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Standing in Cost-Benefit Analysis: Where, Who, What (Counts)?

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Abstract

Whose costs and benefits should count in cost-benefit analysis (CBA)? This is an important practical question requiring answers for analysts because most government agencies offer only permissive or vague guidance. Drawing primarily on foundational CBA principles, we present a conceptual framework for specifying standing to answer three important boundary questions: Where? Who? What? First, a standing framework requires a definition of jurisdictional boundaries (the “where” question), whether national, subnational, or supranational. Second, a framework should be clear about which persons within the jurisdiction have standing (the “who” question). For example, should undocumented residents have standing? Third, the framework requires clarity on the standing of certain individual preferences (the “what” question), such as for harmfully addictive private or public goods that express “moral sentiments,” or when choices do not maximize the value of consumption. We seek to provide guidance for CBA practice within this framework.

KEY WORDS: Standing, cost-benefit analysis, allocative efficiency, individual rationality, constitutional provisions

INTRODUCTION

Whose costs and benefits should count in cost-benefit analysis (CBA)? Conceptually, CBA considers “the value of all consequences of a policy on all members of society” (Boardman et al., 2018). But who constitutes society? Put another way, whose costs and benefits have standing and should be counted in CBA (Whittington & MacRae, 1986)? The concept of standing—*locus standi in judicio*—is well established in law: only parties who have legal standing have the right to initiate a cause of action (Roberts, 1993; Woolhandler & Nelson, 2004). Standing in law and CBA share a common foundation in a system of property rights that serves as the basis for determining who has claims on economic resources and as the starting point for assessing the efficiency of changes in policy. Although economists and academic policy analysts have addressed specific aspects of standing, most government agencies do not provide comprehensive guidance on how to determine standing in practice. We seek to provide a framework for guidance on the determination of standing.

In practice, CBA practitioners always make decisions on standing, either implicitly or explicitly. However, despite some important academic contributions, many standing issues remain unresolved and are often ignored. Drawing on the principles underlying CBA, we consider the three most important dimensions of inclusiveness. Jurisdictional inclusiveness refers to the geographic boundaries within which costs and benefits count. Within-jurisdiction inclusiveness refers to which individuals within the geographic boundaries get to have their costs and benefits counted. Preference inclusiveness refers to the types of costs and benefits of individuals that count. These three dimensions of inclusiveness—the where, who, and what of CBA that we address in subsequent sections—may seem like abstract issues that can be skirted

in some analyzes, but, as the following examples show, their resolution can have important analytical implications for many CBAs.

- A state is assessing a drug treatment program that would be funded by a federal grant. If standing is limited to state residents, then the grant is a benefit, but if society is defined to include all national residents, then the benefit of the grant to the state would be largely offset by the tax payments made by the residents of that and other states to fund the grant.
- A national environmental agency is considering funding a carbon capture project. Using a social cost of carbon based only on the costs borne by the country's residents would yield negative net benefits; however, using a social cost giving standing to residents in countries with which the country has carbon emissions agreements would yield positive net benefits.
- A public health program in a state with many undocumented residents offers positive net benefits if standing is given to all state residents, but negative net benefits if the morbidity and mortality benefits of the undocumented residents are not given standing.
- A proposed national policy that would effectively eliminate teenage vaping offers positive net benefits only if the forgone consumption value of teenage vaping is not given standing and therefore not treated as a social cost.

There has not been a serious, comprehensive discussion of standing for many years. Moreover, as will be seen, despite the importance of standing, guidance about how to determine standing is absent, highly permissive, implicit, or vague in the handbooks of most government and supranational agencies. We seek to help fill these gaps and to provide a comprehensive framework that encourages explicit consideration of standing on all three of the important dimensions. Table 1 shows the specific issues we address and our recommendations for resolving

them. We discuss the rationales for these recommendations in some detail in subsequent sections. Our analysis is consistent with the foundational principles of CBA. However, it does not, and should not attempt to, provide definitive answers to all standing questions. Determining some “who” and “what” and, even in some cases, “where” questions may require application of values beyond maximizing allocative efficiency, the value underlying CBA.

(Table 1 about here)

In the next section, we amplify and extend Abelson’s (2020) review of the guidance on standing provided by many governments and supranational organizations, including multilateral development banks, with respect to the treatment of standing in CBA. Next, we propose four foundational principles that are central to guiding consideration of standing issues in CBA. In the following three sections, which are the heart of the paper, we identify the most common issues that analysts face in addressing each boundary question (i.e., where, who, and what), provide answers to these questions, and assess these answers in terms of the four fundamental principles. In the final section, we conclude with reflections on the importance of an explicit consideration of standing.

OFFICIAL GUIDANCE ON STANDING IS ABSENT OR MINIMAL

Many governments provide guidelines for the conduct of CBA: some are mandatory, others are recommended or merely suggested. In this section, we review guidance provided by several national and subnational government agencies and supranational organizations to demonstrate the need for a comprehensive framework. Most guidance, which we summarize in Table 2, addresses the “where” dimension. Guidance on other dimensions of standing is limited. None of the guidelines, based on our reading of them, contain any specific advice or direction

about preference inclusiveness: the “what” question. And there is very little guidance on the “who” question.

(Table 2 about here)

Concerning jurisdictional boundaries (the where dimension), a recent review of seven sets of guidelines found that “[n]ot surprisingly, the guidelines typically define standing in CBA studies from their own jurisdictional perspective” (Abelson, 2020, p. 3). Guidelines from Australia, New Zealand, Canada, and the United Kingdom all focus on residents, although with some differences. Interestingly, the Treasury Board of Canada Secretariat (TBS) mentions that international impacts “should be noted and properly allocated” (TBS, 2007, p. 12), but do not clarify the meaning of “proper.” These guidelines also point out that, in some instances, Canada has concluded international agreements, and “[h]ence, the benefits that accrue to non-residents living in third countries might be very relevant to the evaluation of the regulation” (TBS, 2007, p. 12). More recent Canadian guidelines seem no less ambiguous: “In cases where Canadians value the impacts on nonresidents or other countries, those benefits or costs should be included in the CBA based on the value that Canadians place on those benefits or costs” (TBS, 2019, p. 8). Greenhouse gas (GHG) emissions are often treated differently from other impacts. For example, HM Treasury in the United Kingdom recommends a global estimate of the social cost of carbon (SCC). The United States has vacillated. The Obama administration assembled the Interagency Working Group (IWG) to develop a uniform SCC estimate to be used by federal agencies. The IWG derived a global estimate of \$53 per ton, the Trump administration subsequently used a domestic estimate, sometimes as low as \$1 per ton, while the Biden administration intends to revert to a global measure of the SCC (Voosen, 2021). In contrast,

guidelines from federal government agencies in Australia, New Zealand, and Canada make no recommendation about geographic scope when estimating the SCC or of other GHGs.

Guidelines from U.S. government agencies vary in jurisdictional inclusiveness. “Where you choose to evaluate a regulation that is likely to have effects beyond the borders of the United States, these effects should be reported separately” OMB (2003, p. 15). Some other U.S. agencies, including the Department of Health and Human Services (DHSS), follow OMB guidance. The Environmental Protection Agency (EPA) guidelines explicitly consider standing and observe: “[t]he most inclusive answer allows all persons who may be affected by the policy to have standing, regardless of where (or when) they live. For domestic policy making, however, the norm is to limit standing to the national level” (National Center for Environmental Economics, 2014, pp. 1–3).

Subnational governments vary widely in their approach to scope of standing. The Government of New South Wales (NSW), Australia, takes a similar approach to the OMB guidance: only residents of the jurisdiction have standing; costs or benefits to neighboring jurisdictions should be reported separately (NSW Treasury, 2017). Rather onerously, the MOTI in British Columbia suggests that environmental impacts should be documented from local, regional, provincial, and global perspectives (MOTI, 2014, p. 13).

Guidelines about jurisdictional standing from supranational agencies are often ambiguous or quite permissive. The Independent Evaluation Group (2010, p. 20) at the World Bank, for example, states “[t]he economic evaluation of Bank-financed projects should take into account any domestic or cross-border externalities.” Similarly, when discussing externalities that affect an adjacent country, a different World Bank document argues externalities “that can be quantified and monetized should be treated as part of the overall set of project costs or benefits”

(World Bank, 2015, p. 2). Both statements imply that analysts should adopt a global perspective. However, a guideline also states that “[g]lobal externalities (principally the damage costs of GHG emissions) should always be considered separately in a CBA, because their impact is critically dependent upon the valuation of the social cost of carbon, and because many of the Bank’s low- and middle-income client Governments disagree that this should influence their investment decisions” (World Bank, 2015, p. 8). This guideline goes on to say that net present values should be calculated without externalities, with avoided local externalities, and with avoided local plus global externalities (World Bank, 2015, p. 14). It is not clear which approach analysts should use.

The Asian Development Bank (ADB) provides clearer advice on standing and proposes “to estimate the net economic benefit to the region as a whole and the net gains to each participating country” (ADB, 2013, p. 306), thus requiring both a comprehensive supranational CBA and what amounts to country-specific CBAs (see also ADB, 2017, p. 46). Similarly, the ADB states that the net present value should be reported “with and without considering global impacts of GHG emissions” (ADB, 2017, p. 44). Interestingly, it argues that the one with the global impacts should be used as the basis for making investment decisions.

The European Commission (EC) explicitly addresses who has standing, but takes a highly permissive stance, stating that a CBA can take a local, regional (subnational), national, or European Union-wide perspective, depending on the “size and scope of the investment, and the capacity of the effects to unfold” (EC, 2014, p. 33). It also argues “[p]rojects must incorporate a wider perspective when dealing with issues related to CO₂ and other GHG emissions” (EC, 2014, p. 33).

We now consider the “who” dimension. Most national and subnational organizations include impacts that accrue to residents. The US OMB (2003) is a bit broader and requires analyses to consider the impacts on US citizens and residents, thereby extending standing to include citizens living overseas, at least in theory. In contrast, the two transportation agencies we examined include benefits to visitors who use the transportation system as well as residents (DOT, 2021; MOTI, 2014). In the United Kingdom, “society generally includes UK residents not potential residents or visitors. It is sometimes reasonable to include the costs and benefits for people living outside the UK (e.g., service personnel posted overseas)” (HM Treasury, 2020, p. 40). Again, it is not clear when these impacts should be included.

None of the guidelines make a distinction between legal residents or illegal residents, thereby probably implying that illegal residents have standing. Further, almost all guidelines do not explicitly consider criminal activity, thereby imply that criminals also have standing. However, the Department of Health and Human Services (DHHS) in the United States adopts a procedural rather than substantive approach and notes that “[a]t times, determining standing raises difficult issues, such as how to address the preferences of those engaged in illegal activities. When such issues arise, the analysts should explicitly discuss their treatment in the RIA [Regulatory Impact Analysis] documentation” (DHHS, 2016, p. 7).

In summary, neither national governments nor supranational organizations provide consistent guidance on the determination of standing issues. Most guidelines focus on jurisdictional boundaries and, in general, take a jurisdictional perspective. However, many suggest conducting CBA in multiple ways, such as excluding and including externalities. Some guidelines take a global perspective on GHG emissions, while others make no mention of them. Recommendations, such as those in Table 1, could be incorporated into government guidelines

and would lead to greater consistency. Concerning the “who” question, most guidelines focus on residents but, in the United States, taxpayers who may not be residents should also be included. Transportation CBAs usually include the impacts on non-resident visitors. There is little or no discussion about other aspects of the “who” dimension. All of the guidelines are silent about the “what” question.

PRINCIPLES TO GUIDE STANDING DECISIONS

The explicit consideration of standing entered the policy analysis literature in the context of several contentious issues in CBA, including whether to include impacts on foreigners, illegal aliens, fetuses, and criminals (Whittington & MacRae, 1986 and 1990; Trumbull, 1990a and 1990b; McRae & Whittington, 1988; Zerbe, 1991). A resolution of some of the most vexing issues, such as whether to treat the value thieves place on stolen property as a benefit, came from the insight that social or political constraints could, and should, be treated as being analytically equivalent to physical constraints (Trumbull, 1990a). Just as physical constraints shape the choice set faced in policy design, social constraints should shape the “welfare space” (Trumbull, 1990a, p. 205). Social constraints, manifested in law, identify certain behaviors as criminal. Gains from these illicit activities, therefore, should not have standing.

Since these articles appeared, some progress has been made in addressing some of the standing issues mentioned above. However, as far as we are aware, there is no existing framework that comprehensively identifies and organizes standing issues to provide guidance for those conducting CBAs. Our framework organizes issues by the three dimensions of inclusiveness. Its prescriptions draws on the following four principles.

First, and foremost, the framework recognizes that the purpose of CBA is to assess the allocative efficiency of alternative policies (Boardman et al., 2020). Potential Pareto

improvement is the central principle for assessing allocative efficiency: positive net benefits indicate the potential for Pareto improvement and the policy alternative with the largest positive net benefits is most efficient. Of course, the overall welfare of society depends on values other than efficiency so that CBA should not be the sole criterion for many public policy choices.¹ Yet even when multiple values are relevant, CBA should nonetheless play an important role in political choice. Efficiency should almost always be one of the goals of public policy—other things equal, any rational society should want to get the most out of scarce resources—and as efficiency has no natural constituency in representative government, CBA can contribute to a more balanced assessment of policy alternatives. Specifically, it encourages consideration of impacts that would otherwise be external to the decision and helps draw attention to policies that are inefficient (Schmidtz, 2001) and, therefore, should be justified in terms of other relevant goals. To preserve the value of CBA as a protocol for assessing efficiency, standing issues should be resolved to the extent possible in terms of their implications for determining efficiency before turning to consideration of other values.

Second, a fundamental principle of microeconomics—and so of the correct application of CBA—is that it recognizes the intrinsic value and essential equality of all individuals. This may seem the most uncontroversial statement among a forest of more controversial claims. However, the history of the meaning of personhood and of “the individual” demonstrates that, in a political and constitutional sense, it requires constant reaffirmation as a foundational principle from an efficiency and CBA perspective. The individual as a political and economic construct has had little meaning in the absence of the effective right to participate in political and social life (Mill, 1869). Indeed, personhood is the foundation of the various abilities and rights underlying the

¹ Although CBA assesses policies only in terms of efficiency, it may also contribute to fairer distributions by aggregating diffuse benefits and costs that would otherwise be ignored in the political process.

legal concept of “standing.” The circumstances in which the universality of personhood should be circumscribed require explicit justification.

Third, in CBA, benefits are normally measured as the willingness of individuals to pay for positive policy impacts and their willingness to accept compensation for negative policy impacts. Counting these amounts as benefits or costs assumes that individuals normally make choices that maximize their own wellbeing. Although this assumption is not always valid (Weimer, 2017) as we discuss later, we believe that analysts bear the burden of justifying rejection of individual utility in assessing benefits—claims that individuals systematically make consumption mistakes in a particular context should be supported by evidence (Le Grand & New, 2015). This leads us to the principle of the rebuttable presumption of individual rationality.

Fourth, constitutional arrangements, broadly defined to range from domestic laws to international treaties, can be interpreted as contracts in which the parties with constitutional authority shared *ex ante* expectations of individual and mutual gains when they were written (Buchanan, 1990; Vanberg, 2020). This view does not imply that any specific arrangement is necessarily efficiency improving, but it does imply—at least in terms of the expectations of the parties—that future compliance would make all signatory parties better off (Samuelson, 1956; Buchanan & Tullock, 1965; Buchanan, 1975; Vermeule, 2001). This constitutional-contractarianism perspective leads us to the principle of the presumption of deference to constitutional provisions, both as directly set out in national constitutions and as extended by treaties.

Deference to such arrangements can be based on the idea that the law is a legitimate (normative or social) constraint on valuation, and so on evaluation (Trumbull, 1990a). In short, it is enough to say that “the law is the law.” Also, one can go further and adopt a contractarian

justification, which assumes that behind a comprehensive “veil of ignorance” (Harsanyi, 1953) as to everyone’s *ex post* position, one can treat multijurisdictional agreements as *ex ante* efficient. This latter approach provides an economic efficiency foundation for treating laws as constraints on the scope of standing.²

Applications may arise within a country, for example, concerning standing at the national or subnational levels. Or they may arise in international contexts, for example consideration of whether citizens of other nations have standing in national-level CBAs. This is of most import for treaties that internalize cross-national externalities but is certainly not limited to externalities. Mutual defense “pacts” and the rights of refugees, for example, have been a common focus of both bilateral and multilateral treaties (Kumm, 2004; Hathaway, 2005; Mendez, 2017).

JURISDICTIONAL INCLUSIVENESS: WHERE?

In accordance with the four CBA principles, we argue that the default jurisdiction in CBA should be the nation-state. The main reason is that national borders generally have a well-grounded constitutional (and so legal) basis. Fundamentally, the nation-state has both *de jure* legitimacy and the *de facto* power to exercise constitutional authority. Furthermore, and of direct relevance to the assessment of allocative efficiency, the governments of nation-states play central roles in their economies, including monetary and fiscal policy. This is the case even in quite decentralized federal systems, such as that of Canada.

Yet this default rule, which we refer to as national standing, raises two important geographic standing questions that can justify exceptions in particular circumstances. First, when is there justification for the use of subnational analysis, such as for states (in the United States,

² Not all constitutions meet this test. Indeed, one could argue that the U.S. Constitution was not even anticipatorily efficient if one counts slaves as constructive citizens, as principle-based methodological individualism would require (Mill, 1850). If there had been a veil of ignorance, for example, not knowing whether one would be a slave, the U.S. constitution would most certainly have been very different.

Mexico, or Australia) or provinces (in Canada), or local governments? Second, when is there justification for considering supranational impacts?

Subnational Standing

Subnational governments often conduct subnational CBAs, that is, CBAs restricting standing to the subnational level. In many of these CBAs, the policy effects are borne only by residents of the subnational region. In such cases, the subnational CBA is identical to the national CBA and, therefore, analysis can be conducted at either level with identical results. Where some impacts affect residents of other regions, the national and subnational CBAs differ, but if these impacts are relatively small and are similar across all policy options, the national and subnational CBAs will provide similar recommendations. If cross-jurisdictional effects are relatively large, however, then jurisdictional standing matters. In the absence of a relevant constitutional-contractarianism agreement, a CBA of a policy should generally assume national standing, even if performed by or for a subnational government.

An exception occurs when subnational jurisdictions have constitutional-status rights embedded in their respective national constitutions. For example, the residents of subnational jurisdictions often own the natural resources in the jurisdiction (either individually or collectively) and have the legal and economic right to any rents from them (Vining & Moore, 2017; Murtazashvili & Murtazashvili, 2016). Some countries, such as Argentina, have constitutional provisions that allocate ownership of some, or all, natural resources to subnational entities (Brosio & Jimenez, 2012). The Canadian Constitution similarly allocates subsurface resource ownership to the province in which the resource is located (Cairns, Chandler, & Moull, 1985; Dobra, 2014). In such cases, it is appropriate to include increases in resource rents within a province in CBAs

without also including the offsetting costs due to increased prices to residents outside the subnational jurisdiction.

One issue that arises in subnational CBAs concerns the treatment of transfers from the national government. As we mentioned in the Introduction, a CBA of a state's policy might yield positive net benefits if a subsidy from the federal government is treated as a benefit but yield negative net benefits if not. While we have argued that the analysis should be conducted from the national perspective, subnational decision makers will generally want to know the net social benefits of policies from the perspective of their jurisdiction. Thus, a subnational CBA might be a potentially useful complement to a national level CBA. Indeed, it can be thought of as a type of distributional analysis that policymakers routinely and appropriately consider.

Supranational Standing

Although we argue that national standing is the appropriate default, we also contend that supranational (multi-country) CBA is appropriate when it can be shown to be consistent with foundational CBA principles, specifically when an international treaty covers the topic at issue. To illustrate, we focus on international externalities and argue that analysts should include international externalities governed by international treaties, as is the case with the SCC. In the absence of an international treaty, we do not advocate the inclusion of any international externality.

Externality symmetry provides a focal point that fosters reciprocity (Schelling, 1960). Evidence suggests that reciprocity, in turn, tends to encourage formal agreements between nations (Rhodes, 1998). A considerable body of empirical evidence demonstrates that agreements are possible, and indeed common in the presence of international externalities

(Mitchell et al., 2020).³ One of the most important agreements with application to CBA is the 2016 Paris Agreement, which was signed by 190 countries and the European Union, with Iran, Iraq, and Turkey the only major emitters that did not agree to abide by it. Thus, the Paris Agreement is effectively global in scope, implying that the SCC, as well as other climate impacts, should be measured globally.⁴

The inclusion of cross-border externalities when there is an international agreement covering those countries and that externality can have a major effect on CBA recommendations. For example, if there is a water usage agreement between two countries and the upstream country (A) is considering a new irrigation plan, Country A's CBA should include the anticipated costs or benefits to the downstream country (B). There is no contention if the net benefits to both countries are positive. Suppose, however, the net benefits to A are negative, but the net benefits to country B exceed the net costs to country A, then the aggregate net benefits are positive. The project would increase allocative efficiency among the signatories to the treaty in aggregate and a CBA should include the impacts on both countries.⁵ In such situations, of course, multi-national agencies may play an important, efficiency-enhancing role. Consider another example. Suppose the United States is considering a policy to reduce carbon emissions by subsidizing electric cars sold domestically. Further suppose that an alternative policy is to replace inefficient coal-burning power plants in India with lower polluting natural gas power

³ The International Environmental Agreements Data Base documents over 3,000 existing multilateral and bilateral agreements. As one would expect, Mitchell and his colleagues found that bilateral environmental agreements (BEAs) are both more common and more stable than are multilateral environmental agreements (MEAs). Where abatement is a *global* public good, such as reducing carbon emissions, agreement is less common.

⁴ Because the United States has not ratified the treaty with the advice and consent (two-thirds vote) of the Senate, it has not legally signed on to the Paris Agreement, but it does intend to use a global or some other supranational value of the SCC (Voosen, 2001).

⁵ It is possible that country A is not legally obligated under the agreement to proceed with the project and its leaders do not take it up. However, such topics are beyond the scope of this paper, as our focus is on the circumstances under which multiple countries should have standing in CBAs.

plants. Using a global SCC, it is highly likely that replacing the power plants in India would have the higher net social benefits and, if only one policy were feasible, would be preferred from a CBA perspective.

Cross-border externalities should not be included in an *ex ante* evaluation of the treaty itself. Suppose there are only two countries. Country A expects net benefits of \$A from signing the treaty (excluding international externalities) and country B has net benefits by \$B from signing the treaty (excluding international externalities). If each country includes the net benefits to the other country, then the aggregate net benefits to countries A and B would be $2(A+B)$; in short, there would be double counting. However, this would be inappropriate because, as we mentioned above, a country will agree to a treaty only if it expects an efficiency improvement to *its* residents, not considering the benefits accruing to other countries. Furthermore, because there is no existing treaty *ex ante*, the default jurisdiction is the nation state and the impacts on non-treaty countries should be ignored. Our guideline thus applies only to situations in which treaties already exist, not to the decision about whether to enter into a treaty.

WITHIN-JURISDICTION INCLUSIVENESS: WHO?

In view of the constitutional reasons for national standing, all citizens of a jurisdiction should have standing in CBAs, regardless of whether they reside in that region or not. We now consider specific types of residents who do not have citizenship: permanent, temporary and illegal residents, international tourists, and foreign owners.

Permanent, Temporary, and Illegal Residents

The standing given, or not given, to residents who are not currently (naturalized) citizens can impact CBAs. Three categories of residents are potentially relevant: permanent, temporary, and illegal residents. On one hand, these residents do not have the right to vote, raising questions

about their standing. On the other hand, at least in the United States, permanent and temporary residents are recognized as legitimate participants in the economy, suggesting that their costs and benefits should be included.

Permanent residents usually enter a country legally and with the expectation that they will likely become citizens, albeit after some time period. In the United States, except for some social programs such as food stamps from which they are excluded, policies and programs that affect the country's citizens also affect them. We argue that they should have standing, because there is an implicit contract between them and the government (as legitimate agents of their new country); eventually they will have the same rights as those who are already citizens; and even prior to citizenship, they have many of these rights.

Temporary residents enter the country legally, but may not become citizens, either because the law does not allow them to, or because they do not wish to, do so. This category includes, for example, foreign-born unnaturalized residents, students, and persons working in the country under short-term visas (e.g., harvesting crops). We contend that on balance they are effectively in the same position as permanent residents and should be given standing for most purposes. However, remittances they send to their country of permanent residence poses a difficult standing issue. While policies that increase their earnings would normally be seen as benefits, the remittances transfer wealth out of the economy, reducing the total amount of consumption by residents. Citizens also transfer wealth out of the country, however, both as foreign tourists and through contributions. In view of our principle of consumer sovereignty, there seems to be little reason to treat expenditure choices by temporary residents differently than those made by citizens or full-time residents.

Illegal residents may become citizens, but there is no guarantee that they will be able to do so, and most do not. In the United States, as in Europe, there are a wide variety of attitudes concerning undocumented immigrants. Enforcement of the law is sometimes strict and sometimes lax. Unlike the other groups of residents discussed above, members of this group either entered or remain in the country illegally. As a result, they are in violation of explicitly expressed social constraints. There is no implicit compact between undocumented immigrants and the country they enter; and unlike citizens, there is no expectation that they will ever have the “right to have rights” (Hannah Arendt, quoted by Lister, 2010, p. 182), for example, to vote. Consequently, it is difficult to argue that undocumented immigrants should be given standing in CBA. In practice, this would mean that their earnings would not be counted in CBAs, but their tax payments and costs resulting from their use of public services would be counted. However, as with tourists, international law requires that they have the right to live so that changes in their morbidity and mortality risks should be given standing.⁶

The children of illegal immigrants who enter a country at a young age—the so-called “Dreamers” in the United States—present a somewhat different situation. They were too young to have intentionally broken laws. Many have little or no connection to their birth countries. Most are fully integrated into society and the labor market and view themselves as citizens of the country in which they live. More critically in the United States, at least from a contractarian perspective, the Obama Administration initiated a temporary program allowing Dreamers to come forward, pass a background check, and apply for work permits. The Deferred Action for

⁶ Article 6 of the International Covenant on Civil and Political Rights states “Every human being has the inherent right to life. This right shall be protected by law. No one shall be arbitrarily deprived of his life.” The U.S signed the agreement in 1992. <https://www.ohchr.org/en/professionalinterest/pages/ccpr.aspx> (accessed June 11, 2021). On the status of treaties and the dictum that “pacta sunt servanda” in international law, see Dörr & Schmalenbach (2012).

Childhood Arrivals (DACA) permits applicants to work legally in the United States and protects them from deportation. Although the Trump Administration stopped taking new applications to DACA and attempted to discontinue the program altogether, a Supreme Court decision allowed DACA to continue. Subsequently, an executive order at the beginning of President Biden's term directed the Secretary of Homeland Security to "preserve and fortify" DACA. Thus, unlike the case of their parents, one can convincingly argue there is a contract between Dreamers registered under DACA and the United States government. The case for conferring standing on Dreamers appears strong.

Most guidelines implicitly or explicitly give standing to residents, not citizens. In contrast, OMB (2003) suggests that CBAs should consider the impacts on domestic citizens and residents of the United States. Basically, we agree with the OMB's position but would modify it slightly and suggest that CBAs consider the impacts on legal residents, citizens, and Dreamers.

International Tourists and Foreign Owners

Two categories of foreigners are potentially relevant in CBA: international tourists and the foreign owners of firms. Tourists may benefit from infrastructure investments that save them time and possibly reduce their morbidity and mortality risks (e.g., a new divided highway may reduce their travel time and their risk of accidents). The widely accepted rights under international law relevant to international tourists includes the right to live (Maghami & Dorudgar, 2018), providing a basis for including any mortality impacts on tourists in CBA. Including other impacts on tourists, such as time saved, would require that they are recognized in treaties with their countries of origin. However, in many applications, it may not be practical for analysts to separate the costs and benefits borne by international tourists from those of citizens, irrespective of how their standing should be treated in principle.

Government policies often result in changes in producer surplus. If the affected firms have domestic owners, then these changes would have standing in CBA. However, if the firms were foreign owned, then these changes would not have standing. If the firms are multinational corporations, then the fraction of the change in producer surplus belonging to domestic owners should be counted.

PREFERENCE INCLUSIVENESS: WHAT?

Our third principle presumes that individual preferences should usually be accepted as the basis for measuring benefits. However, three questions about the acceptance of preferences arise in determining standing: Should preferences for all private goods have standing? Should all preferences for public goods have standing? Should revealed preferences that are based on mistakes by consumers have standing?

Questionable Private Benefits

Given the presumption of individual rationality, exchanges of most private benefits should have standing. An exception is illegal gains. Although some early applications of CBA to social programs, such as the Jobs Corps (Long, Mallar, & Thornton, 1981), treat stolen property as a transfer, which imposes a loss on the lawful owner but a gain to the thief, most individuals would view inclusion of the benefit of stolen property to thieves as morally questionable. Contractarian principles, for example, imply that laws can generally be viewed as agreements that society sees as promoting efficiency; that is, everyone is better off if all follow the laws. Hence, as discussed earlier, Trumbull (1990a) argues that laws should be viewed as constraints that policies should meet so that illegal gains should not be given standing.

Yet, several caveats raise some doubt about the universality of the contractarian justification for treating laws as constraints. First, laws enacted by representative governments

sometimes promote specific interests rather than the common good. Second, in the absence of a universal franchise, or especially when groups are effectively disenfranchised, laws may not represent society-wide agreement. Third, laws may be hard to change, so that they may reflect the expectations of past, rather than current, members of society. These caveats mean that some laws may be interpreted as consistent with neither widely accepted norms nor the promotion of allocative efficiency.

Furthermore, some consumption that can be viewed as being both socially undesirable and inefficient may not be legally prohibited. For example, some people harass others on social media and thus demonstrate that they would be willing to pay (WTP) for the privilege. The victims of harassment bear a cost, which could be monetized as their willingness to accept (WTA) being subject to it. If the WTA exceeded the WTP, then it would be efficient to prohibit harassment. However, such harassment is not illegal, even though most members of society would regard it as undesirable.⁷

We argue that while the benefits of all legal gains should be given standing, the benefits of illegal gains should not be given standing.⁸ Analysts who see strong moral arguments for counting the benefits of illegal gains should bear the burden of justification and show the sensitivity of net benefits to their inclusion; analysts who see strong moral arguments for not

⁷ Trumbull (1990a) does not limit appropriate constraints to those legally proscribed. He argues that widely accepted norms should be considered social constraints that can be treated like legal prohibitions. If non-harassment were considered a widely held norm, then Trumbull's approach would require analysts not to give standing to the loss suffered by harassers from restrictions on harassment. However, Zerbe (1991) perceives an unacceptable ambiguity in the notion of social constraints that he proposed to clarify by limiting social constraints to those implied by the existing system of legal rights. Indeed, where rights are in dispute, there is no basis for resolving standing so that analysts "should provide alternative calculations based on alternative specifications of rights" (p. 101).

Unfortunately, this approach would not resolve the dilemma posed by MacRae and Whittington (1988), who found, in an assessment of water projects in rural Haitian villages, that men placed a negative value on the time savings of their wives. Codifying the psychological right perceived by husbands seems questionable.

⁸ The obvious exception is CBA of the law itself. For example, a CBA of legalizing recreational marijuana would correctly count the consumer surplus of post-legalization marijuana consumption as a benefit. In contrast, a CBA of police practice that changed the consumption of marijuana would not count the change in consumer surplus in the illegal marijuana market.

counting legal benefits should also bear the burden of justification and likewise show the sensitivity of net benefits to their exclusion.

Moral Sentiments as Public Goods

The distribution of wealth in society can be viewed as a pure public good as everyone “consumes” the same distribution. It can be argued that, to the extent that people with standing have a WTP/WTa for changes in the wealth distribution, these amounts should also have standing in the calculation of net benefits (Zerbe, 1998); and, more generally, any moral sentiments for which there is a WTP/WTa should be given standing (Zerbe, 2004). On the one hand, giving standing to people’s WTP/WTa for changes in the wealth distribution or other moral sentiments seems consistent with the common practice of valuing other public goods, such as the existence value of species or unique habitats. Furthermore, integrating distributional and other values into the CBA framework, may better reflect the total social value produced by policies. On the other hand, doing so risks blurring the interpretation of CBA as an assessment of efficiency that is useful for informing political choice based on the full range of relevant social values (Acland, 2021).

Resolving these conflicting views on whether to give standing to moral sentiments pits a conceptual foundation of CBA against the realities of practical application. Conceptually, the potential Pareto principle argues for treating any policy impacts for which people have a WTP/WTa as relevant to the assessment of efficiency. Practically, as policy impacts with implications for moral sentiments are varied and relatively difficult to monetize, they often would not actually be included in CBA. Unless the political consumers of CBA were very

careful in looking under the hood to see which moral sentiments, if any, were monetized, the selective inclusion of moral sentiments would undercut comparisons of policies.⁹

Some policy changes that invoke moral sentiments (for example, a policy that changes the distribution of income or wealth) may be viewed positively by some persons and negatively by others and, thus, are best measured as WTP for the former and WTA for the latter. Even if one accepts the conceptual argument for including both the WTPs and WTAs for moral sentiments, practical issues arise related to the likely reliance on stated preference methods for estimating moral sentiments. Analysts would have to separate respondents into two groups, those who view the policy positively and those who view it negatively, and then conduct separate elicitations for each group (Carlson et al., 2016). Studies that estimate comparable changes in a good using both WTP and WTA framing generally find the magnitude of the latter many times the magnitude of the former (Tunçel & Hammitt, 2014).

We believe that three conditions need to hold for the inclusion of changes in moral sentiments. First, their monetization is plausible. Second, there should be general agreement about whether the change can be viewed as a gain or loss. This assumption avoids the problem of mixing WTP and WTA in a single measure. Third, the change should not be novel.¹⁰ That is, decision makers should not be surprised by the inclusion of the change. If the change is novel, then net benefits should be presented with and without the novel impact included. Meeting these three conditions would be consistent with the practice of giving standing to existence value in assessing environmental policy.

⁹ Thus, Acland (2021) argues for not considering WTP/WTA for policy impacts other than those that directly (1) affect a productive resource, (2) an output created by a productive resource, or (3) an externality caused by the production or consumption of an output.

¹⁰ Development of shadow prices to facilitate consistent standing for specific moral sentiments would avoid novelty and thereby reduce the risks of inappropriate distortion of policy choice. See Weimer & Vining (2009) on the desirability of a shadow price for moving a child out of poverty.

Consumption Mistakes

Behavioral economics identifies situations in which consumers make choices that fail to maximize their own utilities. That is, from the perspective of the neoclassical economics underlying CBA, they exhibit anomalous behavior. For purposes of assessing implications for CBA, these “mistakes” fall into three broad categories (Weimer, 2017). First, consumers often make mistakes in forecasting impacts and in how they will value them. Second, consumers sometimes make choices that reflect ancillary factors that are irrelevant to how they will ultimately value outcomes. Third, individuals may have unconventional preferences that violate basic assumptions of neoclassical economics, such as ambiguity aversion, time inconsistency, and positional goods. These anomalies raise the question of whether standing should be given to the preferences revealed in choices of consumption or the preferences revealed in the experience of consumption.¹¹ Given the principle of the rebuttable presumption of individual rationality, we argue below that standing should be given to the choices consumers make unless there is strong evidence that consumers are making serious errors of judgment.

As an illustration consider the treatment of so-called “internalities”: effects that a person imposes upon his or her future self (Schelling, 1984; Herrnstein et al., 1993). Economists have long observed that individuals exhibit very high discount rates when considering capital purchases that would result in future energy savings. In evaluating policies that induce more energy efficient capital purchases, should loss of potential future fuel savings to individuals who fail to make the capital purchases, rather than just the externalities of fuel use, be treated as internalities that should be given standing? An important caveat about the assumption that observed purchases of less efficient, but lower cost, capital goods indicate irrationality that

¹¹ It is especially relevant to the assessment of “nudges” (Thaler & Sunstein, 2008), which can be thought of as policies that exploit behavioral anomalies (Weimer, 2020).

justifies inclusion of the internality of future energy savings is that the perceived quality of capital goods has multiple dimensions so that focusing only on cost and operating expenses may miss features that some consumers value (Gayer & Viscusi, 2013). Further, superficially irrational choices may be rational in view of the financial constraints some consumers face in terms of cash on hand and access to credit. If so, then these individuals have made rational decisions, they have “internalized the internalities,” so that the loss of energy savings to them should not have standing.

Assessing policies that affect the consumption of harmful addictive goods raise an important issue of standing. As already discussed, if consuming the good is illegal, then that consumption itself would not have standing. However, whether addictive consumption is legal or illegal, it can be thought of as imposing a negative internality on the future self. Therefore, policy-induced changes in the harm to the addicted consumer should have standing. Unlike the choice of motor vehicles, where it is reasonable to assume that consumers make rational tradeoffs among costs, fuel efficiency, and safety, addictive consumption often precludes consideration of tradeoffs. If so, the resulting internalities should have standing.

A particularly difficult issue is how to value policies that reduce access to additive goods whose consumption is not illegal, such as tobacco and alcohol. In the context of rational consumption, reducing choices cannot increase utility. Yet people with addictions often take steps to reduce their own choices, say by not having any alcohol in the house or by avoiding places where it will be used. Such reductions in choice may be individually rational in the selection of choice sets so that those with addictions may have a WTP for having the choice set reduced for them through policy (Gul & Pesendorfer, 2004). From this perspective, the WTP for the reduction in the choice set would have standing.

We contend that analysts should be cautious in changing standing to account for perceived anomalous behavior. Before doing so, analysts need to present strong empirical evidence that individuals are indeed making serious mistakes. For several reasons, markets and other institutions may produce rational results even when some of the participants act irrationally (Camerer, 1987). Wherever possible, analysts should look for evidence of the anomalous behavior in markets as well as laboratory experiments.

CONCLUSION

Decisions about standing in CBA are important because they influence the recommendations of the analysis. Often, however, practitioners do not state their assumptions about standing explicitly, perhaps because there is little coherent guidance from government sponsors. In analyses of national policies, the common practice of giving standing to all residents within the national borders fits reasonably well with CBA principles in most situations. However, when policies involve international externalities, focus explicitly on different classes of residents, or address apparent consumption mistakes, explicit decisions about standing are required both to guide the analysis and to document what costs and benefits were considered. In this article, we seek to provide a framework for specifying standing in terms of political borders, the status of those within the borders, and the categories of their consumption that count. We have aimed to help practitioners decide whether and why they should give standing in a variety of circumstances.

Our framework draws on basic principles underlying CBA including an extension of Trumbull's (1990a) view that legal constraints should be treated in the same way as physical or budgetary constraints. We get there by recognizing that international treaties can be thought of as *ex ante* potential Pareto improvements, so that adopting policies consistent with treaty provisions

is consistent with economic efficiency. Thus, we can come to some conclusions about standing for international externalities as well as for impacts on non-citizens.

We hope that our framework contributes to better CBA practice in two ways. First, by setting out the three dimensions of standing—where, who, and what—it should encourage analysts to be more explicit about their standing assumptions. For some benefits or costs, alternative standing assumptions may be reasonable. If so, the analyst should conduct sensitivity analysis of standing decisions as well as sensitivity with respect to estimates, valuations, or other assumptions. Second, by highlighting several of the difficult standing choices, we hope to encourage others to contribute to a dialogue about standing. Indeed, we would welcome challenges to our specific conclusions.

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Table 1: Summary of Standing Issues in CBA and Implications of our Framework

Standing Dimension	Framework Implications
Jurisdictional Inclusiveness: Where?	
Supranational, national or subnational	Should generally be the nation-state unless an international agreement covers both the topic at issue and some other affected country or countries. Then, the affected countries that are covered by the agreement should be given standing. A subnational CBA can supplement the national CBA if subnational standing is consistent with constitutional-contractarian principles.
Within-Jurisdiction Inclusiveness: Who?	
Citizens	Should be given full standing.
Permanent & temporary legal residents	Should be given full standing.
International Tourists	Changes to their morbidity and mortality risks should be given standing.
Illegal residents	Should not be given standing except for changes in their morbidity and mortality risks. However, taxes they pay should be treated as a benefit and costs resulting from their use of public services should be treated as a cost.
Children of illegals	Those entering the country at a young age should be given standing.
Foreign-owned firms	Changes in producer surplus should be pro-rated by the fraction of the affected firms owned domestically.
Preference Inclusiveness: What?	
Private goods	Benefits from illegal gains usually should not be given standing. When questions arise as to the inclusion or exclusion of specific benefits, sensitivity analysis in which CBAs include and exclude the benefits at issue, should be conducted.
Public goods resulting from moral sentiment	Should not be given standing unless the impact on moral sentiment (e.g., a change in the distribution of wealth) is not novel (i.e., its inclusion in CBAs is unsurprising and its monetization appears plausible) <i>and</i> everyone either views the change as a gain or views it as a loss.
Choice versus Experience Utility	Standing should be given to the choices consumers make unless there is strong empirical evidence that they are systematically making serious errors of judgment. (e.g., opioid users who underestimate the potentially lethal effects). Thus, strong caution should be exercised in changing standing to account for perceived anomalous behavior.

Table 2: A Summary of Recommendations About Standing in Selected Government Agency Guidelines

Government Agency	Agency Recommendations and Commentary
Supranational Agencies	
World Bank	Inconsistent guidelines about whether to include cross-border externalities in a country CBA. However, global GHG costs should be considered separately.
Asian Development Bank	Economic analysis of regional cooperation projects requires the calculation of the returns for both the region and individual countries. Include global climate-related gains or losses.
European Commission	Guidelines are non-directive and flexible. The impact area can be local, subnational, national, or multi-national. Use a wider perspective when dealing with environmental issues related to CO ₂ and other greenhouse gas (GHG) emissions.
National Agencies	
Australian Government	Generally, measuring the national costs and benefits is appropriate, rather than measuring any international impacts. That is, one should count the costs and benefits to all people residing in Australia.
The Treasury, New Zealand.	All people in New Zealand affected by a policy should be recognized in the analysis.
Treasury Board of Canada	Should include the impacts accruing to individual residents of Canada. Consideration should be given, however, to how great an impact the regulation will have nationally and internationally. In some instances, Canada will have concluded international agreements.
HM Treasury, UK	UK society generally includes UK residents and not potential residents or visitors.
Office of Management and Budget, US	Focus on benefits and costs that accrue to citizens and residents of the US. Where the effects are beyond the borders of the United States, they should be reported separately.
Department of Health and Human Services, US	Same as OMB for jurisdictional inclusiveness Notes that "[a] times, determining standing raises difficult issues, such as how to address the preferences of those engaged in illegal activities. When such issues arise, the analysts should explicitly discuss their treatment in the RIA documentation."
Department of Transportation, US	No direct guidance but should monetize benefits to local or regional residents and visitors.

Environmental Protection
Agency, US

Explicitly addresses standing and recognizes that the most inclusive answer allows all persons who may be affected by the policy to have standing, regardless of where (or when) they live. For domestic policy making, however, the norm is to limit standing to the national level.

Subnational Agencies

Government of New South
Wales, Australia

The NSW community is the core reference group. If spillovers, report both a central estimate showing costs and benefits to the NSW community, and separate results showing any interstate costs and benefits.

Ministry of Transportation and
Infra-structure, British Columbia,
Canada

Benefits accrue to all road users in British Columbia. Environmental impacts should be documented from a local, regional, provincial, and global (e.g., GHGs) perspective.