunities at the cost of some households skipping Game of Thrones, this is a net social gain.\textsuperscript{171}

A counter-argument to both these points might be that in many cases targeting would be possible without the pool.\textsuperscript{172} If we know that educational uses are more important than entertainment, why not just give schools grants?\textsuperscript{173}

One answer is that pools can allow redistribution even when government cannot observe which members are infra-marginal. Prior work in the economics of insurance markets has shown that the continued success of an insurance pool can offer indirect information about the preferences of some pool participants. Often, if there are some insureds who are higher cost, but unobservably so \textit{ex ante}, the insurance pool

\textsuperscript{169} Hausman, \textit{supra} note 10, at 31 n.11.
\textsuperscript{170} But see Stranger Things (Netflix 2016). No, really, you should see it. See \textit{supra} note 121 (noting that Prof. Galle is a dork).
\textsuperscript{171} See Cremer, \textit{supra} note 20, at 15 (defending the library policy as redistributive).
will suffer from adverse selection, and may even collapse into a “death spiral.”\textsuperscript{174} Death spirals can be avoided, however, if there are low-cost insureds who value insurance highly enough to be willing to pay the extra premiums that come with belonging to a pool of high-cost customers.\textsuperscript{175} In effect, some of the consumer surplus from those who are high demanders of insurance is transferred to the high-cost customer. The continued existence of the pool is thus evidence that high-demand customers exist and are underwriting their costlier neighbors.\textsuperscript{176}

\textsuperscript{174} Markets with greater observability or ready access to contract tools are much less prone to adverse selection. Peter Siegelman, \textit{Adverse Selection in Insurance Markets: An Exaggerated Threat}, 113 YALE L.J. 1223, 1224–26 (2004). Insurers can use contract terms, such as co-pays and deductibles, to screen out high-cost customers. \textit{See generally} Keith J. Crocker & Arthur Snow, \textit{Multidimensional Screening in Insurance Markets with Adverse Selection}, 78 J. RISK & INS. 287 (2011). Another route is cost control. If average costs per insured of a plan are always lower than consumer demand, there is no selection effect. Chetty & Finkelstein, \textit{supra} note 3, at 118. This is thought to be difficult to achieve.

\textsuperscript{175} Alma Cohen & Peter Siegelman, \textit{Testing for Adverse Selection in Insurance Markets}, 77 J. RISK & INS. 39, 67–68 (2010); for survey of the empirical evidence, see Chetty & Finkelstein, \textit{supra} note 3, at 124–25. Chetty and Finkelstein argue that this “advantageous selection” leads to over-insurance of low-demand individuals. \textit{Id.}, at 125–26. Our argument is that “over-insurance” is potentially efficient in cases where the lower demander is higher risk.

\textsuperscript{176} This assumes that the quality of the underlying product is held constant. Smith, \textit{supra} note 136, at 666–68. Another possible rival explanation for continued pool viability is if the low-risk members will eventually become high-risk, and the pool administrator can credibly promise to continue cross-subsidies in that future state. Tom Baker, \textit{Containing the Promise of Insurance: Adverse Selection and Risk Classification}, 9 CONN. INS. L.J. 371, 381–82 (2002/2003); see David Cutler & Richard Zeckhauser, \textit{Adverse Selection in Health Insurance, in Frontiers in Health Policy Research} 1, 9–10 (Alan M. Garber ed., 1988).

Alan Krueger argues that pool administrators may also hold private information that could be valuable in targeting benefits. Krueger, \textit{supra} note 5, at 6. We think in many cases this information would also be available if the government funded the program through general revenues and simply hired the pool administrator, but perhaps there are
To see this, suppose a worker, Achilles, who knows that he is likely to die relatively young, but this information is not readily observable by anyone else. Achieves therefore knows that, if he participates in his employer’s defined-benefit pension program, he is effectively subsidizing his colleague, Methuselah, who is expected to collect pension benefits for many years after retirement. If Achilles gives up salary in order to participate in the pension plan anyway, and we assume Achilles is a rational actor, we know that Achilles must place a relatively high value on income security during whatever (limited) retirement years he will enjoy. We cannot know until his untimely passing that Achilles was an infra-marginal participant. But Achilles’ participation in the pool lowers the total costs of the pool nonetheless. Without the pool, the government could not have known that it could pay Achilles less.

While not all pools have this feature, we think a fair number do. As we’ve just suggested, many insurance and retirement benefit systems fit the pattern. Class-action lawsuits arguably do, too: if the best plaintiffs stay in the class, rather than opting out, that suggests that they value the benefits of aggregate resolution at more than the value transferred to their fellow litigants. And these plaintiffs are most likely to be infra-marginal, as by definition they would have had the best chance to succeed on their own. Utilities (and here we include the post office) that charge similar rates per unit consumed to all users are another potential example. The fixed costs of the system’s infrastructure are largely borne by the heaviest users, who presumably are

certain kinds of information, such as confidential employee performance evaluations, where operating the pool together with some other function produces economies of scope.


178 See Finkelstein, Poterba, & Rothschild, supra note 3, at 48.

179 See Daniel A. Lyons, Internet Policy’s Next Frontier: Usage-Based Broadband Pricing, 66 FED. COMM. L.J. 1, 6-7 (2013) (noting the mobile phone industry uses usage-based pricing, which can shift network costs
the most likely to belong to the network regardless of subsidy, and the fact that these users remain despite the disproportionate charges they bear evidences that.\footnote{Kahn, supra note 68, at 144–45.}

On the other hand, some pools may route money in the opposite direction, subsidizing infra-marginal users at the expense of the marginal. Net neutrality rules may have something of this flavor. Net neutrality prohibits internet providers from, among other things, charging heavy-usage customers higher rates.\footnote{Rebecca Curwin, \textit{Unlimited Data, but A Limited Net: How Zero-Rated Partnerships Between Mobile Service Providers and Music-Streaming Apps Violate Net Neutrality}, 17 COLUM. SCI. \& TECH. L. REV. 204, 209 (2015).} Although the ultimate impact of the rule depends on a number of technological and other details, in some settings it has the effect of subsidizing the heavy-usage customers at the expense of others.\footnote{Christopher S. Yoo, \textit{Network Neutrality and the Economics of Congestion}, 94 GEO. L.J. 1847, 1853-54 (2006) (noting that net neutrality “allows high-volume users to impose costs on low-volume users, in effect requiring the latter to subsidize the former”). \textit{See also} Christopher S. Yoo, \textit{Network Neutrality, Consumers, and Innovation}, 2008 U. CHI. LEGAL F. 179, 203 (2008).} Even assuming that there are sound policy reasons for encouraging internet access—network externalities, for instance—this would be a silly way to do it.\footnote{We don’t mean to say that net neutrality lacks other virtues, only that it is not a sensible financing mechanism for network externalities.} The heavy users presumably would demand internet even without subsidies, while the burden of the cross-subsidy reduces the demand for internet among those casual users who are most likely to be deterred by the higher cost.

Finally, even some pools that do not redistribute between infra-marginal and marginal consumers in either direction might still be questionable policy choices. As we discussed in Part I.B., cross-subsidies imposed on goods with positive externalities diminish production of the externality onto the heaviest users); David L. Kaseman & John Mayo, \textit{Cross-Subsidies in Telecommunications: Roadblocks on the Road to More Intelligent Telephone Pricing}, 11 Yale J. Reg. 119, 132 (1994).
by the transferors. This distortion could wipe out any gains produced by new externality production from transferees. When transferors are mostly infra-marginal or otherwise inelastic consumers, this problem is diminished: the higher cost doesn’t reduce the transferors’ consumption, preserving its spillover benefits. But if there is no correlation between inelastic demand and being a transferor—if transferors can be marginal or infra-marginal alike—this problem remains.

D. Hidden and Off-Budget Taxes

A final set of situations where cross-subsidies may be an improvement over the traditional income is where any tax embedded in the cross-subsidy is somewhat hidden. We see two main analytical subcategories here. First, the cross-subsidy could be hidden in a private or micro sense: the cross-subsidy may simply be less salient to an individual, and therefore less likely to lead to behavioral distortions. Second, the cross-subsidy could be hidden in a public or macro sense: using an off-budget and non-tax instrument might overcome some of the economic, political, and procedural barriers faced by tax instruments.

1. Hidden Taxes and Salience

In Part III.B above, we discussed how cross-subsidy mechanisms can be designed to approximate benefit taxes, and therefore can avoid some of the worst distortionary effects of taxation. But even if the cross-subsidy is in effect an income tax, or close to it, it may still be less distortionary if it’s less salient to the individual. If an individual does not consider the cross-subsidy in the same way that she does an income tax when making labor market decisions, then the cross-subsidy would cause less behavioral distortion.

For example, consider the income-based subsidies for the ACA or the income-driven student loan payments under IBR and PAYE. Because these subsidies are income-based, they can potentially create the same sort of incentives as an

\[184\] See Shaviro, supra note 48, at 422.
income tax. Just as an individual might try to mimic a low-income person in order to avoid paying income tax (e.g., by working less, substituting for non-taxed forms of compensation, or simply hiding income), so might a person do the same in order to lower their out-of-pocket health insurance premium or student loan payment.

Of course, the ACA and IBR/PAYE are not exactly equivalent to income taxes. In particular, they are much less progressive, especially at the higher end. Unless someone has relatively low income already (less than 400% of the poverty line for the ACA; or a “partial financial hardship” under IBR/PAYE\textsuperscript{185}) appearing to have lower income won’t affect their premium or loan payments.

But even if the programs were equivalent to income taxes, offering income-based payments that exactly mimicked an individual’s income tax payments, there is still some reason to think that individuals would treat them at least somewhat differently.\textsuperscript{186}

First, the timing of payments could affect payors’ behavioral responses. The ACA and student loan programs are based in most cases on the prior year’s income. The separation in time between earning the income and calculating the income-based payment could lead to some discounting of the effects: earners would have to anticipate the impact of next year’s student loan payment on their current year’s incentives to work.\textsuperscript{187} By contrast, income

\textsuperscript{185} Income-driven repayment for federal student loans kicks in when a borrower is in “partial financial hardship,” which is when the standard loan payment exceeds 10% of the difference between the borrower’s adjusted gross income and 150% of the relevant poverty level. See, e.g., 34 C.F.R. § 685.209(a)(5).

\textsuperscript{186} For empirical support, see generally Keith Marzilli Ericson & Judd Kessler, \textit{The Articulation of Government Policy: Health Insurance Mandates Versus Taxes}, 124 J. ECON. BEHAV. & ORG. 43 (2016) (reporting survey evidence that individuals were more likely to comply with “mandate” to buy insurance than with penalty tax for failing to purchase).

\textsuperscript{187} There is evidence that individuals engage in “hyperbolic discounting,” i.e., applying a high and increasing discount rate to future events, beyond what a simple “rational” discounting theory would predict. See, e.g.,
taxes are withheld from paychecks or perhaps paid quarterly through estimated taxes or business filings.\textsuperscript{188} Similarly, cross-subsidization payments that are infrequent or irregular should have less of an effect on life-cycle driven choices about career and income paths. Subsidized student loan payments are nice, but taking a lower-paying job just to reduce loan payments will often be counter-productive when the loan payments are only for a fixed number of years.

Second, the form in which these cross-subsidies appear could make them less salient to individuals, and thus less likely to alter behavior. For example, the cost of the cross-subsidy could appear as a lower quality or level of service.\textsuperscript{189} Perhaps the spending that could make my internet speeds faster or college classes smaller instead goes to subsidize rural internet access and financial aid, respectively; these could potentially be less salient to me than explicit fees added to my internet or tuition bill.

Furthermore, even if the cross-subsidy is just baked into the price, there is some evidence that consumers respond differently, and sometimes more powerfully, to a tax or fee than to a mere price increase. This could be because the public debate and media coverage of a tax increase is greater than for a price increase, thus making it more salient for individuals (there is evidence of this effect for gasoline taxes, for example).\textsuperscript{190} Alternately, a tax increase could be more persistent than volatile market price movements, and thus be more likely to affect long-term decisions. Finally, for

\textsuperscript{188} This is not a necessary effect—premiums and loan payments could adjust weekly. But design choice is first order—that’s the whole point.

\textsuperscript{189} Smith, \textit{supra} note 136, at 649.

\textsuperscript{190} See Shanjun Li, Joshua Linn, and Erich Muehlegger, \textit{Gasoline Taxes and Consumer Behavior}, 6 A\textsc{meer} E\textsc{con} J.: E\textsc{con} P\textsc{ol’y} 302 (2014).
some there is a negative valence and rhetoric around taxes that doesn’t attach to other policy instruments. In these and similar cases, hiding what is in effect a redistributional tax into the price of a good may be more efficient than taxing.

That said, in some situations the presentation of the cross-subsidy could actually be more salient. Income taxes are thought to affect behavior because of their effects on consumption. If the subsidy (or extra payment) for a good just appears in an annual tax bill, it could have some effect on consumption of that good. But when the subsidy (or extra payment) is baked right into the price of the good itself, it’s likely to be much more stark. For example, Chetty, Looney, and Kroft have shown that consumers are more responsive to sales taxes displayed on the shelves than sales taxes computed at the register. While this type of salience may not affect labor market decisions, it is likely to affect consumption decisions.

To summarize, if a cross-subsidy comes across as less salient to an individual than an equivalent tax, it will be a more efficient funding mechanism, all else equal. But whether that is the case is ultimately an empirical question. The importance of salience in evaluating tax policy is now well-understood, and salience is a frequent topic of empirical study; that work should be brought to bear on cross-subsidization regimes as well.

2. Off-Budget and Non-Tax Instruments

Financing policies through cross-subsidies rather than taxes may also affect the likelihood that the policy will be enacted and sustained over time. Budgeting systems play several key roles in the political economy of most governments. Budgets can serve as a visible means of public accountability for officials, revealing their priorities and obliging them to impose taxes sufficient to pay for their policy choices.191 Budget systems also tend to create “veto

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191 JAMES J. GOSLING, BUDGETARY POLITICS IN AMERICA 117 (5TH ED. 2009); JOHN W. KINGDON, AGENDAS, ALTERNATIVES, AND PUBLIC POLICIES 107–08 (2d ed. 2003); Elizabeth Garrett, Accountability and Restraint:
gates” or choke points where a small number of officials can block legislative action. Cross-subsidies potentially sidestep all these limits.

The public accountability function of budgets plays a central role in other legal debates. In each of these contexts, scholars argue that the need to raise tax revenues to pay for government acts as an important check on government actors, forcing them to take some account of the costs of their decisions. Sometimes, though, we might want to make government action easier, such as when a cohesive lobbying group will be likely to block legislation that is good for the public at large. In those cases, allowing regulators to move items “off budget” might be the better choice. There are, however, serious empirical questions about whether budgets really play the key role in limiting or easing government

192 For development of the veto gate concept, see George Tsebelis, VETO PLAYERS: HOW POLITICAL INSTITUTIONS WORK 17–64 (2002) and for a shorter overview, see Mark Hallerberg, Empirical Applications of Veto Player Analysis and Institutional Effectiveness, in REFORM PROCESSES AND POLITICAL CHANGE: VETO PLAYERS AND DECISION MAKING IN MODERN DEMOCRACIES 21, 21–29 (Thomas Koenig, Mark Debus, & George Tsebelis eds., 2010).  
193 See Gruber, Labor Market, supra note 24, at 663 (noting that insurance mandates are “politically appealing” in “era of tight fiscal budget constraints”).  
action that these debates assume.\textsuperscript{196}

We are more confident in the role budget rules play in creating “veto gates” and other obstacles to legislative action. Inertia is a potent political force, particularly when those with power to block progress hold divergent views.\textsuperscript{197} Policies that require continual legislative renewal are unlikely to survive in the long term, and those that must run a gauntlet of veto gates are unlikely to come into existence in the first place.\textsuperscript{198}

The Congressional budgeting process offers useful examples. Some federal programs are structured as “entitlements,” and are automatically funded, while others must be affirmatively provided with funding each year in an annual appropriations bill.\textsuperscript{199} Appropriations bills historically have had to first pass through a small subject-matter committee before coming to the floor for a vote.\textsuperscript{200} Entitlements, not surprisingly, are far more likely to maintain their funding over time than programs subject to annual appropriations.\textsuperscript{201} Furthermore, in the Senate, legislation that lacks any budget effect, or that results in a net addition to the federal deficit of more than $5 billion, requires sixty votes rather than fifty.\textsuperscript{202} Large programs


\textsuperscript{197} Tsebelis, supra note 192, at 165.


\textsuperscript{201} Gosling, supra note 191, at 145.

\textsuperscript{202} Garrett, supra note 200, at 719–20; Yin, supra note 199, at 215–18, 221–24.
requiring massive annual on-budget expenditures are therefore prone to “raids,” as by cutting them a new proposal can create savings to offset new expenditures.203 Off-budget programs take more votes to enact, but are not subject to raids and are more difficult to repeal.

Placing programs off budget, then, can serve as an important tool to commit the government in the future, although this can also be spun as a negative. It’s exceptionally important, but exceptionally difficult, for legislatures to commit themselves.204 Because off-budget programs are effectively entitlements, are not subject to raids, and require sixty votes for repeal, they are far more likely to survive future political opposition than those that are on budget. Off-budget programs may be a rare tool Congress has for making credible promises to the future.205 On the other hand, this durability has potential downsides, such as greater error costs.206

Off-budget financing also allows government to pay for public goods even when there are some strictures on traditional tax instruments. The notion here is that traditional taxes and public spending may be held below their social optimum because of constraints on government action, and non-tax instruments can help to fill the gap.207

205 But cf. Yin, supra note 199, at 233 (arguing that automatically-expiring legislation may be more predictable during its lifespan because opponents will likely wait until expiration to oppose). Since the alternative we consider here is annual appropriations, not automatic expiration, this argument does not have much force in our context.
207 Brooks, supra note 195, at 1084–86.
Here, we see two primary examples. First, governments may feel constrained by the economics of interjurisdictional competition to keep their taxes and spending lower than they or their citizens would prefer. This will be especially true at the state level in the United States, but can also apply at the federal level. Second, there may be formal (at the state level) and informal (at the federal level) budget constraints on governments that limit their ability to use on-budget forms of financing.\textsuperscript{208}

Regarding competition, the general view in the literature is that fiscal competition between states will exert downward pressure on tax rates. At the state level, mobility of individuals and businesses may make it tempting for a state to try to attract high-income individuals and businesses with lower tax rates.\textsuperscript{209} At the national level, the mobility of capital, especially financial and intellectual capital, exerts a similar pressure on corporate tax rates. Overall levels of taxation and public spending may then end up being lower than a worldwide social planner would choose. If cross-subsidies are more hidden and less salient to individuals and businesses, then they may help to close the gap between the actual and optimal levels of taxation and public spending.\textsuperscript{210}

This is in part an expansion of the salience point in the prior subsection, but considering the effects on salience on shifting of income between jurisdictions, as opposed to the overall level of income.

It’s an open question whether and how much competition has these effects, however. Some states do not seem all that constrained in their ability to increase


traditional taxes, for example. Moreover, there are other fiscal federalism forces that may push the other way. For example, states may in some situations over-tax relative to the optimum, because many of the negative effects of taxation fall on individuals and businesses outside of a given state. But these sorts of vertical fiscal externalities may in turn cause federal tax rates to be too low, since that is where many of these externalities fall. If a state has “too high” of a state corporate tax rate, because it doesn’t pay the full price for the effects of that tax, then the federal corporate tax rate may have to compensate to avoid driving a corporation overseas, for example. If the federal government is so constrained, again, more hidden forms of taxation may help to close the gap.

E. Other Practical Considerations

In addition to the factors we’ve discussed so far, policy makers will of course also want to take into account other considerations that affect whether policies succeed or fail. As we emphasized earlier, we see the cross-subsidy question as mostly an issue of financing. A cross-subsidy can usually be integrated with any combination of other design features. For instance, if legislatures want to pay for innovation through cross-subsidies but prefer to deliver those subsidies before a product comes to market, they could finance government grants through an excise fee (equivalent in cost to a patent monopolist’s markup) collected during the first twenty years a product is on the market. In this Subpart, however, we highlight three design features that may be distinctive to cross-subsidies, such that if policy makers dislike these features, they might have to choose taxpayer

financing instead.

1. Progressivity

Our defense of cross-subsidies has centered on the possibility that they may redistribute on a basis other than income, but transfers within a pool may also result in transfers from rich to poor or vice-versa. Some of these transfers may be desirable. Individuals with disabilities are generally poorer in our society, so anti-discrimination rules that protect those with disabilities also tend to increase the overall progressivity of government transfers. 213

In some cases cross-subsidies might favor the poor, but to a lesser degree than the general tax system. 214 In those instances, relying on cross-subsidies reduces progressivity, compared to the alternative of tax financing. 215 Some commentators criticize the Affordable Care Act on this basis, pointing out that the cross-subsidies younger men provide generally do not increase much with income, so that blue-collar workers bear a heavier proportionate burden than their white-collar supervisors. 216 Since men tend to outearn women there is still some progressivity in these transfers, but relying on general tax revenues would be more progressive. 217

Louis Kaplow has argued that these progressivity side-effects should not be a reason to either enact or oppose

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214 Gruber, Incidence, supra note 35, at 640; Kaseman & Mayo, supra note 179, at 139.
215 WORLD BANK, supra note 46, at 19, 132–133; Rabin-Margalioth, The Same, supra note 4, at 146–47.
non-tax policies.\textsuperscript{218} Instead, he suggests that unwanted regressivity can be corrected, and desirable progressivity achieved, through the income tax.\textsuperscript{219} For instance, if cross-subsidies leave one class of individuals richer on average, tax rates could be raised for that group. If that is unrealistic, he says we should evaluate policies with progressivity implications in two steps: first, is it good policy, and second, would we want to enact a tax reform with these progressivity features?\textsuperscript{220} To our eyes, he does not take a clear position on what policy makers should do if their answers to these two questions conflict.

Our view is that progressivity can at least be a reason to support a cross-subsidy. As we have shown, cross-subsidies sometimes achieve wealth redistribution more efficiently than the income tax, such as when being in the pool is a “tag” for ability, or when cross-subsidization can enable governments to undertake or commit to more redistribution than they could using an income tax alone. We also think that unwanted regressivity (or excessive progressivity, conceivably) could sometimes be reason to oppose a cross-subsidy proposal. If no correcting tax reform will or could realistically be bundled together with the cross-subsidy, society must be willing to accept that its distributive consequences are a price to be paid for other goals.

2. Polluter Pays

Cross-subsidies also have implications for the government’s choice of how to design incentives, such as the decision whether to offer rewards or to punish. While commentators usually favor punishment,\textsuperscript{221} Dari-Mattiacci

\textsuperscript{218} Kaplow, supra note 13, at 16–19.
\textsuperscript{219} Id. at 20–21.
\textsuperscript{220} Id. at 29–32; see also Cremer et al., supra note 20, at 22–23 (modeling comparison of distributive effects of cross-subsidy versus direct cash subsidy).
and De Geest (“DMDG”) have argued for “carrots” rather than “sticks” in some situations. They rely on much the same arguments we describe in Part II.A. If society uses carrots to change behavior, the cost of the carrot will typically be borne by all taxpayers, while a stick burdens just the bad actor. In essence, DMDG are arguing that the costs of government incentives should be financed through the income tax, rather than by transfers among a pool of individuals who might both cause and be harmed by each other’s acts.

While the DMDG account is in many ways persuasive, we would further highlight the possible role of moral hazard. Beginning at least with Ronald Coase, most commentators have argued that actors who create harms for others should be penalized, rather than being paid to stop. Just as insurance may induce those with coverage to take on excess risk, paying the polluter gives others the perverse incentive to begin polluting so that they too can be paid. Even where this dynamic is not present, “sticks” encourage externality producers to anticipate future regulation. Thus, governments should prefer cross-subsidy financing where that choice tends to leave wrongdoers responsible for paying the bill.

Intermediate options may be better than either pure sticks (cross-subsidies) or pure carrots (tax financing). Most insurance contracts aim to strike an optimal balance between the risk-spreading benefits of coverage and the moral hazard detriments. Usually, drafters accomplish

223 Id.
225 Id.
226 Kaplow, Transitions, supra note 61, at 528–30.
this goal by requiring the insured to bear some of the costs, while the insurer picks up the “tail risk,” the risk of disastrous losses. Co-pays and deductibles are common examples.229

Similarly, an optimal government financing mechanism might rely partly on cross-subsidies and partly on tax revenue. For instance, takings law usually grants either full or zero compensation to condemned properties.230 An arguably better outcome, at least in the case of property taken to prevent negative externalities, would be to provide partial compensation (assuming that parties cannot themselves spread the risk of takings through private arrangements).231 This would mitigate the property owner’s downside risk, while also still maintaining owners’ incentives to cure spillovers before they happen, thereby preventing the need for the taking.232

3. The Scope of the Pool

A final point, perhaps obvious but still important, is that cross-subsidies by their nature typically operate only within pools. Payors who lack resources, or who are too willing to flee the pool if asked to cross-subsidize others, cannot be used as a base of support.233

In addition, the fact that benefits are delivered through a pool often means that beneficiaries have limited choices. Unless the benefit is readily marketable, the transferee of a cross-subsidy must be willing to accept the

229 Baker, supra note 176, at 374.
230 See supra text accompanying notes 193–196.
232 Id. at 583.
pooled good to collect any transfer. Cash, of course, would allow the recipients more freedom to allocate the transfer as they like.\textsuperscript{234} There can be solid economic reasons for delivering benefits in kind rather than in cash. In addition to the optimal-tax reasons we described earlier, policy makers may want to target resources to goods that produce externalities, may paternalistically believe beneficiaries under-consume some goods, or might conclude in-kind transfers reduce fraud.\textsuperscript{235} In-kind provision also may be necessary for goods that could not readily be purchased, such as insurance products subject to serious moral hazard problems.\textsuperscript{236} Failing any of these arguments, though, paying through a pool may generate extra deadweight loss to the extent that recipients value the pooled good less than they would some other use of the same funds.

Pools may also fail to reach some beneficiaries. Subsidized water and power are only useful to households that can connect to the pipes or wires.\textsuperscript{237} Rules requiring builders to make 20\% of new units affordable will provide at best indirect support to tenants already residing in affordable but low-quality housing.\textsuperscript{238} To be sure, many transfers also produce externalities. Network effects, for instance, make telecommunications networks more useful as more enroll (to a point).\textsuperscript{239} Our point is only that cross-subsidies often can only spur these externalities by reaching individuals within the pool, and this group may be fewer

\textsuperscript{234} Currie & Gahvari, \textit{supra} note 115, at 338.
\textsuperscript{235} \textit{Id.} at 338–46, 369–73; KAPLOW, \textit{supra} note 13, at 175-78.
\textsuperscript{236} Currie & Gahvari, \textit{supra} note 115, at 372.
\textsuperscript{237} WORLD BANK, \textit{supra} note 46, at 74–77.
\textsuperscript{238} In addition, while cross-subsidies may improve payees’ welfare, they may also increase the cash outlay necessary to enter the pool. Craswell, \textit{supra} note 83, at 395–96. For instance, housing codes might transfer resources to residents in the lowest-quality homes, but also raise the prices of those homes (whether by more or less than the welfare gain). This creates a liquidity barrier for potential beneficiaries.
\textsuperscript{239} S.J. Liebowitz & Stephen E. Margolis, \textit{Network Externality: An Uncommon Tragedy}, 8 \textit{J. Econ. Perspectives} 33, 38 (1994); see also WORLD BANK, \textit{supra} note 46, at 2–3 (noting that water and sanitation expenditures improve educational attainment and overall productivity).

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than all the people who might benefit from a tax-funded project.

IV. Examples

We now illustrate our analysis through a series of brief case studies. In all of these examples, we take the underlying distributive choice as given. That is, we accept for the sake of argument that society wants to transfer resources to women, the injured, or inventors. Our limited question is: should this transfer be effected through taxes and transfers, or instead through cross-subsidies?

A. The Affordable Care Act

In light of our all analysis, we now would argue that key portions of the Affordable Care Act are not only politically pragmatic, but also likely efficient. In particular, the ACA’s drafters probably correctly chose to finance better care for women and the sick through “guaranteed issue” and “community rating” rules rather than via a general income tax. While there remain some empirical uncertainties, critics of the ACA should engage more carefully with its potentially pro-efficiency choices.

First, the ACA combines benefit taxation and targeting of infra-marginal purchasers in a way that tends to minimize the distortionary impact of its cross-subsidies. Individuals who obtain a large consumer surplus from actuarially fairly priced health insurance should still view its purchase as a bargain, even at a higher price. If Ricky Riskaverse\textsuperscript{240} values his $2,000 annual insurance policy at $5,000, he will still be willing to purchase it even if it costs $3,000.\textsuperscript{241} The obligation is nationwide and applies to

\textsuperscript{240} Try saying that five times fast.

\textsuperscript{241} For an application of Summers’s model to the Affordable Care Act context, see Jonathan T. Kolstad & Amanda Kowalski, \textit{Mandate-Based Health Reform and the Labor Market: Evidence from the Massachusetts Reform}, 47 J. \textsc{Health Econ.} 81, 83–85 (2012).
everyone, so there are few margins of behavior that it might distort, and shifting to general tax revenues would not much broaden the tax base.\textsuperscript{242} While some employees do not value insurance, and some employers may find it particularly expensive to provide,\textsuperscript{243} overall the social costs of financing insurance will plausibly be lower than under an income tax.

A key question for individuals who get their health insurance at work, however, is whether employers may have already extracted this surplus.\textsuperscript{244} If Visecorp knows that Ricky values his policy at $5,000, they might be able to squeeze Ricky to exchange it for $5,000 in salary, rather than $2,000. A mandate that raised annual premiums to $3,000 would then leave Ricky worse off (assuming he could not renegotiate his salary upwards).\textsuperscript{245} But it seems very unlikely employers would be able to capture all employee surplus. For one, this surplus is largely unobservable, making it difficult for employers to make offers tailored to particular employee preferences.\textsuperscript{246} For another, tax, labor

\textsuperscript{242} Other provisions of the ACA may reduce this pro-efficiency component, however. Again, a key aspect of the benefit tax story is that obtaining health insurance through work offers employees something they can't get on their own. The ACA offers subsidies for individuals who cannot obtain insurance through their employer, as long as the individual is in a household under 400\% of the federal poverty level. These policies also must be community rated and so also carry a cross-subsidy. But if the individual is subsidized, in effect the government pays both for (some of the) insurance and cross-subsidy. Giving up these subsidies would be a cost of accepting employer insurance, partially breaking the tax-benefit link on which our argument depends. Gruber, Labor Market, supra note 24, at 664.

\textsuperscript{243} Gruber, Labor Market, supra note 24, at 663.

\textsuperscript{244} Gruber, Labor Market, supra note 24, at 657; cf. Jolls, Labor Market, supra note 4, at 363, 372 (noting that in functioning markets, employers will already have provided benefits that are worth more than their cash cost to employees, but pointing out that adverse selection issues may prevent this for health insurance).

\textsuperscript{245} Margalioth, supra note 4, at 683.

\textsuperscript{246} Gruber, Labor Market, supra note 24, at 656; cf. Jolls, Labor Market, supra note 4, at 378 (making this point about mandated medical leave). But see Mark V. Pauly, Health Benefits at Work 90 (1997) (arguing that employers know that older workers value health insurance more
and employment law, the nature of job markets, and contracting-cost constraints oblige most employers to use relatively uniform bundles of pay and benefits, preventing the fine tailoring of compensation awards to individual employee preferences.\textsuperscript{247} At best, employers have likely captured a fraction of the average surplus, leaving room for the ACA to further target infra-marginal purchasers.\textsuperscript{248} Thus, Kolstad and Kowalski, analyzing the Massachusetts precursor to the ACA, report that based on the benefit tax aspect alone, the mandate produced between two and twenty-six percent as much deadweight loss as a comparable tax.\textsuperscript{249}

Next, the ACA reduces the need for distortive tax revenues, and its cross-subsidies likely do not motivate behaviors that overlap with responses to the income tax.\textsuperscript{250}

\textsuperscript{247} Joseph Bankman, \textit{The Effect of Anti-Discrimination Provisions on Rank-and-File Compensation}, 72 WASH. UNIV. L.Q. 597, 599–600 (1994); Gruber, Labor Market, \textit{supra} note 24, at 656; Rabin-Margalioth, \textit{supra} note 10, at 339–40; see Jolls, Labor Market, \textit{supra} note 4, at 380 (observing that “wage stickiness” may prevent employers from fully adjusting salary to offset benefits). Thus, for example, it is difficult for employers to observe employee surplus through the use of “menus” of compensation with differing mixes of cash and benefits. However, there may be some stratification at the firm level, with some employers offering benefits, and attracting those who value the benefits, while others pay in cash. Bankman, \textit{supra}, at 610.

\textsuperscript{248} See Gruber, Labor Market, \textit{supra} note 24, at 656–57 (explaining that under realistic conditions, workers will retain surplus equal to their subjective value less the marketwide equilibrium wage differential).

\textsuperscript{249} Kolstad & Kowalski, \textit{supra} note 241, at 94.

\textsuperscript{250} Other provisions of the ACA might affect the informal economy, but we focus here on community rating and guaranteed issue. For instance, the so-called “employer mandate” affects firms with fifty or more employees, which clearly adds to the firm’s interest in shifting some workers off the books. \textit{See Kolstad & Kowalski, supra} note 241, at 83 (modeling impact of employer mandate on labor demand). This mandate is part of a collection of rules aimed at holding down costs for the subsidies given to low-income households to purchase insurance on the non-group market, David Gamage, \textit{Perverse Incentives Arising from the Tax Provisions of Healthcare Reform}, 65 TAX L. REV. 669, 690—700, 707 (2012), and so isn’t directly related to the ACA’s cross-subsidies.
Few efforts to reduce reported taxable income could affect health insurance premiums. Community rating does not offer much reason to work "off the books," since one way or another the worker must still carry insurance, and that insurance will come with cross-subsidies. On the other hand, tax penalties for failing to carry health insurance are essential to the community rating scheme, and are in part based on income.\textsuperscript{251} They also are enforced mostly through withholding tax refunds, a mechanism that could be avoided if workers never file tax returns.\textsuperscript{252} The penalties, though, are on average considerably smaller than the cost of the cross-subsidy.\textsuperscript{253} While this may limit their effectiveness, it also limits the extent to which the ACA affects any incentive to report income.

Last, while not entirely off-budget, the ACA finances most of its subsidies through tax expenditures, which show up in the national budget as tax reductions rather than spending increases.\textsuperscript{254} Moreover, the purchase of the insurance itself is by individuals, rather than the government, which also minimizes the nominal government cost relative to, say, nationalized health care.\textsuperscript{255} The pragmatic importance of these choices should not be understated. Multi-billion dollar transfers would be unlikely to survive continuing annual appropriations. Experiences

\textsuperscript{251} 26 USC § 5000A(c)(2)(B).
\textsuperscript{252} Id. § 5000A(g).
\textsuperscript{253} See Peter Long & Jonathan Gruber, Projecting the Impact of the Affordable Care Act in California, 30 HEALTH AFFAIRS 63, 68 (2011) (estimating share of individuals subject to mandate who would choose no insurance).
\textsuperscript{255} See Brooks, supra note 195, at 1068.
with TANF in the 1990s and more recently with the Medicaid program show that even highly entrenched entitlements are targets for raids when budgets need balancing. Many actors in the health system must make long-range plans based on the expectation or not of subsidies, and the ACA’s more politically durable structure encourages planners to sink investments with greater confidence that the program will still exist in the future. While the near-repeal of the ACA in 2017 revealed some potential political fragility, the ACA’s survival also shows its surprising strength.

Progressivity offers the strongest objections to ACA cross-subsidies, but even those objections are modest. Premium hikes represent a relatively flat tax on healthier workers. This structure is likely less progressive than the overall tax system, though if one takes into account payroll taxes—the bulk of which are imposed at a flat 12.4% rate and capped at $127,200 in wages—the U.S. tax system is not as progressive as popularly believed. At the same time, the ACA also added a 3.9% tax on the net investment income of households earning above $250,000, which adds significantly to overall progressivity.

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257 Katherine Baicker & Helen Levy, Employer Health Insurance Mandates and the Risk of Unemployment, 11 RISK MGMT. & INS. J. 109, 110 (2008); Mark V. Pauly et al., A Plan for Responsible National Health Insurance, 10 HEALTH AFFAIRS 5, 19 (1991); see Gruber, Labor Market, supra note 24, at 664 (noting that mandates are “particularly burdensome” for low-wage workers).


259 See Social Security Administration, Contribution and Benefit Base, https://www.ssa.gov/oact/cola/cbb.html. The payroll tax also includes an uncapped total 2.9% Medicare payroll tax. Id.


261 Tax Policy Center, Model Estimates, Distribution Tables by Percent,
net transfer to women and the infirm is itself likely progressive relative to a baseline in which there is no ACA.\textsuperscript{262} While we would have favored a middle-class tax cut to further offset any regressive impact of the ACA, we think that overall the progressivity critique is minor in comparison to the benefits cross-subsidies offer.

B. Family Leave Laws

Should governments pay the salaries of individuals who are granted paid family leave, or should workers and their employers have to bear those costs? To make this question more concrete, we consider the recent paid-leave law enacted by the District of Columbia.\textsuperscript{263} D.C.’s law guarantees paid leave for workers in qualifying circumstances. Instead of being paid by employers during this period, workers are compensated out of a District-wide fund, which in turn is financed by a .62-percent payroll tax on D.C. workers.\textsuperscript{264} While this structure follows the classic public finance prescription to pay benefits out of general tax revenues, we think there is much to be said for an alternate cross-subsidy version, previously considered and rejected by the District, in which employers would have been obligated to pay.\textsuperscript{265}


\textsuperscript{262} Cf. Robert A. Carolina & M. Gregg Bloche, \textit{Paying for Uncompensated Medical Care: The Regressive Profile of a “Hidden Tax”}, \textit{2 HEALTH MATRIX} 141, 158 (1992) (noting that costs of uninsured care are passed on to paying health care customers without respect to ability to pay).


\textsuperscript{264} D.C. Act 21-682, § 103.

The “employer mandate” version of the paid-leave law would have some of the same costs as an income or payroll tax. It would reduce the wages of workers, driving down their incentives to work, and this disincentive is piled on top of existing, high, D.C. income taxes.\textsuperscript{266} It also likely duplicates an income tax’s incentives to resort to the informal economy: workers who don’t value paid leave may prefer to work under the table to earn higher salaries. Nor do mandatory leave laws seem to do an especially good job at targeting marginal beneficiaries; rather, the effect is to compensate those who would have taken leave regardless.\textsuperscript{267} At the same time, paid leave actually shrinks D.C.’s revenues, since it reduces wages and D.C. taxes those.\textsuperscript{268} Thus, the District’s councilors don’t even gain the political advantage of hiding the true cost of paid leave off budget.

There are two potential off-setting advantages. For one, mandated paid leave would have some aspects of a benefit tax. Paid leave would make it easier for women (and, increasingly, some men) to enter and stay in the workforce, off-setting some of the policy’s labor-supply effects.\textsuperscript{269} Unlike Prof. Summers’ version of a benefit tax, this benefit would be paid for only in one jurisdiction, and so it could potentially create some locational distortions. Employers who would otherwise be indifferent to location, and whose workforces would not value the benefit, might shift jobs to suburban Virginia and Maryland instead of the District. For the most part, however, this would be true no matter how D.C. financed its policy, since any tax it imposed would be similarly limited to D.C.-connected activities and therefore

\begin{footnotesize}
\begin{enumerate}
\item Cf. Jolls, Accommodation, supra note 4, at 246 (describing effects of mandate that preferences one group of workers). Since the benefit is not literally dependent on income it probably will be somewhat less distortive of work effort than a true income tax. But since presumably higher-paid workers are more expensive to replace and pay while on leave, its impact on salary likely still varies with income, making it rather tax-like.
\item See Lester, supra note 4, at 18–34 (exploring justifications for paid family leave).
\item D.C. Code § 47-1806.
\item See Rabin-Margalioth, The Same, supra note 4, at 145.
\end{enumerate}
\end{footnotesize}
create similar locational distortions.

This brings us, though, to the second potential advantage. In some respects, this second advantage is unique to D.C., but it illustrates a larger point. Congress prohibits the D.C. government from collecting income taxes on individuals who work in D.C. but reside elsewhere.\(^\text{270}\) The paid-leave mandate, in contrast, would have reached every employee who worked inside the District. In effect, paid leave could have allowed D.C. to collect “tax” on workers it could not directly tax. The paid-leave mandate, then, is an illustration of how cross-subsidies can sometimes sidestep arbitrary and inefficient budget constraints that would otherwise limit the options open to lawmakers.\(^\text{271}\)

On balance, it is difficult to say which model—payroll tax and transfer or cross-subsidization via employer mandate—is obviously superior. The choice would depend on the size of the competing advantages and disadvantages. Our claim on this front is therefore simply that it is not obvious, as critics contend, that the mandate approach was the worse choice.

According to published reports, D.C. ultimately chose a publicly-financed tax-and-transfer system not for any of these reasons, but for one of the “practical” design issues we mentioned in Part III.E. An employer mandate would have limited benefits to those who worked in multi-employee workplaces. By choosing public financing, D.C. was also able to extend benefits to those who are self-employed or work in one-worker offices.\(^\text{272}\) In the end, this advantage apparently


\(^{271}\) We claim that the tax limit is inefficient because it motivates workers to live in the suburbs, without any obvious offsetting policy gain. Notably, D.C. residents do not have a voting representative in the body—Congress—that imposed the limit.

\(^{272}\) DC Paid Family Leave.org, Reactions to Business Lobby Proposal for Employer Mandate of Paid Leave,
outweighed, for D.C. legislators, any gains from the alternative design. We would note, though, that the District could likely have had the best of both worlds if it had retained its original idea, but added a very small payroll tax sufficient to pay just for the self-employed.

C. Products Liability Torts

As we saw earlier, the tort system obliges consumers to bear a portion of the cost of injuries caused by consumer products, and these costs are difficult for consumers and manufacturers to re-direct. In other contexts, governments have funded the costs of injuries directly out of general revenues. New Zealand pays for auto injuries this way, while in the U.S. we have used taxpayer-financed victim compensation funds in a few high-profile instances.273

We agree with Logue and Avraham that at least a portion of the cost of accidents should be borne by consumers as a class, rather than paid for with public funds.274 Logue and Avraham mainly argue for using the tort system to redistribute on the basis of wealth;275 we take no view on


273 Schuck, supra note 17, at 190–96. New Zealand does not currently compensate for most pain and suffering claims, however. Id. at 196.
274 Logue & Avraham, supra note 4, at 227–28. To be clear, even proponents of pure public financing would require individual injured parties to bear some of their own costs in order to achieve an optimal level of precaution. Our analysis instead focuses on the share of costs borne by consumers generally. We should also note that increases in consumer costs due to the deterrent effect of torts is generally efficient, at least for products whose dangers are not fully observable by consumers. Polinsky & Shavell, supra note 81, at 1453–61; Hylton, supra note 83, at 2474. What we analyze here is the additional cost imposed on low-risk consumers to finance compensation for injuries to high-risk purchasers. Id. at 2483–84.
275 Logue & Avraham, supra note 4, at 229.
that question, but their analysis also supports compensating victims for their pain and suffering through cross-subsidies.

While we would quibble with some of the particulars of their argument, we share their bottom-line assessment that tort cross-subsidies would not create “double distortion.”\textsuperscript{276} Few behaviors that minimize the income tax would also reduce the costs consumers pay into the tort system, or vice-versa.\textsuperscript{277} Tort’s implicit insurance pool would also extract surplus from some infra-marginal purchasers, although this would be offset in part by the fact that (contrary to Summers’s assumption) it differentially burdens products with varying risk levels. On the other hand, the tort system is expensive to administer,\textsuperscript{278} though since we likely would still have some mechanism for detecting and punishing injuries even under a tax-and-transfer model, it is unlikely that the \textit{incremental} costs of using the tort system for compensation are large.

Our analysis also suggests that the current tax treatment of tort awards may be too generous. Again, by excluding most tort awards from the injured person’s income, among other benefits, the government in effect pays a share

\textsuperscript{276} Specifically, we disagree with the claim Logue and Avraham make about why tort does not create a double distortion. They suggest tort claims are not “correlated with labor effort” because a tortfeasor can respond to a potential tort judgment by reducing the amount of tortious activity it engages in – or, presumably, customers can switch away from products with high implicit insurance premiums. Logue & Avraham, \textit{supra} note 4, at 188–191. Both of these would distort labor supply under a standard Atkinson-Stiglitz analysis. Either way, the individual is changing her behavior away from what she preferred absent tort liability. By definition, her preferences are no longer as fully satisfied. She therefore is no longer getting as much value for her wages, reducing her incentive to work. Our analysis avoids this problem because it depends on tax avoidance behavior, not just labor supply.

\textsuperscript{277} This might not be true of a tax system that relied mostly on sales taxes, since black-market transactions presumably would eliminate both the sales tax and also the likelihood that the seller could be brought to trial.

\textsuperscript{278} Polinsky & Shavell, \textit{supra} note 81, at 1469; Hylton, \textit{supra} note 83, at 2480–81.
of the award.\footnote{Dodge, \textit{supra} note 85, at 175. The Tax Code also allows settling parties to escape tax on investment returns nested within a “structured” settlement, I.R.C. § 104, an unjustified subsidy in most cases. Dodge, \textit{supra} note 85, at 159–60.} If it is more efficient, up to a point, to finance accidents through cross-subsidy, it is hard to justify a taxpayer contribution of 40% or more. Furthermore, to the extent that tortfeasors capture a portion of the taxpayers’ contributions, as they likely do, this structure may violate the “polluter pays” principle, or at least may set the injurer’s “co-pay” at lower than the optimal level.\footnote{\textit{Cf.} Dodge, \textit{supra} note 85, at 61, 174 (noting that tax subsidies for defendants may encourage tortious conduct).} In addition, the government’s share of payment depends on the victim’s tax rate, a factor that is unrelated to any of part of our efficiency analysis. If government is going to contribute a fraction of tort award costs, it should do so through a credit that does not vary by tax bracket.

One last note about geography. So far we’ve assumed a nationwide tort system, but in practice much tort law is made state by state. States should prefer to finance a larger share of consumer protection through cross-subsidies than the federal government would—for instance, states might tax tort awards even if awards were federally exempt. State tax systems are less efficient than federal taxes, in part because it is usually easier for taxpayers to shift money across borders.\footnote{For discussion, see Brooks, \textit{supra} note 209, at 111-20; Brian Galle & Jonathan Klick, \textit{Recessions and the Social Safety Net: The Alternative Minimum Tax as Countercyclical Fiscal Stabilizer}, 63 STAN. L. REV. 187, 195-98 (2010).} Tort liability overlaps with the sales tax, on which many states depend,\footnote{Urban-Brookings Tax Pol’y Ctr., State and Local General Revenue 2004-2011, \textit{at 1} (Sept. 20, 2013), \url{http://www.taxpolicycenter.org/taxfacts/Content/PDF/dqs_table_64.pdf}} which might cut against cross-subsidies. But due to some foibles of federal dormant commerce clause jurisprudence, tort liability is distinct from sales taxes in important ways: it is hard for a merchant to sell into a state without also being subject to tort liability there, whereas it is relatively easy for the same merchant to
escape the state’s taxes on the sale of and profits from its product. \footnote{283} States also face artificial budget constraints, such as balanced-budget rules, that might preclude on-budget insurance for injured consumers. \footnote{284}

D. Intellectual Property Law

Who should pay for innovation: governments, or consumers? As with torts, our answer is “probably both.” Like the right to sue, patent protection in effect imposes a sales tax on patented products but not others. \footnote{285} Pointing in favor of patents, though, they are often in part benefit taxes. \footnote{286} Further, they typically have little obvious interaction with the income tax, suggesting that social costs due to avoidance of patents is far smaller than would be caused by comparable funding through the income tax. \footnote{287} So there can be substantial savings by relying on patents rather than taxpayer dollars, assuming that these savings in the aggregate are large enough to pay for the (not trivial!) cost of the patent administration system. \footnote{288}

Again, however, there are limits to this argument. Patents distort economic activity on many margins. For some

\footnote{283} For more detail, see Brian Galle, Symposium, \textit{Is Local Consumer Protection Law a Better Redistributive Mechanism Than the Tort System?}, 65 N.Y.U. ANN. SURV. AM. L. 525, 530–40 (2010).
\footnote{284} See Galle & Klick, \textit{supra} note 281, at 198–204.
Again, with the disclaimer that substitutes for the patented product may also rise in price if consumers switch to them. While the possibility that IP holders might be able to charge customers differing prices depending on individual demand would mitigate a great deal of deadweight loss, most commentators believe that possibility is mostly impractical. SUZANNE SCOTCHMER, \textit{INNOVATION AND INCENTIVES} 37 (2004).
\footnote{286} Stiglitz, IP, \textit{supra} note 285, at 1713.
\footnote{287} The largest overlap we can think of is the possibility that knock-off products are likely to be traded in the cash economy.
\footnote{288} Cf. Stiglitz, IP, \textit{supra} note 285, at 1715–16 (discussing costs of IP administration).
products, this can become more burdensome than the marginal cost of raising public funds. That will be an especially acute burden if only a small group of consumers pays the premium.

Certain IP-protected products could fall within other exceptions to the A-S framework. For example, IP protections might impose an efficient sales tax on leisure complements. Recent evidence that video games reduce male workforce participation offer a tidbit of empirical support on this front. At the same time, IP also imposes “taxes” on many products that enhance productivity, ranging from the exotic, such as drugs that aid concentration, to the mundane automobile. These are especially undesirable in the A-S analysis.291

IP also has distributive effects. Consumers of some IP-protected goods may be relatively poor, so that switching to taxpayer financing would result in greater overall progressivity. We would add that the cross-temporal nature of IP cross-subsidies implies that the present is paying for the future’s benefits. Based on historical trends, economists expect future taxpayers to be much wealthier

289 Gallini & Scotchmer, supra note 101, at 54–55; cf. Paul L. Joskow, Regulation of Natural Monopoly, in 2 HANDBOOK OF LAW & ECONOMICS 1228, 1251 (A. Mitchell Polinsky & Steven Shavell eds., 2007) (explaining that deadweight loss of taxation can be greater or less than social cost of monopoly).

290 Mark Aguiar et al., Leisure Luxuries and the Labor Supply of Young Men, at 2–3 (unpublished working paper, Apr. 6, 2017). Of course, once video games are no longer IP protected, gamers would be receiving a subsidy, but few games remain popular that long.

291 Once more, those who purchase after IP protection lapses would be subsidized, here a desirable result. It is possible these later gains would outweigh the earlier losses, depending on how long generic products and the like remain useful. Taking into account the time value of money, however, future gains would have to be considerably larger to outweigh up-front losses. See David Weisbach & Cass R. Sunstein, Climate Change and Discounting the Future: A Guide for the Perplexed, 27 YALE L. & POL’Y REV. 433, 439 (2009) (discussing rationale for time discounting in government planning).


293 Id.
than we are.\textsuperscript{294} Just as many bridges are built with bond revenues, IP law might therefore justify deficit-financed tax cuts in the present: in effect, we would be borrowing against the future surplus our IP payments are providing to later generations.\textsuperscript{295}

The political economy of IP is also a mixed bag. On the one hand, government may have difficulty credibly committing to pay an \textit{ex post} award to inventors, especially those who will take many years to bring their product to market. A tax-funded \textit{ex post} grant program might have its funding stripped ten years into a drug or solar-panel development process, and this possibility would discourage some innovators and increase the costs of obtaining outside financing for others.\textsuperscript{296} Because patents are off-budget, they offer a more reliable promise of future funding.

On the other hand, the opacity of IP subsidies seems to have contributed to some abuses.\textsuperscript{297} Infamously, Congress retroactively extended the duration of copyright protections, caving to pressure from powerful existing rights holders.\textsuperscript{298} If the social costs of longer-duration monopolies had been estimated in dollars, and been subject to appropriations, the giveaway might well have failed. Congress also uses short-duration patents as a form of incentive, as in the Hatch-Waxman Act scheme of awarding temporary monopolies to generic drug manufacturers who successfully challenge an existing pharmaceutical patent.\textsuperscript{299} Absent budgeting reforms,

\textsuperscript{296} See Joskow, \textit{supra} note 289, at 1255 (discussing potential for regulator to hold up entrepreneur with sunk costs).
\textsuperscript{297} Romer, \textit{supra} note 285, at 216.
\textsuperscript{299} Pub. L. No. 98-417, 98 Stat. 1585 (codified as amended in scattered
we predict more such bills as substitutes for targeted government support. Congress’ budget process systematically favors monopoly awards. The costs of the monopoly go uncounted, but the revenue benefits from decreased government expenditures on newly unpatented drugs are fully credited.

Overall, the relative efficiency of IP versus taxpayer financing is uncertain, and may vary from product to product. These factors may be difficult to predict before a product is on the market, but once better information develops, it might become clear that government should switch regimes, swapping out tax revenues for patent protection. That could be accomplished, among other routes, by government negotiating to buy the IP or condemning it and paying “fair value.” Condemnation is rare, but should be on the table when the deadweight loss of patents is clearly greater than the marginal cost of public funds, when the patent is burdening some product that greatly enhances productivity, or when the distributive impact of the patent is great. Probably not coincidentally, nearly all these align in the case of many vaccine patents, and this is the one area where interest in government condemnation of patents has drawn the most policy attention.


300 See, e.g., Orphan Drug Act, 21 U.S.C. §§ 360aa-dd (granting seven-year exclusive window for treatments for certain rare diseases); § 355a (adding six-month patent protection to pharmaceutical makers who test products for pediatric use).

301 Cf. Roin, supra note 104, at 1053 (arguing that government needs to observe consumer decisions to have full information on value of a patent).

302 For discussion of potential valuation mechanisms, see Michael Kreme, Patent Buyouts: A Mechanism for Encouraging Innovation, 113 Q.J. ECON. 1137 (1998); Steven Shavell & Tanguy van Ypersele, Rewards Versus Intellectual Property Rights, 44 J.L. & ECON. 525 (2001). As long as government pays a fair price, the possibility of buyouts should not affect the ex ante incentives for inventors. Public subsidies for purchasers is another similar option. Roin, supra note 104, at 1050–51.
V. Conclusion

Cross-subsidies are an under-recognized and under-examined policy mechanism. They appear far more often—and in far more settings—than virtually all observers have acknowledged. We think this is in part because their theoretical justifications are meaningfully broader than the traditional treatments suggest.

Our contribution is thus two-fold. First, we identify the stubborn frequency with which cross-subsidies appear, in substantive policy areas that otherwise have nothing to do with one another. When a particular species of policy colonizes many fields, that is noteworthy in itself. And we are confident that more cross-subsidies exist in the wild than we discuss here; many readers will no doubt find them in places we did not consider.

Our account, however, is more than anthropological. Although cross-subsidies do come with important limitations, current scholarly consideration of their positives and negatives is incomplete. In this Article, we flesh out a theory of cross-subsidy utility that does not deny the limits of the cross-subsidy as a policy tool, but instead more carefully explicates the contours of those limits, and likewise suggests that cross-subsidies might be the right regulatory choice more frequently than has been previously assumed.