Popular Acceptance of Morally Arbitrary Luck and Widespread Support for Classical Benefit-Based Taxation

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Abstract

Public moral reasoning is shown to differ in three specific ways from what is conventionally assumed in modern optimal tax theory. Large majorities of survey respondents resist costless redistribution of arbitrarily determined unequal outcomes and prefer justifying tax progressivity based on benefit received rather than on diminishing marginal social welfare of income. These attitudes are shown to be linked to widespread moral acceptance of unequal allocations due to luck. Together, these results raise the possibility that the American public views the allocations of taxes and pre-tax outcomes as morally relevant, a judgment that is inconsistent with conventional objectives depending solely on after-tax outcomes but consistent with alternative principles such as Classical Benefit-Based Taxation.

Introduction

This paper uses novel survey evidence to identify three specific ways in which public moral reasoning differs from the normative view assumed in modern economic research on optimal tax design. An understanding of the principles that guide public opinion is useful for explaining existing tax policy, but it is also essential for tax scholars, advisors, or policymakers who want their recommended tax reforms to be consonant with the public's views.

First, survey respondents resist full equalization of outcomes when facing a scenario in which conventional optimal tax models would strongly recommend it. When respondents are presented with a hypothetical situation meant to mimic the tax policy problem, a large majority of respondents choose not to fully offset unequal outcomes even when there are neither efficiency costs of redistribution nor differences in desert across individuals. These choices suggest that the conventional model's allowance for two brakes on redistribution—the need to satisfy incentive constraints and the possibility that tastes rather than abilities determine income—omits an underlying reason for which a large majority of our survey respondents, and perhaps Americans, resist it.

Second, when asked to justify progressivity in the tax scenario described above, a large majority of respondents prefer a logic based not on the conventional appeal to diminishing marginal social welfare of income but rather on one tied to a centuries-old idea that was Adam Smith's first maxim of taxation and that Richard Musgrave (1959) named classical benefit-based taxation (CBBT). Under CBBT, taxes are assigned based on the benefit a taxpayer obtains from the activities of the state, with benefit being measured by the state's role in increasing the taxpayer's income. CBBT has a long history in public debate over taxes in the United States, from its use as a justification for the new personal income tax in 1913 to its use by presidents Franklin Delano Roosevelt and Barack Obama to advocate for increases to tax progressivity.

Like the respondents' resistance to redistribution, however, this support for CBBT stands in stark contrast to the main normative principle of policy design in modern tax theory as formalized first by James Mirrlees (1971). The Mirrleesian approach adopts an objective put forth by John Harsanyi (1953, 1955); namely, that taxation ought to be designed to maximize (generalized utilitarian) social welfare. Though such a consequentalist objective can in principle accommodate a wide range of judgments, almost all applications of the theory embrace what Liam Murphy and Thomas Nagel (2003) deem "the right way, investigating outcomes rather than the distribution of [tax] burdens." That is, under the standard approach neither taxes nor pre-tax outcomes have any effect on welfare—or relevance to optimal policy—other than through their (mechanical) implications for after-tax allocations. CBBT takes the opposite position, as it ignores after-tax outcomes and *defines* optimality in terms of the relationship between taxes and pre-tax outcomes.

Third, I show that these two departures from the conventional model's normative assumptions appear to be connected to respondents' attitudes toward morally arbitrary luck. After the tax scenario, respondents are presented with a dictator game in which they are asked to indicate the least amount that it would be morally acceptable for the dictator to give to the recipient. A large majority say it would be morally acceptable for the dictator to share the endowment unequally, and

nearly half of respondents say it would be acceptable for the dictator to keep at least three-quarters of the endowment. Respondents who take the position that it is morally acceptable for a dictator to share less are both less willing to offset unequal outcomes in the tax scenario and more likely to prefer CBBT to the standard justification for progressivity. One interpretation of this linkage is that a large majority of respondents appear to believe that individuals are entitled–at least in part–to morally arbitrary outcomes, and that taxes ought substantially to respect that entitlement. Advocates of benefit-based taxation stress exactly this idea when asserting its normative appeal as a voluntary rather than coercive system, in that under benefit-based taxation a taxpayer funds social goods only to the extent that he or she benefits from them, paralleling the case of voluntary exchange in private markets.[1]

It is important to clarify up front that the results of this paper are entirely consistent with other principles, e.g., the utilitarianism commonly used in optimal tax theory, also playing important roles in Americans' appraisals of tax policy. In fact, nearly half of the respondents to this paper's survey say they agree to some extent with the conventional logic for unequal tax burdens as well as with CBBT, echoing a large body of work across a range of fields that has shown it is common for individuals to use a mixture of criteria to make policy judgments. This paper is best seen as providing further support for the idea that models of optimal policy seeking to capture prevailing public priorities ought to use an objective characterized by normative diversity in general and including the principle of CBBT in particular.

In addition, to prevent confusion it is worth emphasizing that this paper is intended not to defend CBBT as a normative criterion but rather to establish and understand the roots of CBBT's importance as a positive matter. As I have discussed elsewhere (Weinzierl 2015), because CBBT addresses a number of the most powerful normative critiques of narrower versions of benefit-based theory and enjoys such a prominent place in public reasoning over taxes, it may merit further study from a normative perspective, but that is not the purpose of this paper.[2]

This paper is closely related to a voluminous modern literature in political philosophy on the role of luck, especially so-called "brute luck" in society. The influential "luck egalitarian" approach of, for example, G.A. Cohen (2011), closely resembles the normative perspective assumed by most of the recent work in optimal tax theory. That is, the objective function in modern tax theory is typically specified such that inequalities in outcomes across individuals due to factors for which individuals do not have responsibility are to be offset, while inequalities for which individuals are responsible are not to be offset (see Fleurbaey and Maniquet 2006, Lockwood and Weinzierl 2015).[3] What this paper's survey evidence suggests is that the most members of the public have not yet

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[1] Musgrave (1959), page 74. See Musgrave's chapter 4 for his full treatment of the benefit approach.

[2] How to respond to the public's normative reasoning is explored in the philosophical literature on reflective equilibrium, such as in Norman Daniels (1996).

[3] "Choice" is of course a complicated concept, but in optimal tax theory it is usually represented through heterogeneity in utility functions. So, a person who puts a lower value on leisure may "choose" to work more than others. To some luck egalitarians, including perhaps Cohen, such preference differences ought to be offset. But to others, these preferences are qualitatively (and morally) distinct from what optimal tax theorists call "ability," the capability of an individual to produce output. Ability is treated as brute luck in optimal tax models (though recent work on human capital requires harder thinking about this assumption, too).

converted to luck egalitarianism. Instead, they appear to have at least some affinity for the (very different) views of Nozick (1974) that "Whether or not people's natural assets are arbitrary from a moral point of view, they are entitled to them, and to what flows from them." Rather than taking the position that pre-tax outcomes (incomes, abilities, etc.) ought to be irrelevant to after-tax outcomes, survey respondents appear to give these intermediate steps moral weight.

The paper proceeds as follows. Section 1 describes the survey and the first main finding: resistance to costless redistribution. Section 2 briefly presents CBBT formally to familiarize the reader with its implications and then discusses the survey's second main finding: support for CBBT as a logic for progressivity in taxation. Section 3 presents the third main finding: a link between acceptance of morally arbitrary inequality, resistance to costless redistribution, and support for CBBT. I refer to related research as results are presented. Section 4 concludes.

1 Resistance to costless redistribution

This section describes the survey and then turns to the first main result from it.

1.1 Survey design

The survey was listed on Amazon's Mechanical Turk (M-Turk) interface[4] and was completed by 1342 respondents (in four rounds) during several months in 2015. Respondents were paid $3.00 for a task that took approximately ten minutes to complete. Our main findings correspond to a small set of questions from the survey that will be described in detail in subsequent sections. In addition to those questions, respondents self-reported a set of demographic traits, completed a short arithmetic quiz, and answered a series of questions designed to measure their general political opinions. The relationship of the main results to these questions is discussed below, as well.

1.2 Respondents avoid equalization despite omission of desert and efficiency costs

I begin with the finding that respondents resist full equalization of outcomes in a situation where the conventional optimal tax analysis would strongly recommend it. After respondents start the survey by entering their M-Turk ID number and agreeing to (or rejecting) the terms of the survey, they see the following screen:

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[4]M-Turk is a cost-effective and popular platform for surveys, with recent related examples being Saez and Stantcheva (2015), Kuziemko, Norton, Saez, and Stantcheva (2015), and Weinzierl (2014).

> **Please consider the following situation.**
>
> Two people are approached with the following offer.
>
> First, a fair coin will be flipped to determine which of the two people is to be called Person A and which is to be called Person B. The results of the coin flip are kept secret until after the two people decide whether to refuse or accept the offer.
>
> If they refuse the offer, the results of the coin flip will be revealed and Person A will receive $600 while Person B will receive $300.
>
> If they accept the offer, the results of the coin flip will be revealed and Person A will receive $60,000 while Person B will receive $30,000. In exchange, Person A and Person B will have to pay a cost of $18,000, in total. Person A and Person B could each have to pay part of this cost; one of them could have to pay the entire cost while the other would have to pay nothing; or one of them could have to pay more than $18,000, in which case the extra money would be given to the other person.
>
> *If they accept the offer, what do you think would be the best outcome? In the first text box, please enter the amount you think Person A should have to pay (enter an amount between -12000 and 60000, and do not use a $ or a comma). The other three text boxes will fill in automatically and will show you how much Person B would have to pay as well as how much Person A and Person B would end up with. You might find it helpful to try a few numbers in the first text box and see how the results change.*
>
> Person A pays $_____ (please enter an amount between -12000 and 60000; do not use a $ or comma) :
>
> Person B pays $_____:
>
> Person A ends up with $_____:
>
> Person B ends up with $_____:

Figure 1: A scenario designed to mimic the tax policy problem.

The task of the respondent is to enter an amount for "Person A pays" in the first text box. The amounts for "Person B pays" and "Person A ends up with" and "Person B ends up with" fill in automatically.

This hypothetical situation is designed to capture the essential elements of the tax policy problem for society without directly invoking the concepts of "tax" or "government." In it, Person A and Person B have the chance to (collectively) invest in a project that yields a surplus of total output over total input. Those persons differ in the share of the output they will receive from the project, and they differ in what they will receive if the project is not undertaken. The survey respondent's task is to assign to each person an amount to contribute to the project, where the contribution by either person may exceed the total cost of the project if the respondent wishes to provide a net transfer to the other person.

Thus, the main functions for the contributions by Person A and Person B are those of taxes in the real world: to fund socially productive activity and to determine the distribution of total surplus (output) across individuals, as in Musgrave's (1959) famous delineation of the allocation and distribution branches of government. Note that the respondent is not included in the situation directly, so that he or she is implicitly put into the position of the disinterested observer or social planner.

Importantly, however, this situation is also designed to neutralize two factors that complicate the tax policy problem in reality. First, the allocations to Person A and Person B are entirely due to luck, while the relative roles of luck and tastes in determining outcomes–i.e., the role of

"desert"–has been a long-standing and heated debate in both scholarly and public discussions of tax policy (see the debate over luck egalitarianism, for example). Second, there is no effort exerted in this scenario, so there are no efficiency costs from redistribution. In the jargon of modern optimal tax theory, this scenario has one dimension of exogenous heterogeneity and inelastic labor supply.

Given this design, the optimal allocation according to standard theory (i.e., with a social welfare function that is concave in income) is clear: full redistribution. That is, Person A should pay $24,000, Person B should receive a transfer of $6,000, and each should end up with $36,000. With no preference heterogeneity and a concave social welfare function, equal outcomes maximize social welfare for a given amount of resources, and with inelastic effort the amount of resources is fixed. In other words, Person A's advantages are due to pure luck, not effort, and resources are no more valuable in A's hands than in B's, so full redistribution is the optimal policy.

Respondents are less egalitarian. Figure 1 shows the 1,239 responses to this question for which the answer to "Person A pays $_" falls between $9,000 and $24,000 (I omit the 103 respondents who have Person A pay less than Person B or more than $24,000). The mean response is $16,582, with a standard deviation of $5,062. The modal response is the cost of the offer, $18,000, the choice under which payments are maximally progressive without providing net redistribution.
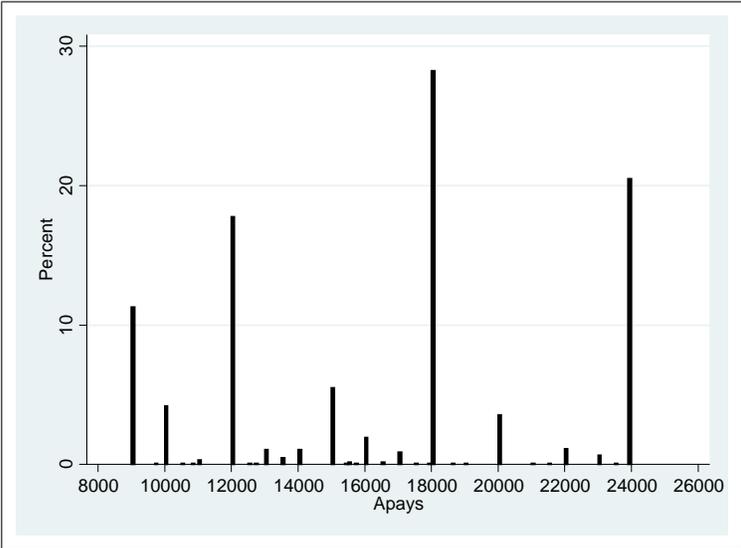

Figure 2: Distribution of responses for "Person A should pay
___".

The most striking result from this question is that a large majority–nearly 80%–of respondents stop short of full equalization of net proceeds from the project even though redistribution is nondistortionary and the survey makes it clear that proceeds are assigned based purely on luck. This result is particularly challenging to the normative assumptions of conventional optimal tax theory because it suggests that the two standard reasons with which conventional theory justifies inequality in after-tax outcomes are unsatisfying as explanations for American skepticism toward

redistributive tax policy.

A second notable finding is that a plurality of respondents–46%–choose a point between full equalization of outcomes and proportional payments. Only 21% choose to fully equalize the net incomes across individuals (A pays \$24,000), as conventional optimal tax models would recommend, while almost as many–18%–choose to allocate the costs of the project in proportion to each individual's gross incomes (A pays \$12,000). As we will see, proportional payments are optimal, given the relationship between the outcomes when the offer is refused and accepted as described in Figure 1, according to the formalization of CBBT below in Section 2.

That a large plurality of respondents chose an intermediate outcome could be interpreted as suggesting that the typical respondent feels some affinity for the principles behind each of the more extreme choices. Normative diversity of that kind has been documented by a large body of previous work outside economics and a few recent works within it (see Hochschild 1981, Frohlich and Oppenheimer 1992, Feldman and Zaller 1992, Weinzierl 2014 and 2015, Saez and Stantcheva 2015, Lockwood and Weinzierl 2015).

Further supporting these results are the respondents' answers when they are asked "what do you think the *typical American* would say is the best outcome?" in the same tax scenario. Intriguingly, the skepticism toward redistribution that respondents attribute to the typical American is even greater than what they express themselves, even for respondents who report being on the political "right." The mean response is only \$14,289, and only 10% of respondents think that the "typical American" would choose full equalization in this situation, despite the lack of incentive costs or desert claims. 15% of respondents think the typical American would choose proportionality, while fully 31% think the typical American would split the costs of the offer evenly (i.e., A pays \$9,000). Consistent with their own preferences, however, the plurality of respondents think the typical American would choose an outcome between proportionality and full equalization.

Most of the demographic variables asked about in the survey (i.e., race, age, gender, and household income as an adult) are not significantly related to these results, though there is some evidence that respondents with higher household incomes in childhood and with greater education levels have A pay slightly more. Respondents who correctly answer all three arithmetic questions have Person A pay approximately \$1000 more on average, though the same 21% choose full equalization of outcomes. Only one indicator of political views has predictive power, with respondents who believe "It would be best if the rich felt more sacrifice from paying taxes so that the poor would not have to feel any sacrifice from paying taxes" choosing to have Person A pay significantly greater amounts.

2 CBBT as a logic for progressivity

I now turn to the second novel finding of this paper: the widespread preference among survey respondents for a benefit-based justification of progressivity rather than a justification based on diminishing marginal social welfare of income. First, however, I provide a primer on CBBT, as it and its formulation in the modern optimal tax model are not well known. The interested reader can find a more thorough treatment, including additional analytical results and a discussion of the sharp contrast between CBBT's past prominence and its present neglect in tax scholarship, in Weinzierl (2015).

2.1 Primer on CBBT

As mentioned in the Introduction, CBBT plays a prominent role in American rhetoric on tax policy. An important example is the following statement by President Barack Obama, who in 2011 argued for increased progressivity of the income tax:

> "As a country that values fairness, wealthier individuals have traditionally borne a greater share of this [tax] burden than the middle class or those less fortunate....it's a basic reflection of our belief that those who've benefited most from our way of life can afford to give back a little bit more."[5]

Here, Obama argues that taxes ought to be based on benefit from "our way of life," and he explicitly links that benefit to the taxpayer's ability to pay. This combination of two classic principles of tax design (benefit-based and ability-based) into a "benefit-as-ability" based principle is a particularly succinct statement of CBBT. It recalls a more famous statement of it by Adam Smith (1776) as his first maxim of taxation: "The subjects of every state ought to contribute toward the support of the government, as near as possible, in proportion to their respective abilities; that is in proportion to the revenue which they respectively enjoy under the protection of the state."

Fortunately, CBBT lends itself readily to formal analysis within the apparatus of modern tax theory. In particular, we can analyze optimal tax policy according to CBBT by modifying the standard Mirrleesian setup in one small but important way: by making individuals' heterogeneous income-earning abilities endogenous functions of both endowed ability and public goods spending. Formally, $w_i = f(a_i, G)$, where $i \in I$ indexes endowed ability types a_i, $G \geq 0$ is the level of spending on public goods, and $f(\cdot)$ is a differentiable ability production function. An individual of type i derives utility according to

$$U(c_i, l_i) = u(c_i) - v\left(\frac{y_i}{f(a_i, G)}\right), \tag{1}$$

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[5] In fact, close examination of the fiery debate over the phrase "you didn't build that" in the 2012 U.S. presidential election reveals that both sides of the debate were fighting for their preferred tax policies within the same, CBBT-based, framework. Mitt Romney said, "The taxpayers pay for government....we pay for them and we benefit from them....

where c_i is private consumption for individual i and y_i is i's income, so that $\frac{y_i}{w_i}$ is work effort.

A social planner chooses a tax system, including an optimal G^*. Individuals take that system as given and maximize their own utility, yielding equilibrium consumption and income allocations $\{c_i^*, y_i^*\}_{i=1}^I$ and utility levels:

$$U_i^* = u\left(c_i^*\right) - v\left(\frac{y_i^*}{f\left(a_i, G^*\right)}\right). \tag{2}$$

By applying the method of Lindahl (1919) to this setup we can determine the first-best optimal allocation under CBBT. That method has us consider a hypothetical scenario in which each individual i is allowed to choose her own consumption, work effort, and, importantly, level of public goods provision that maximize her utility subject to her personal budget constraint, taking the tax share τ_i as given. Lindahl defined optimal policy as that in which two conditions are satisfied: first, the personalized shares cause each type to prefer the same quantity of public goods[6]; second, the cost of the public goods is fully covered by tax payments. I call the allocation that satisfies these conditions a *First-Best Lindahl Equilibrium.*

The feature of the resulting allocation most relevant to this paper is the taxes paid by each individual. To characterize those taxes, I first define a key elasticity term:

Definition 1 *Define the Hicksian partial elasticity of complementarity between public goods and endowed ability, $\theta_i^{G,a}$, as:*

$$\theta_i^{G,a} = \frac{f_{G,a}\left(a_i, G\right) f\left(a_i, G\right)}{f_G\left(a_i, G\right) f_a\left(a_i, G\right)}, \tag{3}$$

at a given G.

The Hicksian partial elasticity of complementarity captures the degree to which public goods and endowed ability magnify each other in determining income-earning ability. If $\theta_i^{G,a} \leq 0$, endowed ability and public goods are not complements in the production of income-earning ability. If $\theta_i^{G,a} \in (0,1)$ the elasticity of income-earning ability with respect to the level of public goods spending is positive but decreasing in endowed ability; if $\theta_i^{G,a} > 1$, the elasticity of income-earning ability with respect to the level of public goods spending is increasing in endowed ability.

As shown formally in Weinzierl (2015), this elasticity of complementarity determines the progressivity of tax rates under CBBT. If $\theta_i^{G,a} > 1$, so that those high in endowed ability benefit more than proportionally from the activities of the state, average tax rates are progressive (i.e., they increase in endowed ability). If $\theta_i^{G,a} < 1$ taxes are regressive, and if $\theta_i^{G,a} = 1$ taxes are proportional to income. This last case, which Smith (1776) appears to endorse, obtains if we assume a multiplicative form for the ability production function, i.e., $f\left(a_i, G\right) = h\left(a_i\right) g\left(G\right)$ for some functions $h\left(a_i\right), g\left(G\right)$. In that case, the flat tax rate on income equals the elasticity of income-earning

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[6]It is this step that lends, according to benefit-based taxation's advocates, such a system a claim to being voluntary rather than coercive. Of course, benefit is unobservable, so that the second-best CBBT tax system will be coercive in a sense. Nevertheless, there remains an essential difference between the benefit-based system and, for example, a utilitarian one. In the first-best allocation of the former but not the latter, an individual pays a "price" for the activities of the state that is determined by his or her willingness to pay (i.e., marginal rate of substitution).

ability with respect to public goods spending. For example, if $g(G) = g^\gamma$ for some $\gamma > 0$, then the CBBT-optimal tax policy is a uniform tax rate of γ.[7]

It is important to note that optimal taxes under CBBT do not depend on the distribution of after-tax outcomes. Instead, they are defined by the relationship between individuals' innate abilities and pre-tax incomes (equivalently, their eventual ability levels), in stark contrast to the conventional normative approach in optimal tax.

2.2 Survey evidence of support for CBBT

Immediately after respondents make their choices in the hypothetical tax-like situation described in Figure 1, the following screen asks them to consider the reasoning behind their choices:

Here are two reasons why some people choose, as you did, an outcome in which Person A has to pay more than Person B. Please read these two reasons carefully, give them some thought, and then choose the reason with which you *more strongly agree*.

○ Person A didn't do anything to deserve ending up with more than Person B, and a dollar matters less in the hands of someone with more, so Person A should have to pay more than should Person B.

○ Person A gains more than Person B if they accept the offer, and payments should be tied to how much each person benefits, so Person A should have to pay more than should Person B.
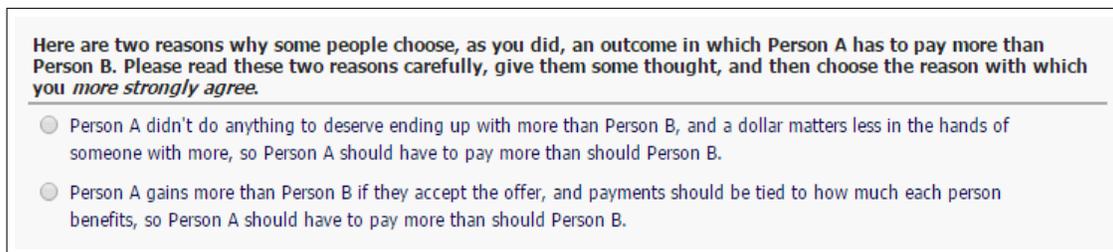
Figure 3: Respondents are asked to choose a justification for progressive payments in the tax scenario.

The first of the two reasons refers to the logic of diminishing marginal social welfare of income, while the second reason refers to the CBBT principle. The order of these two reasons was randomized.[8]

Nearly three-quarters–72%–of respondents preferred the benefit-based justification to the conventional one. This result strongly suggests that, when reasoning over tax policy, Americans give the logic of CBBT as much or more weight than they give to the conventional logic assumed in modern optimal tax theory.

The precise texts of the reasons shown to respondents were intentionally varied across the four survey rounds, but the share of respondents choosing the CBBT-based option lies between 65% and 79% in all four rounds. The wording shown above was intended to push that share lower by emphasizing that Person A did not affirmatively deserve such a lucky outcome in the description of *the first reason only*, even though the same clause would have been appropriate to include in the descriptions of both reasons. The asymmetric framing did succeed in pushing down the share

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[7] As noted earlier, the setup of the scenario in Figure 1 implies that the ability production function $f(a_i, G^*)$ is multiplicative and the elasticity $\theta_i^{G,a} = 1$. In principle, we could use that tax-like scenario to vary the implicit functional form $f(a, G)$ from the model above, for example by varying the relationships between the individuals' proceeds with and without the project.

[8] In the final of four rounds of the survey, I had respondents who did not choose to have Person A pay more than Person B see a similar screen, though they were asked which of these two reasons they "think would be the better reason for having Person A pay more than Person B."

choosing the CBBT reason, as intended, but only to 65%. In the preceding round the first option read: "Person A ends up with more if they accept the offer than does Person B, and a dollar matters less in the hands of someone with more, so Person A should have to pay more than should Person B." In that version, 78% of respondents chose the second option.

In the following tables, I show the shares of respondents preferring the CBBT option across demographic and political indicators. Support for CBBT is significantly related to none of the demographic and political variables about which I ask respondents except for household income in childhood, for which there is weak evidence that it negatively predicts support for CBBT.

Table 1: Shares of respondents preferring CBBT logic for progressivity, by demographic trait

	Gender		Age		Race			Education		Income, child			Income, adult		
	M	F	25-39	40+	Bl.	Wh.	Oth.	≤HS	Coll	Low	Mid	Upp	Low	Mid	Upp
Share	0.72	0.72	0.71	0.72	0.69	0.72	0.71	0.71	0.72	0.74	0.67	0.73	0.73	0.71	0.72
Obs	805	694	1149	333	123	1225	153	205	1297	925	430	147	666	636	200

Table 2: Shares of respondents preferring CBBT logic for progressivity, by political view

	Political position			Libertarianism			Basic needs		Dist. of Sacrifice	
	Left	Center	Right	Opp	Unsure	Supp	Govt	Individ	Prog.	Equal
Share	0.73	0.70	0.72	0.76	0.70	0.70	0.73	0.70	0.70	0.71
Obs	713	407	337	425	412	665	958	544	392	338

Tables 1 and 2 show a remarkable lack of variation across these standard variables, some of which (such as support for Libertarianism) might have been expected to generate significant differences. One interpretation of this finding is that support for CBBT is largely universal. In fact, when the 28% of respondents who preferred the other reason for progressivity ("a dollar is worth less in the hands of someone with more") were asked whether they disagreed or agreed with the CBBT logic, 76% responded that they agreed with it somewhat or strongly. In contrast, 46% of those who preferred the CBBT logic expressed agreement with the conventional logic.

2.3 Are pre-tax outcomes morally irrelevant to tax policy?

The support for CBBT demonstrated in these tables implies widespread public disagreement with a core assumption of the conventional objective in optimal tax theory: namely, that distributions of pre-tax income and taxes are morally irrelevant other than through their mechanical connection to the outcomes that ought to be the target for policymakers. Murphy and Nagel (2003) forcefully defend this assumption by pointing out that taxes are just one part of a suite of policy institutions determining outcomes: "Pretax income, in particular, has no independent moral significance. It does not define something to which the taxpayer has a prepolitical or natural right, and which the government expropriates from the individual in levying taxes on it."

Though the idea that pre-tax incomes and taxes are morally relevant to the public sharply contradicts the standard approach, this paper is not the first to find evidence supporting it. Charité, Fisman, and Kuziemko (2015) demonstrate that M-Turk respondents are less likely to equalize random allocations across individuals if those individuals know the results of the randomization (as they do in this paper's survey) than if they do not. They interpret this finding as evidence that respondents both assume the individuals are loss-averse and take the welfare implications of that loss aversion into account. A complementary interpretation is that the knowledge of the allocations causes individuals to grant each other entitlements to them. While such resistance to redistributing entitlements may be described through the mathematics of loss aversion, it may represent a more fundamental social judgment based on a non-consequentialist normative criterion. Our findings are also consistent with those of Saez and Stantcheva (2015), who find "...evidence showing that both disposable income and taxes paid matter and hence that subjects are neither pure utilitarians (for whom only disposable income matters) nor pure libertarians (for whom only taxed paid matter)." In the formal terms of their analysis, the marginal social welfare weight that the public appears to grant to an individual, which determines the optimal allocation for that person, depends positively on the taxes that person pays. Finally, Weinzierl (2014, 2015) has shown evidence that two unconventional principles, J.S. Mill's (1871) principle of Equal Sacrifice and CBBT (as described in this paper), both capture an aspect of public reasoning over tax policy in which pre-tax outcomes are relevant to optimal policy.

In fact, the moral relevance of pre-tax income is a source of substantial controversy in political philosophy. Critiquing Murphy and Nagel (2003), Geoffrey Brennan (2005) writes: "The problem with Murphy and Nagel's argument, as I see it, is that it takes an entirely defensible claim–namely that individuals do not have an incontestable moral claim to their individual gross incomes–and replaces it with a much stronger claim–that they have no moral claim to their individual incomes at all...I think there is a middle turf. I think it's obvious that there's a middle turf." This paper is not intended to resolve this normative dispute, but rather to present evidence on the position taken by the American public.

3 Acceptance of morally arbitrary luck

The two findings described above turn out to be related to respondents' answers in a second hypothetical scenario that gauges their attitudes toward morally arbitary and unequal luck. I present[9] respondents with a typical dictator game, but I ask an atypical question. Specifically, I ask "What do you think "is the *least* amount of money that it would be morally acceptable" for the dictator to give to the recipient out of the initial endowment. The survey screen is as follows:

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[9]This treatment was applied only in the third and fourth rounds of the survey. 744 respondents participated in these rounds.

Figure 4: Respondents are presented with a typical dictator game and then asked an atypical question.

Given the arbitrary nature of the starting allocations, the normative reasoning commonly assumed in optimal tax theory would determine that Person C has no entitlement to the $10,000, so that giving anything less than $5,000 would be morally unacceptable.

As in the tax scenario, respondents disagree with that view, as shown in Figure 5:
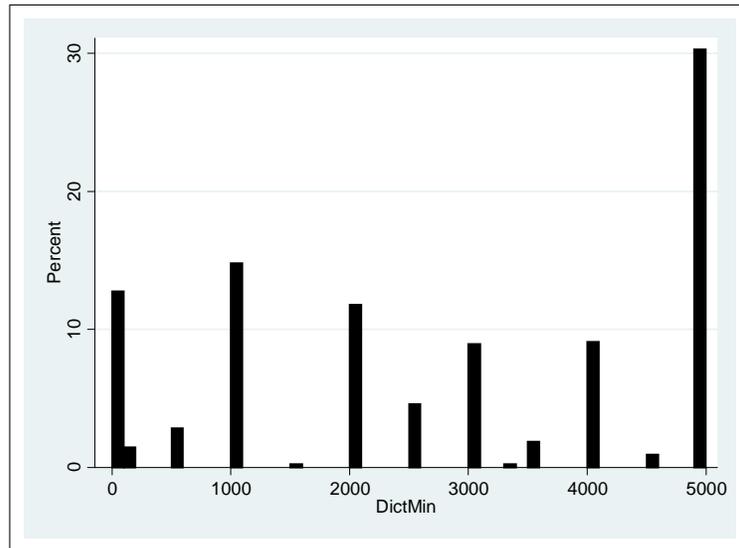

Figure 5: Distribution of responses to the question in Figure 4.

While a third of respondents agree with the view that the dictator should equalize outcomes, two-thirds find it morally acceptable for the dictator to keep more than half of the randomly-allocated endowment. In fact, 48% of respondents say it would be morally acceptable for the dictator to give no more than one-quarter, $2500, of the endowment. Self-reported political views, age, and race are not significantly related to respondents' answers. Men, higher-income adults, and more educated respondents state significantly smaller amounts. Scores on the arithmetic quiz are not significantly related to these answers.

Immediately following their answers, respondents are shown the following screen (with adjustments made if they answered $0):

Now, suppose that Person C chooses to give less than the amount of money you just indicated. That is, Person C gives less than the least amount of money you said it would be morally acceptable to give.

A third person, Person E, joins the scenario. Person E is told how much Person C chose to give to Person D. Person E is then given the power to change how much of the $10,000 Person C gives to Person D (Person E cannot be given any money).

Do you think Person E should choose to have Person C give more to Person D than Person C chose to give?

○ Yes, Person E should choose to have Person C give more to Person D

○ No, Person E should not choose to have Person C give more to Person D

Figure 6: The respondent is asked whether he or she would have a third person correct a choice by the dictator that he or she deemed morally unacceptable.

Only 60% of respondents are willing to have the third person intervene to correct what the respondents themselves judged as a morally *unacceptable* choice. Even more interesting is how this willingness varies: only 48% of those saying it is morally acceptable for the dictator to give $1000 or less, and only 45% of those saying $0, would have Person E correct the dictator's action.

3.1 Link through luck

These patterns suggest that acceptance of morally arbitrary and unequal luck is positively related to hesitancy to act coercively in interpersonal allocations. Is there a connection between respondents' answers to our modified dictator game, their resistance to redistribution, and their support for CBBT? The following figures show the relevant data, giving the average amount respondents choose for Person A to pay in the tax scenario and the share of respondents choosing the CBBT logic for progressivity, both conditional on their responses to the dictator game.
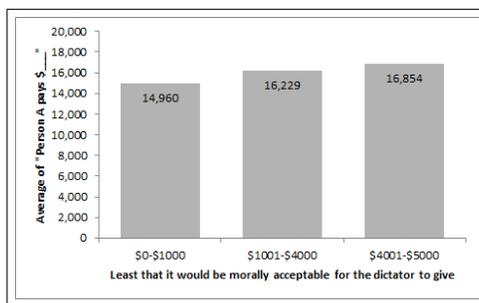

Figure 7: Average answers to "Person A pays $____", by response in the dictator game.
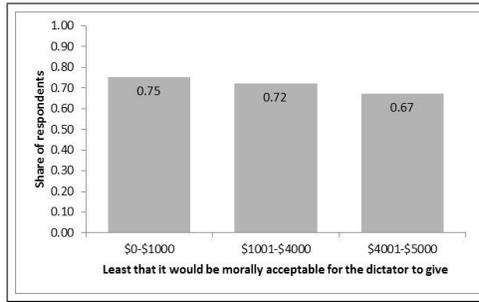
Figure 8: Share of respondents choosing
CBBT, by their response in the dictator
game.

These figures visually suggest what simple regressions confirm more precisely, as summarized in the following tables.

Table 3: Explaining resistance to costless redistribution		
	Coefficient	Standard error
Minimum dictator ought to give	0.25	$(0.11)^{**}$
Political position (L to R)	−380	(293)
Support for libertarianism	22	(279)
Govt responsible for basic needs	−302	(244)
Support for equal sacrifice	530	$(290)^*$
HH's income status at age 45	−40	(142)
HH's income status at age 10	230	$(139)^*$
Gender (M=0,F=1)	297	(400)
Age	196	(298)
Race (White=0, Black=1)	−470	(319)
Education level	469	$(281)^*$
Score on math questions	1307	$(549)^{**}$
N	611	

Notes: The dependent variable is the amount the respondent chooses for Person A to pay in the hypothetical situation described in Figure 1, where the mean of the responses is $16,582. A positive coefficient on an explanatory variable therefore indicates that a higher value for the latter is related to support for a more progressive assignment of payments. The symbol ** denotes significance at the 5% level; * at the 10% level.

In words, Table 3 shows that respondents who say it would be morally acceptable for the dictator to give less to the recipient support significantly less progressivity in the tax scenario: e.g., a $1,000

decrease in how much the dictator ought to give to the recipient implies a $250 decrease in how much Person A ought to pay in the situation from Figure 1.

Table 4: Explaining preference for CBBT logic for progressivity		
	Coefficient	Standard error
Minimum dictator ought to give	$-6.5E^{-5}$	$\left(3.1E^{-5}\right)^{**}$
Political position (L to R)	-0.02	(0.08)
Support for libertarianism	-0.03	(0.08)
Govt responsible for basic needs	-0.09	(0.07)
Support for equal sacrifice	-0.10	(0.08)
HH's income status at age 45	0.03	(0.04)
HH's income status at age 10	-0.08	$(0.04)^{**}$
Gender (M=0,F=1)	-0.08	(0.12)
Age	0.12	(0.09)
Race (White=0, Black=1)	-0.08	(0.09)
Education level	-0.06	(0.08)
Score on math questions	0.31	$(0.16)^{**}$
N	611	

Notes: The dependent variable in this probit regression is the respondent's 0-1 choice between the conventional logic (0) and the CBBT logic (1) for progressivity, as shown in Figure 2. The mean value for the dependent variable is 0.72. A positive coefficient on an explanatory variable therefore indicates that a higher value for the latter is related to a higher likelihood the respondent prefers the CBBT logic for progressivity. The symbol ** denotes significance at the 5% level; * at the 10% level.

Table 4 shows that the same respondents–those who say it would be morally acceptable for the dictator to give less to the recipient–are significantly more likely to choose the benefit-based logic for the distribution of payments. Calculating marginal effects shows that, for example, a $1,000 decrease in how much the dictator ought to give to the recipient implies an increase of 2.0 percentage points in the likelihood that the respondent prefers the CBBT logic to the conventional logic for progressivity (the mean value is 72%).

4   Discussion and conclusion: desert and the burden of proof

How might we understand the link between attitudes toward luck, redistribution, and the basis for progressivity suggested by the results of this paper's survey? One interpretation is that Americans, as a group, put the burden of proof for desert on the opposite side of where most modern egalitarian political philosophers do. For egalitarians, unequal outcomes due to morally arbitrary luck are unacceptable unless proven otherwise and therefore should be offset. Our results suggest that Americans, in contrast, are sympathetic to the view that unequal outcomes due to morally

arbitrary luck are acceptable unless proven otherwise and therefore not the proper object of redistribution. Under the latter view, individuals may be granted some measure of entitlement to pre-tax outcomes, giving those outcomes a moral relevance that they are denied by a conventional welfarist objective for tax policy. Those who take this unconventional position may therefore prefer to have taxes be based on a principle such as CBBT, which seeks to implement a more "voluntary" tax system and defines optimality in terms of the relationship between taxes and pre-tax outcomes.

Of course, these results raise more questions than they answer. How robust are the respondents' answers to alternative ways of framing the scenarios? Do these responses reflect their considered preferences or their gut reactions that would change if they gave more time to the questions? Would "education" in these issues change their preferences? Do their stated preferences for these hypothetical scenarios translate to their votes for policy and policymakers?

That said, the main contribution of this paper is to present survey evidence that the normative views of most Americans appear to include ambivalence toward the egalitarianism that has been so influential in contemporary political philosophy and implicitly adopted by modern optimal tax theory. To the extent that this basic finding is valid and represents sincere normative diversity, optimal tax theorists ought to consider capturing that ambivalence in their work, as well.

References

[1] Brennan, Geoffrey, "The Myth of Ownership," Australian Journal of Legal Philosophy.

[2] Charité, Jimmy, Raymond Fisman, and Ilyana Kuziemko (2015), "Reference Points and Redistributive Preferences: Experimental Evidence," NBER Working Paper 21009.

[3] Cohen, G.A. (2011). On the Currency of Egalitarian Justice, and Other Essays in Political Philosophy. Princeton.

[4] Daniels, Norman (1996). Justice and Justification, Cambridge.

[5] Feldman, Stanley and John Zaller (1992), "The Political Culture of Ambivalence: Ideological Responses to the Welfare State," American Journal of Political Science 36(1).

[6] Fleurbaey, Marc and Francois Maniquet (2006). "Fair Income Tax," Review of Economic Studies, 73, pp. 55-83.

[7] Frolich, Norman and Joe A. Oppenheimer (1992). Choosing Justice: An Experimental Approach to Ethical Theory. Berkeley, CA: UC Press.

[8] Harsanyi, John C. (1953) "Cardinal Utility in Welfare Economics and in the Theory of Risk-Taking," Journal of Political Economy, 61(5), (October), pp. 434-435.

[9] Harsanyi, John C. (1955). "Cardinal Welfare, Individualistic Ethics, and Interpersonal Comparisons of Utility," Journal of Political Economy, 63(4), (August), pp. 309-321.

[10] Hochschild, Jennifer (1981). What's Fair? American Beliefs about Distributive Justice. Cambridge, MA: Harvard University Press.

[11] Kuziemko, Ilyana, Michael Norton, Emmanuel Saez, and Stefanie Stantcheva, (2015). "How Elastic are Preferences for Redistribution: Evidence from Randomized Survey Experiments," American Economic Review

[12] Lindahl, Erik (1919). "Just Taxation – A Positive Solution" (E. Henderson, transl.) in Musgrave, Richard A. and A.T. Peacock, Eds, Classics in the Theory of Public Finance. Macmillan.

[13] Lockwood and Weinzierl (2015). "De Gustibus non est Taxandum," Journal of Public Economics.

[14] Mirrlees, J.A., (1971). "An Exploration in the Theory of Optimal Income Taxation," Review of Economic Studies 38, 175-208.

[15] Murphy, Liam and Thomas Nagel (2003). The Myth of Ownership, Oxford.

[16] Musgrave, Richard A. (1959). The Theory of Public Finance. McGraw-Hill.

[17] Nozick, Robert (1974). Anarchy, State, and Utopia: Basic Books.

[18] Rawls, John (1971). A Theory of Justice. Cambridge: Harvard University Press.

[19] Saez, Emmanuel and Stefanie Stantcheva (2015). "Generalized Social Welfare Weights for Optimal Tax Theory." Forthcoming, American Economic Review.

[20] Smith, Adam (1776). An Inquiry into the Nature and Causes of the Wealth of Nations.

[21] Weinzierl, Matthew (2014). "The Promise of Positive Optimal Taxation: Normative Diversity and a role for Equal Sacrifice," Journal of Public Economics

[22] Weinzierl, Matthew (2015). "Revisiting the Classical View of Benefit Based Taxation," NBER Working paper 20735.