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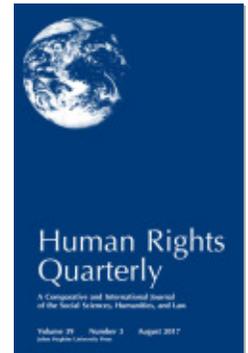
Measuring Compliance: Social Rights and the Maximum  
Available Resources Dilemma

Abby Kendrick

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## Measuring Compliance: Social Rights and the Maximum Available Resources Dilemma

*Abby Kendrick\**

### ABSTRACT

This article argues that since fulfillment of social rights is dependent on the availability of resources we must look beyond the field of international human rights, to economics, to provide a stylized way of thinking about measuring compliance. Using conditional rights as a starting point, this article argues that there are certain normative and practical factors that limit social rights, and it is in allowing for these factors that gives rise to the maximum resources dilemma: How can the content of social rights be determined if it is allowed to differ across resource contexts, and how can compliance be measured if the content is not determinate? It argues further that the empirical tools of microeconomics offer a systematic way to deal with the dilemma and outlines a methodological sketch for measuring compliance.

### I. INTRODUCTION

Consider two new lives. The first enters the world in Swaziland, the other in Switzerland. The Swazi new born is twenty times more likely to die before reaching her fifth birthday than her Swiss counterpart.<sup>1</sup> If she reaches adulthood, she will have been educated for half the number of years.<sup>2</sup> She

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\* *Abby Kendrick* is Teaching Fellow in Economics at the University of Warwick. She is also an Honorary Research Associate in the Peter A. Allard School of Law at the University of British Columbia. Her current work focuses on the use of quantitative methodologies for research in economic and social human rights. She teaches world economic theory and history and is a Member of the Centre for Human Rights in Practice at the University of Warwick.

1. WORLD HEALTH ORGANIZATION, *WORLD HEALTH STATISTICS 2013*, 22 (2013).

2. UNITED NATIONS DEVELOPMENT PROGRAMME, *HUMAN DEVELOPMENT INDEX, MEAN YEARS OF SCHOOLING (FEMALES AGED 25 YEARS AND ABOVE)* (2014).

is twenty-seven times more likely to be undernourished.<sup>3</sup> Overall, being born in Swaziland means she can expect to live thirty fewer years than if she was born in Switzerland, and the cause from which she will eventually die most likely could otherwise have been avoided.<sup>4</sup>

On witnessing the real life tragedy of those around the world living without shelter, without access to education, and at risk of early mortality, it might seem reasonable to say that a violation of human rights has occurred.<sup>5</sup> But, while framing life and death tragedies within the notion of rights leads one to hope that some improvement to the ill-fated situation could be made, the mere labelling of unsatisfied social needs as a violation of human rights is unsatisfactory. Social rights are dependent on the availability of resources.<sup>6</sup> And, given that the capacities of different countries vary in significant ways, the expectation that some countries have a duty to deliver the same standard of health, nutrition, education, and housing as others may be unrealistic, just as the Swaziland/Switzerland example illustrates. It is precisely this resource-dependency that is the core of these rights' complexity. How can the content of social rights be determined if it is allowed to differ across resource contexts, and how then is it possible to ascertain violations of these rights if the content is not determinate? This is what I call the "maximum available resources dilemma."<sup>7</sup>

The dilemma I describe speaks sympathetically to research by other scholars who argue that dealing with the resources issue to determine the content of social rights, and assessing where along the line between rights to everything and rights to nothing obligations lie, presents the biggest challenge to justifying, defining, and measuring compliance with social rights. For example, in *On Human Rights*, philosopher James Griffin makes the case that the condition of maximum available resources, interpreted as "available after proper allocation to other important social goals,"<sup>8</sup> gives

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3. FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS STATISTICS DIVISION, FOOD SECURITY INDICATORS, PREVALENCE OF UNDERNOURISHMENT (2016).
  4. WORLD HEALTH ORGANIZATION, WORLD HEALTH STATISTICS 2012, 58 (2012).
  5. The concept of "violation" is used here as a way of describing an unjustified breach of the right. It is not used to describe an infringement, i.e. a justified breach of the right. Implicit in the argument is the distinction between social rights and social needs and/or interests.
  6. International Covenant on Economic, Social and Cultural Rights, *adopted* 16 Dec. 1966, G.A. Res. 2200 (XXI), U.N. GAOR, 21st Sess., U.N. Doc. A/6316 (1966), 993 U.N.T.S. 3 (*entered into force* 3 Jan. 1976) [hereinafter ICESCR].
  7. The resources dilemma I describe is not the same as that described by John Tobin in his monograph on the right to health. The dilemma here is not one related to the allocation of macro and micro resources, i.e. how scarce resources are allocated between health versus other legitimate social, economic, and cultural needs and interests. Rather, it relates to the intractability of social rights as a direct result of differences in the availability of resources. JOHN TOBIN, THE RIGHT TO HEALTH IN INTERNATIONAL LAW 69–73, 196 (2012).
  8. JAMES GRIFFIN, ON HUMAN RIGHTS 100 (2008).

rise to rights that are “next to empty”<sup>9</sup> since the phrase gives no guidance as to what is required by the duty-bearer. In Thomas Pogge’s edited volume on poverty and human rights, Tom Campbell argues that the absence of a systematic mechanism for guiding resource redistribution affects “not only the problem of identifying precise human rights obligations . . . but also the prospect of establishing legal claims.”<sup>10</sup> These, and other examples,<sup>11</sup> serve only to highlight the intractability of determining the exact scope of social rights and their corresponding obligations.

I argue in this article, however, that there are difficulties involved in dealing with the dilemma does not mean that the task is impossible or that it should be abandoned; on the contrary. In setting out to deal meaningfully with the dilemma, the essential challenge rests on developing an understanding of how the notion of maximum available resources can be operationalized so that it is then possible to arrive at a standard by which a judgment can be made as to when and why the identification of a particular unsatisfied social need indeed signals a violation of social rights. This article argues that such a challenge is potentially surmountable. But, in so doing, the challenger will require multi-disciplinary tools; namely, those from economics.

While a research position that advocates quantitative empirical approaches to normative questions about human rights is by no means novel,<sup>12</sup> what this research does specifically is go beyond the general assertion that empirical methods to normative questions can be useful. What it adds to the existing discussion is essentially two things. First, the article provides an unraveling of the elusive notion of maximum available resources. And second, by turning to economics to provide a stylized way of thinking about compliance, it provides a methodological sketch for determining the type and standard of social welfare that social rights guarantee for individuals under resource scarcity and offers a way of signaling the degree to which this standard is in fact being met. The argument has four parts. First, Section II sets the scene within which social rights are to be analyzed and traces their foundations. It argues that social rights are conditioned or limited by

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9. *Id.*

10. Tom Campbell, *Poverty as a Violation of Human Rights: Inhumanity or Injustice?* in FREEDOM FROM POVERTY AS A HUMAN RIGHT: WHO OWES WHAT TO THE VERY POOR? 58 (Thomas Pogge ed., 2007).

11. See, e.g., ECONOMIC, SOCIAL AND CULTURAL RIGHTS: A TEXTBOOK (Asbjørn Eide, Catarina Krause, & Allan Rosas eds., 2d ed., 2001); MAGDALENA SEPÚLVEDA, THE NATURE OF THE OBLIGATIONS UNDER THE INTERNATIONAL COVENANT ON ECONOMIC, SOCIAL AND CULTURAL RIGHTS (2003); CORE OBLIGATIONS: BUILDING A FRAMEWORK FOR ECONOMIC, SOCIAL AND CULTURAL RIGHTS (Audrey Chapman & Sage Russell eds., 2002); MATTHEW C. R. CRAVEN, THE INTERNATIONAL COVENANT ON ECONOMIC, SOCIAL, AND CULTURAL RIGHTS: A PERSPECTIVE ON ITS DEVELOPMENT (1995).

12. Todd Landman, *Rigorous Morality: Norms, Values and the Comparative Politics of Human Rights*, 38 HUM. RTS. Q. 1 (2016) (providing a thoughtful note tracing the history of examples of empirical analyses of normative questions).

relevant normative and practical considerations, and it is in allowing for these considerations that gives rise to the maximum resources dilemma. Section III outlines a strategy for dealing with the dilemma. The strategy proposed is characterized by a two-step process. The first step is to define the social welfare-type goods, services, and facilities social rights guarantee. The second step is to determine, through a valid test, the extent to which this level of social welfare is achievable, given duty-bearers' maximum available resources. In defining the type and test, the empirical challenge that remains for dealing with the maximum resources dilemma is then to operationalize maximum available resources. This is the task taken up in Section IV. With this description and a strategy in hand, Section V then turns to economics to provide a systematic way of thinking about compliance and dealing with the dilemma. The section starts with a brief history of the ways in which compliance has been most commonly measured to date, tracing the use of residual analysis in the social sciences more generally, and for measuring human rights in particular. It then goes on to outline a conceptual framework and empirical strategy, showing how the tools for measuring efficiency in the microeconomic sense<sup>13</sup> can be applied to measure a duty-bearer's compliance with its obligation to fulfill social rights.

## II. THE CASE FOR CONDITIONAL SOCIAL RIGHTS

According to the contemporary idea of human rights,<sup>14</sup> human rights (including social rights) by their very nature entail a responsibility upon the duty-bearer to act in ways that protect fundamental human interests: for instance by providing health, education and housing goods, services, and facilities to those who need and lack them.<sup>15</sup> The interest-based account maintains that it is the extent to which an individual's interests have an obligation-generative capacity that elevates human interests to human rights;<sup>16</sup> this is an idea based on an extension of the description of rights given by Joseph

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13. Efficiency in the microeconomic sense refers to the degree to which output is maximized, given the number and level of available inputs.

14. For contemporary philosophical accounts see HENRY SHUE, *BASIC RIGHTS: SUBSISTENCE, AFFLUENCE, AND U.S. FOREIGN POLICY* (1980); REX MARTIN, *A SYSTEM OF RIGHTS* (1997); Amartya Sen, *Elements of a Theory of Human Rights*, 32 *PHIL. & PUB. AFF.* (2004); L. W. SUMNER, *THE MORAL FOUNDATION OF RIGHTS* (1987).

15. See, e.g., JAMES W. NICKEL, *MAKING SENSE OF HUMAN RIGHTS* (2nd ed. 2007); GRIFFIN, *supra* note 8; John Tasioulas, *The Moral Reality of Human Rights*, in *FREEDOM FROM POVERTY AS A HUMAN RIGHT: WHO OWES WHAT TO THE VERY POOR?* 75 (Thomas Pogge ed., 2007); DAVID BILCHITZ, *POVERTY AND FUNDAMENTAL RIGHTS: THE JUSTIFICATION AND ENFORCEMENT OF SOCIO-ECONOMIC RIGHTS* (2007); JEFF KING, *JUDGING SOCIAL RIGHTS* (2012).

16. John Tasioulas, *Towards a Philosophy of Human Rights*, 65 *CURRENT LEGAL PROBS.* (2012).

Raz, among others, to describe human rights.<sup>17</sup> There is, of course, a vast and divergent literature on the question of what is “the” interest that best justifies human rights as human rights.<sup>18</sup> I will not devote any space to that discussion here. Rather, the challenge set out presently is to unravel what is the scope of these rights and obligations. With respect to social rights, this is the crucial question.

I take James Nickel’s definition of human rights to be the most persuasive with respect to how human rights are conceptualized in theory and operationalized in practice.<sup>19</sup> Nickel offers a convincing account of why human rights are minimal standards, and why with minimal standards come limitations. First, human rights should be minimal standards because they should serve to address the severest of problems, the solutions to which should take the highest priority. If human rights become more than minimal standards, standards for say promoting the highest possible standards of living, almost any unmet social need would become a violation of human rights.<sup>20</sup> This, echoing John Tasioulas’ warning, could undermine and devalue the whole human rights enterprise.<sup>21</sup> Second, human rights should be minimal standards because they should be feasible across space.<sup>22</sup> Feasibility in this sense can take various forms. Human rights as more than minimal standards may be politically infeasible; they should leave reasonable space for national,

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17. “‘X has a right’ if and only if X can have rights, and, other things being equal, an aspect of X’s well-being (his interest) is a sufficient reason for holding some other person(s) to be under a duty.” JOSEPH RAZ, *THE MORALITY OF FREEDOM* 166 (1986).
  18. See, GRIFFIN, *supra* note 8, at 100–01 (arguing a right to X can be considered worthy of human right status only if it fits within his account of personhood; that is, the fundamental interest an individual has in autonomy and liberty, and can be determined as a constitutive element of normative agency); CHARLES R. BEITZ, *THE IDEA OF HUMAN RIGHTS* 110 (2011) (distinguishing human rights as those which institutionally protect “urgent individual interests” against predictable “standard threats” within the specific societal context that are a matter of both national and international responsibility); Amartya Sen, *Human Rights and Capabilities*, 6 J. HUM. RTS. 151, 160 (2005) (holding that the interests which form the subject matter of human rights are those freedoms, both in terms of substantive opportunities and freedom of processes, which enable individuals to achieve the combinations of functionings (beings and doings) to lead the kind of life which he or she has reason to value, the status of which “must be ultimately dependent on their survivability in unobstructed discussion”).
  19. NICKEL *supra* note 15.
  20. *Id.* at 36 (illustrating the point that rights do not equal interests through the example of the universal interest in being comfortable during hot weather). Other examples include, John Tasioulas, *Towards a Philosophy of Human Rights*, *supra* note 16, at 16 (considering the interest in being romantically in love); AMARTYA SEN, *THE IDEA OF JUSTICE* 367 (2009) (describing the interest in not being called up regularly at odd hours by despised neighbors).
  21. Tasioulas, *Towards a Philosophy of Human Rights*, *supra* note 16, at 29–30.
  22. Although there are various notions of “feasibility” available to test if and when a human right exists, here, a Nickel-type notion of feasibility is used as a point of departure. That is, feasibility as a “reasonable burdens” and “implementability” test. NICKEL, *supra* note 15, at 79–86.

democratic decision-making and allow for cultural reflexivity with respect to the way in which political, legal, economic, and social institutions are shaped.<sup>23</sup> They may also be economically infeasible; human rights as maximal standards would for many individuals likely remain distant dreams,<sup>24</sup> which normatively speaking could, in the words of Maurice Cranston, “push *all* talk of human rights out of the clear realm of the morally compelling into the twilight world of utopian aspiration.”<sup>25</sup> In the case that human rights are more than minimal standards, feasibility becomes much less likely.

Minimalism, therefore, not only shapes the nature of the entitlement social rights guarantee, it also shapes the nature of the burdens the right will impose; specifically, that the burdens not be overly burdensome.<sup>26</sup> Indeed, this reality was not lost on those responsible for drafting the International Covenant on Economic, Social and Cultural Rights (ICESCR). In an attempt to specify claims and obligations pertaining to social rights that are sensitive to the needs and interests of both their beneficiaries and their duty-bearers, the resultant Covenant claims that each state bears the obligation to take steps with a view to progressively realizing the rights recognized under the Covenant and subject to the maximum resources that are available.<sup>27</sup> This language recognizes that immediate achievement of the highest standards of health, education, and housing, for instance, is not what is required of social rights but that instead the duty-bearer has an obligation to make planned and targeted steps towards that goal. It also recognizes that the pools from which resources can be drawn for realizing these rights will vary.

The acts of the duty-bearer will then be conditioned on “additional practical and normative considerations,”<sup>28</sup> which may serve to alter obligations. According to this scheme, fundamental interests then shape the content of social rights, which is subject to further relevant considerations. These further relevant considerations then shape the content of the obligations, which are now unconditional.<sup>29</sup> They are unconditional because other relevant conditions have been accounted for in their determination.

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23. For an overview of this debate see for example GRIFFIN, *supra* note 8, at 129–45 INTERNATIONAL HUMAN RIGHTS IN CONTEXT: LAW POLITICS AND MORALS 517–39 (Henry J. Steiner, Philip Alston, & Ryan Goodman eds, 3rd ed., 2008); JACK DONNELLY, UNIVERSAL HUMAN RIGHTS IN THEORY AND PRACTICE 57–126 (2d ed. 2003); JOHN RAWLS, POLITICAL LIBERALISM 144–150 (1993).
24. GRIFFIN, *supra* note 8.
25. Maurice Cranston, *Human Rights, Real and Supposed*, in POLITICAL THEORY AND THE RIGHTS OF MAN 43, 52 (D. D. Raphael ed., 1967).
26. The set up of these minimalism-type tests is a variation on Nickel’s “entitlements plus” and Feinberg’s “claims-to” and “claims-against” theme, which holds that a right cannot be constituted by an entitlement alone. Norms that guide the behavior of the duty bearer must be added to the entitlement to constitute a fully-fledged human right. NICKEL, *supra* note 15, at 30–32; JOEL FEINBERG, SOCIAL PHILOSOPHY 64 (1973).
27. ICESCR, *supra* note 6, art. 2, ¶ 1.
28. BILCHITZ, *supra* note 15, at 78.
29. Further relevant conditions include, but are not limited to, the availability of resources. A discussion of these conditions will be discussed in more detail in Section IV.

The scheme obviously has consequences. It could be argued that allowing obligations to inflate or deflate depending on the prevailing context within which the duty-bearer is situated leaves open the possibility that, for some duty-bearers, the unconditional obligation incumbent upon them would be to do nothing.<sup>30</sup> In Onora O'Neill's view, for example, "a premature rhetoric of rights can inflate expectations while masking a lack of claimable entitlements."<sup>31</sup> While this is theoretically true (these further considerations could render any level of realization of these rights overly burdensome) it is extremely unlikely within the contemporary idea of human rights, specifically, with respect to the importance and minimalist nature of the interests they protect. Nevertheless, these relevant considerations could, and would most probably, require that "social welfare" be realized to a qualified extent.

The idea of conditionality deals with the problem of burdensomeness and scarcity inasmuch as it identifies the principles and rules regarding what duty-bearers have to do to fulfill social rights. But as David Bilchitz rightly asserts, "ultimately, judgement will be required in translating these into particular actions and obligations."<sup>32</sup> The idea of conditionality gives little detail on what kind of social welfare these rights guarantee, what share of resources is adequate for satisfying it, or how resources are to be allocated among different needs when resources are not sufficient to meet them all. It is this incompleteness, yet dependence, that gives rise to the central dilemma: How can the content of social rights be determined if resource conditionality allows for it to differ across resource contexts, and how then is it possible to ascertain violations of these rights if the content is not determinate?

### III. DEALING WITH THE DILEMMA

If social rights are conditional rights, but conditionality gives rise to the maximum available resources dilemma, dealing with the dilemma and determining the content of social rights along conditional lines must then be approached with a two-step process. The task first calls for a description of the "goods" an individual requires in order for their fundamental interests to be satisfied. Since receipt of these goods is conditional, it then requires a test of whether full provision of these goods is possible within the particular community given the prevailing contemporary human, social, and economic constraints faced. By implication, this is a test of the degree to which resource

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30. Robert E. Robertson, *Measuring State Compliance with the Obligation to Devote the "Maximum Available Resources" to Realizing Economic, Social, and Cultural Rights*, 16 HUM. RTS. Q. 693 (1994).

31. ONORA O'NEILL, *TOWARDS JUSTICE AND VIRTUE: A CONSTRUCTIVE ACCOUNT OF PRACTICAL REASONING* 133 (1996).

32. BILCHITZ, *supra* note 15, at 101.

scarcity may justify “impossibility” in cases where there exists a shortfall in the provision of the specified goods. Both steps, however, carry with them certain complexities.

Taking the first step first, the type of social welfare to which individuals have a right could be referred to as a basket of social goods, services, and facilities (from here onwards referred to as the welfare basket) that is specified precisely, conceptually valid, and empirically appropriate. But the crucial question that immediately follows is: On what basis is the basket’s content prescribed? Perhaps it could be left up to duty-bearers themselves to determine the content of the welfare basket: the goods, services, and facilities prioritized with respect to the particular social issues with which each duty-bearer is faced.<sup>33</sup> It could be determined with reference to the Committee on Economic, Social and Cultural Rights “minimum core,” which entails “a minimum core obligation to ensure the satisfaction of, at the very least, minimum essential levels of each of the rights is incumbent upon every State party.”<sup>34</sup> Or, it could be defined empirically, through a technical exercise that prioritizes those goods, services, and facilities deemed most important to meet the most basic of social needs and that can be feasibly scaled-up to population coverage.<sup>35</sup>

These different methods notwithstanding, in determining the content of the welfare basket, there is no real need to take sides on which method does the job best. One can be, for present purposes, non-partisan since the only requirement of conditional social rights is that an assumption as to the kind of social welfare these rights guarantee can indeed be made. The basket could be narrowly or expansively defined and, as the foregoing examples suggest, it seems there is more than sufficient methodological wind to fill the sails. Taking the second step for determining the content of social rights, however, is perhaps more perilous.

In determining the content of human rights, the basic objection to the admittance of resource conditionality is that with it comes implicitness that the so-called human, social, and economic constraints necessarily render full attainment of the welfare basket impossible. According to the impossibility objection, ascribing intrinsic resource conditionality to the description of social rights inevitably imposes only a “weak”<sup>36</sup> duty on the duty-bearer to

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33. Philip Alston, *The Committee on Economic, Social and Cultural Rights, in THE UNITED NATIONS AND HUMAN RIGHTS: A CRITICAL APPRAISAL* 491 (Philip Alston ed., 1992) (suggesting that the content of social rights be clarified by an examination of “the approaches adopted by States themselves in their internal arrangements”).

34. General Comment No. 3, *The Nature of States Parties’ Obligations*, adopted 13–14 Dec. 1990, U.N. ESCOR, Comm. on Econ., Soc. & Cult. Rts., 5th Sess., 49th & 50th mtg., ¶ 10, U.N. Doc. E/C.12/1990/8 (1990).

35. See, e.g., WORLD HEALTH ORGANIZATION, *IMPROVING HEALTH OUTCOMES OF THE POOR: THE REPORT OF WORKING GROUP 5 OF THE COMMISSION ON MACROECONOMICS AND HEALTH* (2002) (adopting an empirical approach to prioritization with respect to the right to health).

36. David Beetham, *What Future for Economic and Social Rights*, 43 *POL. STUD.* 41, 57 (1995); GRIFFIN, *supra* note 8, at 35–37.

secure the welfare basket: a duty with no immediacy, which reduces these rights to mere rhetoric. But does conditionality have to equate to rights-weakness? In the case that the condition is resource-based, such a conclusion would perhaps only follow if it is assumed that there is no valid test for determining whether available resources actually are sufficient for securing the welfare basket. If that assumption were true, then the conclusion seems quite reasonable; it would be very difficult, perhaps impossible, to adequately ascertain violations of these rights. It could be argued, however, that such an assumption might be misplaced.

Although conditionality may appear to imply that resources are always insufficient to realize full attainment of the welfare basket, this may not always be the auto-result if a valid test for assessing whether maximum available resources are sufficient or insufficient for achieving it can be specified. The test would need to give precision to the concept of maximum available resources rather than absolve this complex task to the notion of “progressive realization.” It needs to be a test of “extent” and could, say, range from 0 (the welfare basket being perfectly unaffordable within the given resource set) to 1 (the welfare basket being perfectly affordable). As such, the closer the result is to 1, the less incomplete-attainment is justifiable by the condition of resource insufficiency. Indeed, whenever the result is equal to 1 any instance of incomplete-attainment of the welfare basket cannot be justified, which, therefore, would signal some kind of violation.

The obligation incumbent on duty-bearers to fulfill social rights does not then, on this account, exist as an absolute immovable threshold across resource contexts. Rather, duty-bearers have an immediate, unconditional obligation to secure the maximum level of the welfare basket that is affordable and have a progressive obligation to fully secure it as soon as resources are sufficient to do so. If the test is precise enough, conditionality need not preclude the obligation from being a “strong”<sup>37</sup> immediate one. In defining social rights as rights to a basket of social welfare-type goods, the empirical challenge that remains for dealing with the maximum resources dilemma is then to operationalize maximum available resources so that it is possible to distinguish between those deprivations below full attainment of the welfare basket that exist as a result of factors beyond a duty-bearer’s control and those in which the duty-bearer may be a contributing, if not causal, factor.

#### IV. OPERATIONALIZING MAXIMUM AVAILABLE RESOURCES

By now, it is clear that the obligation incumbent on each duty-bearer is determined with reference to its ability to fulfill a substantively defined basket

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37. RONALD DWORKIN, *TAKING RIGHTS SERIOUSLY* 188 (1977).

of social welfare-type goods given its available resources and not according to whether or not it fulfils this basket absolutely. Measuring compliance, therefore, requires an understanding of what in fact amounts to ability. Which and whose resources are available: Are they financial, human, natural, or technological? And might it be the case that efforts made on the part of the duty-bearer to comply with its obligations are a function of factors other than resources? The discussion that follows seeks to put flesh on the ability/resources bones in order to identify and set limits to the factors that may facilitate or militate against a duty-bearer in its fulfillment of social rights.

## A. Financial Resources

It comes as little surprise that the relationship between financial resources and desirable social outcomes is a positive one.<sup>38</sup> Financial resources are necessary for the provision of all kinds of social goods, services, and facilities, from the very basic (such as child immunization and primary education) to the more advanced (such as medicines and the recruitment and training of specialized teaching staff). They play an important role in determining a duty-bearer's ability to fulfill social rights.

Importantly, in determining maximum available resources, I would argue it is a country's total financial resources that count, not the amount of the national budget it actually spends on social goods, services, and facilities. Philip Alston and Gerard Quinn report several examples from the ICESCR's drafting history instantiating this point.<sup>39</sup> For example, it may be the case that two countries with the same national income,  $Y$ , choose to apportion their financial resources differently. One country chooses to devote 10 percent of  $Y$  to social welfare-type goods, while the other chooses to devote only 2 percent. Where assessing a duty-bearer's social rights performance with respect to its maximum available resources is concerned, the task is not an assessment of what the expected level of social welfare attainment should be given the employment of either 10 percent or 2 percent of national income. This, as David Bilchitz convincingly argues, would "allow the government

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38. Across all 188 countries reported in the UNDP Human Development Report 2015, the correlation between Human Development Index (HDI) scores and Gross National Income (GNI) per capita (2011 PPP\$) for 2014 is +0.74. This indicates a significant positive relationship between the two variables: as income increases so do economic and social outcomes. UNITED NATIONS DEVELOPMENT PROGRAMME, HUMAN DEVELOPMENT REPORT 2015: WORK FOR HUMAN DEVELOPMENT (2015).

39. For example, the Lebanese representative noted "it must be made clear that the reference [to resources] was to the real resources of the country and not to budget appropriations." Philip Alston & Gerard Quinn, *The Nature and Scope of States Parties' Obligations under the International Covenant on Economic, Social and Cultural Rights*, 9 HUMAN RIGHTS Q. 156, 178 (1987) (quoting Mr. Azkoul, Lebanon).

to avoid realizing conditional rights merely by virtue of its allocation of the budget."<sup>40</sup> Rather, it is an assessment of whether, with a national income of *Y*, resources that, could in principle, be allocated for social welfare are sufficient to fulfill the welfare basket, regardless of what is actually spent.

The quantum of financial resources considered available must, therefore, be all of those over which the duty-bearer has control. Yet this formulation still lacks precision. While it has been established that maximum available financial resources refer to the income that has been accumulated, which could in principle form part of the national budget, what about those resources that could in principle be received from overseas? Since Article 2(1) of the ICESCR provides that "[e]ach State Party to the present Covenant undertakes to take steps, individually and through *international assistance and co-operation* . . . with a view to achieving progressively the full realization of the rights recognized in the present Covenant,"<sup>41</sup> it could be presumed that maximum available resources for the fulfillment of social rights are endowed with an international dimension as well as a domestic one. For the purposes of operationalizing maximum available resources, this assumption needs to be examined more closely. If there is an international obligation to provide assistance to fulfill social rights,<sup>42</sup> what is its nature and scope and what implications does it have for determining a duty-bearer's ability to fulfill the welfare basket?

Though the provision in Article 2(1) is one attempt at making the duty of international assistance and cooperation a legally binding one,<sup>43</sup> its meaning is far from generally accepted.<sup>44</sup> This is not only the case with reference to the scholarly work that has been done on the use of the phrase as a result of the provision but also with reference to whether, and how, the provision should have been articulated in the Covenant in the first place.<sup>45</sup> The central

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40. BILCHITZ, *supra* note 15, at 228.

41. ICESCR *supra* note 6, art. 2, ¶ 1 (emphasis added).

42. Such obligations are often also referred to as transnational obligations, extraterritorial obligations, or as shared responsibilities. See, e.g., Sigrun I. Skogly, *Global Responsibility for Human Rights*, 29 OXFORD J. LEGAL STUD. 827 (2009); MARGOT E. SALOMON, *GLOBAL RESPONSIBILITY FOR HUMAN RIGHTS: WORLD POVERTY AND THE DEVELOPMENT OF INTERNATIONAL LAW* (2007).

43. Convention on the Rights of the Child, *adopted* 20 Nov. 1989, G.A. Res. 44/25, U.N. GAOR, 44th Sess., art. 24, ¶ 4, U.N. Doc. A/44/49 (1989), 1577 U.N.T.S. 3 (*entered into force* 2 Sept. 1990) (requiring that "States Parties undertake to promote and encourage international co-operation.").

44. ECONOMIC, SOCIAL AND CULTURAL RIGHTS: A TEXTBOOK, *supra* note 11, at 125; SIGRUN I. SKOGLY, *BEYOND NATIONAL BORDERS: STATES' HUMAN RIGHTS OBLIGATIONS IN INTERNATIONAL COOPERATION* (2006); SALOMON, *supra* note 42, at 64–111; GLOBAL JUSTICE, *STATE DUTIES: THE EXTRATERRITORIAL SCOPE OF ECONOMIC, SOCIAL AND CULTURAL RIGHTS IN INTERNATIONAL LAW* (Malcolm Langford, Wouter Vandenhoe, Martin Scheinin, & Willem van Genugten eds., 2013).

45. Alston & Quinn, *supra* note 39, at 188–89 (discussing the drafting history of the ICESCR in so far as the provision of international assistance and cooperation did not extend much, if at all, beyond a general proposition).

difficulty exposed in discussions of obligations that travel beyond the state border is determining precisely where these obligations begin and end. According to Sigrun Skogly and Mark Gibney, “[i]t would be neither pertinent, nor practical, to imply that all states are responsible for all human rights enjoyment everywhere. Rather, there has to be a relatively direct link to activities of the state across borders.”<sup>46</sup> Accordingly, those that dismiss the very existence of international obligations do so on the basis that it is nigh impossible to establish causal, moral responsibility between a duty-bearer’s action or omission in a foreign territory on the one hand and a violation of an individual’s right living in another territory on the other.<sup>47</sup>

For illustrative purposes, suppose parties (assumed wealthier) have an international obligation to provide assistance, to the extent that available resources allow, for fulfilling social rights for individuals of other (assumed poorer) parties. Even under the unrealistic simplification that there are only two types of parties: one group (group wealthy) that has the resources available to provide assistance, and another group (group poor) that requires that assistance if it is to provide the welfare basket for its community, still, a “direct link” cannot be attributed. The obligation does not reveal precisely what group wealthy ought to do in order to be compliant. Neither does it reveal if all members of group wealthy are under an obligation to assist group poor. Likewise, it does not reveal whether group wealthy ought to assist every member of group poor or only a selection, and if only a selection, on what basis the selection be made. This, as Tobin notes in his monograph on the right to health, “is a perfect example of an ‘imperfect obligation.’”<sup>48</sup>

Though imperfectness does not wipe international obligations clean of any moral significance, what it does generate is an obligation with limited strength. An international obligation to provide (financial) assistance for the fulfillment of social rights requires only that a duty-bearer “give genuine

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46. Sigrun I. Skogly & Mark Gibney, *Transnational Human Rights Obligations*, 24 *HUM. RTS. Q.* 781, 795 (2002).

47. The literature analyzing the causal role of many explanatory factors (including international institutions, domestic institutions, history, culture, disease, factor endowments, and much else) is vast. Yet, an established causal link between action or omission and deprivation across borders remains to be seen. See, e.g., Polly Vizard, *Pogge -vs- Sen on Global Poverty and Human Rights*, 3 *ÉTHIQUE ET ÉCONOMIQUE* 1 (2006); THOMAS POGGE, *WORLD POVERTY AND HUMAN RIGHTS* (2002); Thomas W. Pogge, *Human Rights and Global Health: A Research Program*, in *GLOBAL INSTITUTIONS AND RESPONSIBILITIES: ACHIEVING GLOBAL JUSTICE* 190 (Christian Barry & Thomas W. Pogge eds., 2005); Thomas Pogge, “Assisting” the *Global Poor*, in *ETHICS OF ASSISTANCE: MORALITY AND THE DISTANT NEEDY* 260 (Deen K. Chatterjee ed., 2004).

48. TOBIN, *supra* note 7, at 341 (using the notion of imperfect obligations in the Kantian sense that imperfect obligations are grounded by the notion that everyone has a duty to be beneficent; leaving discretion as to what, to whom, and how often assistance be provided).

consideration to its capacity to do so in light of its available resources,"<sup>49</sup> which, along with the sentiments of some states during the drafting of the ICESCR, represents little more than a moral vision. While it may be possible, eventually, to specify the content of an international obligation,<sup>50</sup> grappling with the slipperiness of global social justice is too complex a task to be attempted presently.<sup>51</sup> For this reason, it is assumed here that a duty-bearer's maximum available resources are those that are owned and controlled domestically.

Without domestic financial resources, there will be little significant advancement in desirable social outcomes.<sup>52</sup> However, the fact that better social outcomes may not be possible without financial resources does not necessarily mean that they are guaranteed if and when more financial resources become available. There are many instances where countries with similar (low) levels of financial resources have, at the same time, significantly different situations of education, hunger, health, and housing. For example, while Switzerland has both a higher income and higher average life expectancy compared with Swaziland, Nicaragua's income almost equals that of Swaziland, yet Nicaraguans can expect to live more than twenty-five years longer.<sup>53</sup> There must be more to maximum available resources than the level of financial resources alone.

## B. The Rest of Maximum Available Resources Explained

An explanation of the level of social welfare-type goods each duty-bearer should be able to provide requires more than a consideration of only the financial resources available to it. The degree of explanation can be, and needs to be, increased by introducing more variables to the equation. One important variable is clearly the number, mix, quality, and distribution of human resources, or so-called human capital. Without a sufficient number of adequately funded and trained teachers, health professionals, and engineers, it is unlikely that countries would be able to meet internationally

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49. *Id.* at 342.

50. The Health Impact Fund, pioneered by Thomas Pogge, could be one such way to operationalize an international obligation with respect to health. Pogge, *Human Rights and Global Health*, *supra* note 47.

51. See, e.g., Peter Singer, *Famine, Affluence, and Morality*, 1 *PHIL. PUB. AFF.* (1972); THOMAS POGGE, *REALIZING RAWLS PART III* (1989); DARRELL MOELLENDORF, *COSMOPOLITAN JUSTICE* (2002); Pogge *WORLD POVERTY AND HUMAN RIGHTS*, *supra* note 47; and for an analysis and critique of Pogge's approach, see Carol C. Gould, *Coercion, Care, and Corporations: Omissions and Commissions in Thomas Pogge's Political Philosophy*, 3 *J. GLOBAL ETHICS* (2007).

52. See *WORLD HEALTH ORGANIZATION, IMPROVING HEALTH OUTCOMES OF THE POOR*, *supra* note 35.

53. UNITED NATIONS DEVELOPMENT PROGRAMME, *HUMAN DEVELOPMENT INDEX, LIFE EXPECTANCY AT BIRTH (YEARS)* (2014).

agreed-upon development goals, address key social issues, or indeed fulfil the welfare basket.<sup>54</sup>

While the importance attributed to human capital as a requirement for healthy social systems is by no means controversial,<sup>55</sup> it may still seem that, in an assessment of a duty-bearer's maximum available resources, its presence as an additional variable is superfluous. Instead, it could be argued that the availability of financial resources instrumentally captures the duty-bearer's ability to provide human resources; the more financial resources it has the more teachers, doctors, nurses, and engineers it is able to recruit, train, and employ.<sup>56</sup> In a perfectly operating market for professional workers, this would indeed be the case; a measure of available financial resources would be a good enough proxy. However, the market for professional workers is far from perfect. In the arena of health alone, there is an estimated worldwide shortage of almost 4.3 million doctors, midwives, nurses, and support workers, and this shortage is felt most acutely in countries where these professional workers are needed most:<sup>57</sup> a situation that has been described by the World Health Organization as a "global crisis."<sup>58</sup>

An understanding of the factors that contribute to the shortage is important for explaining maximum available resources. The shortage may be due to, for instance, increasing social needs or that the economic and social incentives to train, work, and live as a professional in certain countries are simply not sufficiently strong, often resulting in migration from already resource poor countries to more resource abundant countries, coined the brain drain/brain gain.<sup>59</sup> In each of these cases, or indeed a mixture of both, it would be unrealistic to assume that a duty-bearer's ability to fulfill the welfare basket is a matter of money alone. If a duty-bearer has the financial resources to provide access to certain social goods and services (which in principle could satisfy fulfillment of the welfare basket) yet, despite employing the maximum human resources it has available, there are still too few professional workers of the appropriate kind to deliver those goods and services, then it cannot necessarily be expected to fully deliver them in the

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54. Hugo Mercer, et al., *Human Resources for Health: Developing Policy Options for Change*, in *TOWARDS A GLOBAL HEALTH WORKFORCE STRATEGY* 451 (Paulo Ferrinho & Mário Dal Poz eds., 2003).

55. See the vast portfolio of documents on human resources development and social rights published by the Office of ECOSOC Support and Coordination, *available at* <https://www.un.org/ecosoc/en/node/454160>.

56. Sakiko Fukuda-Parr, Terra Lawson-Remer, & Susan Randolph, *An Index of Economic and Social Rights Fulfillment: Concept and Methodology*, 8 *J. HUM. RTS.* 195 (2009).

57. WORLD HEALTH ORGANIZATION, *THE WORLD HEALTH REPORT 2006: WORKING TOGETHER FOR HEALTH* 12 (2006).

58. WORLD HEALTH ORGANIZATION, *HUMAN RESOURCE FOR HEALTH: OVERCOMING THE CRISIS* 18 (2004).

59. *Id.* at 101.

short to medium term. Again, the measure of maximum available resources therefore needs to encapsulate a measure of the human resources that in principle are available. That is, a measure of the long-run potential of the duty-bearer's ability to fulfill the welfare basket.

In operationalizing maximum available resources there are many other resources beyond those of a financial and human kind that may influence a duty-bearer's capacity to fulfill the welfare basket, some over which it has little to no control. The nature and density of the population, the political situation of neighboring countries, favorability of the physical environment to the delivery of social services, to name but a few. If, for instance, countries with highly dispersed populations are revealed to have systematically worse social outcomes than would be expected given their respective levels of financial and human resources, the inclusion of a variable that captures a country's relative population would condition what is expected of these countries on their geodemographic context. However, with an explanation of maximum available resources down to its atomic level comes some obvious practical difficulties. If the measure is to include everything that could potentially provide a reason for not doing better, the list of explanatory factors would be tediously long. It is, therefore, practically necessary to limit the number of explanatory variables to those which are most significant. This could be determined theoretically, empirically, or both.

## V. TURNING TO ECONOMICS

The foregoing discussion is primarily occupied with dealing with the first part of the central dilemma: How can the content of social rights be determined if resource conditionality allows for it to differ across resource contexts? In response, I have argued that the content of these rights is determined with reference to a substantively defined basket of social welfare-type goods, the precise attainment of which is determined with reference to a duty-bearer's available financial resources, human resources, and other relevant considerations that are proven theoretically and/or empirically significant. I have also argued, however, that the cogency of this scheme is dependent on the availability of a valid test for determining whether maximum available resources actually are sufficient to secure the welfare basket and if not to what extent. Turning to economics can provide a stylized way of configuring such a test.

### A. Methodological Provenance

In giving specificity to the level of social welfare duty-bearers owe so that ultimately it is possible to assess how well duty-bearers are doing with respect

to what they owe, quantitative social science methods have much to offer. Towards the more advanced end of the methods spectrum sits multivariate regression analysis. Regression analysis of the multivariate kind can be used to establish the direction, strength, and significance of the relationship between an outcome variable and two or more explanatory variables.<sup>60</sup> For instance, it can provide interesting insight into the extent to which national income, the availability of health professionals, geographical, and other “random”<sup>61</sup> factors individually and/or collectively explain particular social outcomes. In other words, it can be used to measure the extent to which maximum available resources explain social welfare attainment. Of course, a measure of the degree to which social welfare attainment is determined by maximum available resources is valuable in and of itself. But, in the words of Nobel Laureate in economics, Paul Samuelson, “[a]lways look back. You may learn something from your residuals.”<sup>62</sup>

In estimating a relationship such as that described above, it is unlikely that resources will explain all of the variation in attainment, i.e. very few countries will have social welfare attainment equal to the predicted value.<sup>63</sup> The residual that is produced by the regression provides information with respect to the degree to which the actual level of attainment deviates from the predicted value. The residual is the “unexplained effect.” Residual analysis is by no means new. Its application has a long tradition in the social sciences, from Robert Solow’s treatment of the residual in explaining economic growth through technological innovation,<sup>64</sup> to Raymond Duvall and Michal Shamir’s propensity of repression indicator developed through regressing sanctions on domestic violence.<sup>65</sup> Existing efforts that attempt to measure some form of performance with respect to human rights standards have not been blind to the virtues of residual analysis either. For example, David Cingranelli and David Richards use the regression residual to estimate a government’s efforts

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60. Alan O. Sykes, *An Introduction to Regression Analysis*, (Coase-Sandor Inst. L. Econ., Working Paper No. 20, 1993), available at [http://chicagounbound.uchicago.edu/law\\_and\\_economics/51/](http://chicagounbound.uchicago.edu/law_and_economics/51/).

61. Random in the statistical sense where values are statistically independent of other values and are therefore unpredictable, rather than implying true randomness; that is, objective unpredictability.

62. David L. Cingranelli & David L. Richards, *Measuring Government Effort to Respect Economic and Social Human Rights: A Peer Benchmark*, in *ECONOMIC RIGHTS: CONCEPTUAL, MEASUREMENT, AND POLICY ISSUES* 214, 221 (Shareen Hertel & Lanse Minkler eds., 2007) (quoting Paul Samuelson, Nobel Laureate in Economics).

63. If the attempt is to explain something as complex as the factors that determine social outcomes, statistical error and unexplained variance is highly likely.

64. Robert M. Solow, *A Contribution to the Theory of Economic Growth*, 70 Q. J. ECON. 65 (1956).

65. Raymond D. Duvall & Michal Shamir, *Indicators From Errors: Cross-National Time-Serial Measures of the Repressive Disposition of Government*, in *INDICATOR SYSTEMS FOR POLITICAL, ECONOMIC, AND SOCIAL ANALYSIS* 155 (Charles Lewis Taylor ed., 1980).

in fulfilling economic and social rights, (proxied by the Physical Quality of Life Index) given a country's GDP per capita level and whether the country is a signatory and/or party to the ICESCR.<sup>66</sup> And similarly, in the civil and political realm, Todd Landman, David Kernohan, and Anita Gohdes regress a measure of a country's civil and political human rights performance on a number of economic, political, and social factors that are commonly understood to influence their protection. Then the residual from the regression, the unexplained variance, is used as an indicator of "over" or "under" performance with respect to the protection of those rights.<sup>67</sup>

When it comes to measuring performance with social rights standards specifically, probably the most innovative and sophisticated method that uses residual analysis for dealing with the resources dilemma to date comes in the form of the Social and Economic Rights Fulfillment Index (SERF Index), developed by Sakiko Fukuda-Parr, Terra Lawson-Remer, and Susan Randolph.<sup>68</sup> The SERF Index measures fulfillment across five economic and social dimensions: education, food, health, housing, and decent work. For each of the dimensions, outcome indicators are selected to reflect the enjoyment in the interests to which these dimensions relate and where this enjoyment is likely to be influenced by government policy. The SERF Index attempts to deal not only with the right-holder enjoyment aspect of the task of measuring compliance but also with the duty-bearer obligation-fulfillment aspect. Specifically, the innovation in the SERF Index methodology lies in its construction of an Achievement Possibility Frontier (APF), which specifies each duty-bearer's obligation with respect to the level of resources it has available. The feasible level of rights enjoyment is defined as the maximum level of achievement that has historically been achieved and is set simply by plotting each outcome variable against one input variable (GDP per capita, converted to 2005 international dollars using purchasing power parity (PPP) rates) across all countries for all years for which data are available over a period of roughly a decade,<sup>69</sup> and fitting a curve to the maximum boundary observations. Then the SERF Index essentially measures the difference between the boundary, representing potential achievement, and a country's actual achievement. That is, the residual.

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66. Cingranelli & Richards, *supra* note 61, at 224.

67. Todd Landman, David Kernohan, & Anita Gohdes, *Relativizing Human Rights*, 11 J. HUM. RTS. 460 (2012).

68. Fukuda-Parr, Lawson-Remer, & Randolph, *An Index of Economic and Social Rights Fulfillment: Concept and Methodology*, *supra* note 56; Sakiko Fukuda-Parr, Terra Lawson-Remer, & Susan Randolph, *Economic and Social Rights Fulfillment Index: Country Scores and Rankings*, (Hum. Rts. Inst., Working Paper No. 11, 2009), available at <http://web2.uconn.edu/economics/working/11.pdf>.; SAKIKO FUKUDA-PARR, TERRA LAWSON-REMER, & SUSAN RANDOLPH, *FULLFILLING SOCIAL AND ECONOMIC RIGHTS* (2015).

69. FUKUDA-PARR, LAWSON-REMER, & RANDOLPH, *FULLFILLING SOCIAL AND ECONOMIC RIGHTS*, *supra* note 68, at 41–42.

It has to be acknowledged that this approach was one of the first innovations in bringing quantitative methodologies to addressing the resources issue; it more reasonably links the performance expected of a duty-bearer to its level of resource availability (or, to be precise, to its level of financial resource availability). Indeed, the methodological approach set out in the remainder of this article has largely been inspired by it. It does, however, have numerous flaws.

First, the SERF Index methodology provides very little normative account of the indicators that characterize social welfare attainment. Whether the indicators that underpin the SERF Index have been selected on the basis of a careful qualitative unraveling of human rights concepts or instead on the basis of operational ease is not evident. This lack of evidence by itself could suggest the latter. Second, and perhaps more importantly, the SERF Index is methodologically too simplistic to deal with the complexities that come with dealing with the resources dilemma for the purpose of measuring compliance. To reiterate the argument made earlier, maximum available resources are not limited to those of a financial kind. Consider also the heterogeneity of the countries included in the analysis. Outliers and statistical noise are likely.<sup>70</sup> As a result, setting the boundary to the highest level of social welfare historically attained by any country leaves open the possibility—even probability—of it being hinged on very few extreme observations, with the vast majority of the data in fact lying far below it. This could potentially overestimate the degree of cross-country non-compliance to a significant extent.

For example, the level of GDP per capita, PPP for Kenya in 2013 is roughly the same as that for the Philippines in 1994.<sup>71</sup> If it is assumed, for illustrative purposes, that the Philippines attained the maximum level of health historically achieved at that given level of GDP per capita, does it make sense that Kenya be expected to achieve in 2013 the level achieved by the Philippines in 1994? Obviously the two countries differ in a number of significant ways. These differences may affect the residual, positively or negatively, regardless of the duty-bearer's action or inaction. The level of social welfare that has previously been attained with the same given level of GDP per capita may then be too insensitive a target against which to measure compliance. Instead, the boundary must be set with a greater

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70. The relationship between income and social outcomes is hardly linear. There are many countries with relatively low levels of income that achieve relatively high levels of social welfare: Cuba, for example. Likewise, there are many countries with relatively high levels of income that at the same time have relatively poor social outcomes: Kuwait, for example.

71. GDP per capita, PPP (current international dollars) was 2,843.351 for Kenya in 2013 and 2,764.781 for the Philippines in 1994. *GDP per capita, PPP (current international dollars)*, World Bank, available at <http://data.worldbank.org/indicator/NY.GDP.PCAP.PP.CD?locations=KE-PH>.

degree of methodological sophistication, allowing for the entry of multiple explanatory factors and for some sensitivity to statistical noise. The residual analysis framework that follows builds on the SERF Index methodology in an attempt to go some way to meeting that demand.

## B. Conceptual Framework

The framework that follows borrows from the analytical toolkit of empirical microeconomics; specifically, those tools that are used to estimate production function frontiers. According to William Greene, “[t]he *frontier production function* . . . is an extension of the familiar regression model based on the theoretical premise that a *production function* . . . represents an ideal, the *maximum output* attainable given a set of inputs.”<sup>72</sup> With the setting of this ideal comes the theoretical proviso that all observations fall below it. As such, estimation of the production frontier is generally used as a means to another analytical end: the analysis of technical efficiency. Analysis of technical efficiency in the microeconomic sense refers to the degree to which producers are successful in allocating the inputs they have at their disposal to produce certain outputs in an effort to meet some specified objective. This objective could be to minimize the number and level of inputs to produce a given output (input-approach) or to maximize output with a given number and level of inputs (output-approach). By means of estimating the production function, a measure of efficiency freely emerges since what it corresponds to is the distance between the actual observation and the estimate of the expected ideal.

In the case of measuring the extent to which a duty-bearer is meeting or falling short of the level of social welfare it has an obligation to fulfill, the same notion of efficiency can be applied. Each duty-bearer can be treated as a decision-making unit that “produces” the welfare basket under the behavioral assumption that it operates to maximize attainment of the basket (output) given its ability to do so (inputs). Maximum expected attainment at different levels of resource availability can then be predicted and it is these expected values that set the obligation frontier. A signal of compliance or violation, like efficiency, can then be measured as the difference between observed attainment of the welfare basket and the expected level of delivery, or in other words, the level states have an unconditional obligation to provide.

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72. William H. Greene, *The Econometric Approach to Efficiency Analysis*, in *THE MEASUREMENT OF PRODUCTIVE EFFICIENCY AND PRODUCTIVITY GROWTH* 92, 92 (Harold O. Fried, C.A. Knox Lovell, & Shelton S. Schmidt eds., 2008).

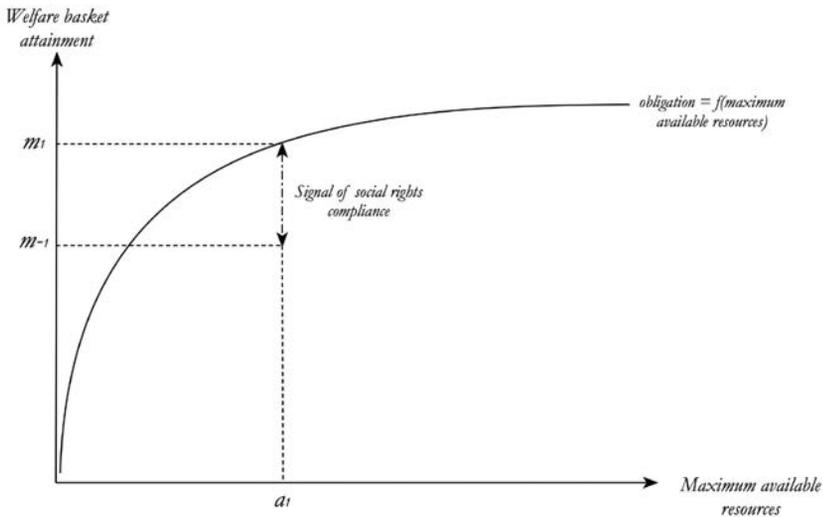


Figure 1. Signaling social rights compliance

The standards against which duty-bearers can be measured are provided by the obligation frontier in Figure 1. For example, it is expected that for a duty-bearer with a maximum available resources level of  $a_1$ , attainment of the welfare basket should be at level  $m_1$ ; duty-bearer  $a_1$  has an unconditional obligation to fulfill  $m_1$  level of the welfare basket. Therefore, provision of the welfare basket at any point below the frontier, such as  $m_{-1}$ , might tell us something about a duty-bearer's unwillingness to use its maximum available resources to provide for social welfare and could signal a violation of social rights. It might also shed light on the degree to which these rights are being violated: that is, the distance between the observed level of welfare basket attained and the level set by the obligation frontier, in this example:  $m_{-1}/(m_{-1} + m_1)$ .

### C. Empirical Strategy

Essentially, there are two main methodologies for measuring efficiency: the mathematical (non-parametric) approach, and the econometric (parametric) approach. The two techniques have both virtues and limitations in their respective bids to envelop data, and there is no prescriptive rulebook for

which method is best.<sup>73</sup> Though the technical differences between the two methods are many, their relative advantageousness can be assessed with reference to two central methodological characteristics:

- i. The econometric approach is parametric so the shape of the frontier has to be specified from the very beginning. This could make the model vulnerable to functional form misspecification, which means that the model might not be accounting for some important nonlinearity in the relationship between variables. The mathematical approach, on the other hand, is non-parametric so has the advantage that no assumption has to be made as to the shape of the frontier.
- ii. The econometric approach is stochastic, which allows for the model to distinguish between the effects of inefficiency and the effects of random noise. The mathematical approach, however, is deterministic and provides only a general measure of inefficiency, which is likely to hide within it random noise, and hence risk being either under or overestimated.

Deciding when one method should be chosen over the other comes down to an assessment of appropriateness to the individual dataset and the research question(s) being asked. Presently, the primary objective is to determine the level of welfare basket attainment expected of each duty-bearer in order to reveal whether this level is in fact being met within and across countries. The data involved will be, by nature, highly heterogeneous, of widely differing quality, and will therefore likely carry noise. As such, the certain advantages of a model that allows for real non-compliance to be distinguished from random noise must outweigh the potential limitations posed by a risk of form misspecification. In this case, proceeding along an econometric path would be most prudent.

With this strategy and a description of maximum available resources in hand, both the level of social welfare attainment to which individuals have a right and an estimate of how well duty-bearers are doing with respect to what they owe can be estimated through a basic production function of the following simple form:<sup>74</sup>

$$y_{it} = \alpha + X'_{it}\beta + z'_i\gamma + v_{it} - u_i$$

where  $i = 1, \dots, N$  and  $t = 1, \dots, T$ .  $N$  is the duty-bearer,  $T$  is the year,  $y_{it}$  denotes the output (welfare basket attainment),  $X'_{it}$  is the set of inputs (maximum available resources), and  $z'_i$  captures time invariant heterogeneity across and within countries (population density and favorability of the

73. See, e.g., *id.* at 112–14.

74. Dennis Aigner, C.A. Knox Lovell, & Peter Schmidt, *Formulation and Estimation of Stochastic Frontier Production Function Models*, 6 J. ECONOMETRICS 21 (1977); Wim Meeusen & Julien van den Broeck, *Efficiency Estimation from Cobb-Douglas Production Functions with Composed Error*, 18 INT'L ECON. REV. 435 (1977).

physical environment, for example). Econometric methods allow for the disaggregation of the error term into its two components:  $v_{it}$  is the random component, which represents statistical noise in the production function, and  $u_i$  in this case represents the signal of social rights compliance; it measures the distance between  $y_{it}$  and the frontier. Computing this model with panel data techniques<sup>75</sup> produces duty-bearer-specific estimates of the level of welfare basket attainment expected given maximum available resources and duty-bearer-specific estimates of the extent to which there is room for potential improvement. The wider the deviation from the frontier, the greater is the degree of signaled social rights non-compliance.

## VI. CONCLUSIONS

It is hoped that this article has been an exercise in stimulating and advancing the discussion on how to deal with the maximum resources dilemma inherent in the assessment of social rights fulfillment and compliance. It shows that by turning to empirical economics and setting obligations to the production frontier, maximum expected social welfare attainment at different levels of resource availability can be predicted and that a signal of social rights compliance can be interpreted from the difference between the observed level of social welfare attainment and that set by the obligation frontier. By virtue of its compliance-revealing property, the econometric methodology gives strength to the notion that conditionality need not preclude obligations to fulfill social rights from being immediate.

Giving meaning to maximum available resources and testing the degree to which the welfare basket is affordable begins to close the hatch through which duty-bearers can escape, and analyzing the variance between expected and actual attainment provides a signal with respect to compliance or violation. The methodology does, however, come with a warning. If and when operationalized, the estimates produced would be just that: a signal. Analyzing the variance between observed and expected social welfare attainment may not always reveal the full social rights compliance picture.

One admitted limitation of the econometric method described is that it does not capture or expose anything with respect to how attainment of the welfare basket is distributed. In the case that some individuals are not provided with access to particular social goods, there is no way of assessing whether the process for prioritizing those individuals for whom these goods are provided over those for whom they are not is nondiscriminatory.

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75. WILLIAM H. GREENE, *ECONOMETRIC ANALYSIS* 343–431 (7th ed., 2011).

That nondiscrimination is a fundamental human rights principle has not gone unacknowledged. Indeed, it could potentially affect the substantive interpretation as to whether the duty-bearer is compliant or in violation to a significant extent.

Recall the scale of 0 to 1 introduced in Section III. When the test reveals full attainment of the welfare basket is impossible within the given resource set (i.e. is  $<1$ ), it is not sufficient to draw full conclusions with respect to compliance or violation from looking at the equivalence, or difference, between the expected and actual attainment levels only. Rather, the duty-bearer has an additional obligation to justify that its reasoning for prioritizing the proportion of its community for whom the basket has been attained over the proportion for whom it has not is adequate and reasonable. The question of whether a duty-bearer has complied with its obligations under impossibility conditions must, therefore, be examined in light of the means through which the result has been produced. For example, who are the excluded? Are they women, children, or people of a certain ethnicity? Are the individual elements within the welfare basket represented fairly or are there some goods, services, and/or facilities that are over-represented while others are completely ignored? If a further assessment reveals that the welfare basket has been provided according to sound criteria, the signal of compliance holds. If, on the other hand, the duty-bearer's justification for denying access to the welfare basket is deemed unreasonable, then the signal of compliance folds.

Discrimination in social outcomes could be incorporated into the econometric model if it could be measured systematically over space and time. However, since discrimination tends to manifest along multiple lines (class, race, gender, for example), it is not amenable to capture by a one-dimensional measure. And even if it were amenable to capture, it is unlikely that sufficiently disaggregated data be available to capture it with any validity or reliability. Obviously, the signal of compliance or violation would need further in-country analysis to assess whether it is in fact a good measure of social rights fulfillment. But, for now at least, this signal and the methodology through which it is produced is a clear move forward over existing approaches that attempt to deal with the maximum available resources dilemma. Economics certainly has something to offer.