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Health and justice in our non-ideal world

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abstract

In this article, I explore some advantages of viewing well-being in terms of an individual's health status. Principally, I argue that this perspective makes it easier to establish that rich countries at least have an obligation to transfer 1 percent of their GDP to poor countries. If properly targeted at the fundamental determinants of health in developing countries, this transfer would very plausibly yield a disproportionate 'bang for the buck' in terms of individual well-being. This helps to explain how the obligation can be both light enough in its burden on the rich to avoid being 'too demanding' and yet also bountiful enough in its effects to be worthy of the status of a 'minimum obligation'. The advantages I enunciate are particularly relevant to establishing an obligation in the context of a non-ideal theory of international justice, which aims to set interim targets for practical action before an ideal theory has been settled.

keywords

health, international justice, foreign aid, determinants of health, non-ideal theory

Most readers are familiar with the dismal statistics on the severity and extent of global poverty and inequality. The number of human beings whose daily existence must be sustained on a miserable pittance (as officially defined, the equivalent of US\$1 or US\$2 per day) is truly staggering. Equally familiar is a philosophical appeal to these statistics designed to establish that we rich inhabitants of the globe have weighty obligations to improve the well-being of the global poor – weightier obligations than we typically admit, let alone act upon.¹

Often, this appeal highlights not simply the very low incomes of the global poor, but also their appalling *health*. In Malawi, for example, life expectancy at birth is a mere 41 years for men and 42 years for women.² Twenty-seven

countries, all but one in sub-Saharan Africa, have both male and female life expectancies at birth (at or) below 50 years. By contrast, global life expectancy at birth, combining male and female rates, is 66.75 years. In the USA, life expectancy at birth is considerably higher still, nearly *double* that in Malawi, at 75 years for men and 80 years for women. Highest of all is Japan, where life expectancy at birth is 78 years for men and 85 years for women.

On the surface, at least, these two ways of framing the appeal to our moral sensibility represent but different means of capturing the same underlying fact. The underlying fact is that the well-being of vast numbers of people falls starkly short of levels achieved by others – and achieved on a society-wide scale, no less. Hence, it falls short of levels that are evidently attainable, biologically and socially. At a minimum, this profound inequality underlines the prospect that the shortfall in well-being suffered by the globally worst off may be (in good measure) avoidable.

No doubt the plight of the global poor strikes us both more vividly and as more urgent when it is framed in terms of their reduced health. While this observation likely informs the rhetorical strategy of the familiar appeal, it does not fundamentally alter the role the surface picture assigns to income and health. In that picture, income and health are simply alternative indicators of well-being. However, the relationship between income and health is actually considerably more complicated than this. Within a given society, an individual's health is highly positively correlated with her income; and, in comparisons between developed societies and developing ones, there is also a strong correlation between average national income and national life expectancy.

In this article, I shall argue that the advantages of framing the shortfall in well-being suffered by the global poor in terms of their *health* are more than merely rhetorical. As we shall see, the advantages I shall enunciate are specific to reflection on our obligations to improve the well-being of the global poor. It will therefore be useful to sketch here the theoretical context in which that reflection takes place.

For the longest time, philosophical discussions of justice basically ignored the subject of international distributive justice. The omission was a side effect of having adopted a pair of fundamental simplifying assumptions, restricting attention first to the domestic case and second to ideal circumstances.³ More recently, there has been a surge of philosophical interest in the topic.⁴ Not least among either the contributions to this development or the reasons for it is Rawls's own later extension of his theory to the international case in *The Law of Peoples*.⁵ So a lively debate about international distributive justice is now under way.⁶ However, while some progress has thus been made in relaxing the first simplification, the second remains firmly in place. Discussions of (international) justice still proceed, that is, in the context of *ideal* theory.⁷

I wish to discuss international distributive justice in non-ideal theory. In other words, to relax both of the traditional simplifications at once. I begin, in Section

1, with a brief analysis of the category of ‘non-ideal theory’,⁸ which I construe more expansively than is customary. In the course of this analysis, I propose that we minimally have an obligation to transfer 1 percent of our income to the globally worst off. The central aim of my article is to show, more specifically, how the vindication of this minimum obligation is facilitated by considering individual well-being through the lens of health in particular. To appreciate what there is to gain from adopting this perspective, we shall need a better understanding of the underlying determinants of health. Accordingly, I explore the relevant background in Sections 2–4. I then draw on this material to explain, in Section 5, how a focus on the health of the worst off helps to vindicate the 1 percent obligation as a non-ideal requirement of justice.

1.

On Rawls’s conception, ideal theory describes a well-ordered institutional arrangement: institutions are well-ordered when they are both just and known to be just; and when individuals both accept and comply fully with the requirements these institutions impose on them.⁹ This suggests two rather different ways in which circumstances may fail to be ideal. On the one hand, background institutions may not be just and, on the other hand, individuals may not fully comply with the standing requirements placed on them. (Since these are independent possibilities, there is also the ‘special’ case in which both obtain.) For each kind of defective case, there is a corresponding branch of non-ideal theory.

To prescribe for the case in which individuals do not fully comply with the requirements of justice, there is non-ideal theory as *partial compliance* theory. Partial compliance theory specifies, *inter alia*, what happens to an individual’s obligations when others fail to do their fair share within some distributive scheme. This is what Liam Murphy takes up.¹⁰ To prescribe for the case in which background institutions are not just, there is non-ideal theory as *transitional* theory. Transitional theory specifies the obligations that individuals have to bring just institutions into existence. There are also two ways in which background institutions may fail to be just: they may be unjust or they may not exist at all. An individual may therefore be obligated to do her part either to reform existing institutions or to introduce just ones from scratch.¹¹

I propose to understand ‘non-ideal theory’ more expansively than either Murphy or Rawls. To see what I mean, we should notice an assumption they both share, namely, that ideal theory is *prior to* non-ideal theory. On their conceptions, non-ideal theory proceeds by reference to the content of an ideal theory of justice, and thereby presupposes it. Rawls is explicit on this point:

Non-ideal theory asks how this long-term goal might be achieved, or worked toward, usually in gradual steps. It looks for policies and courses of action that are morally permissible and politically possible as well as likely to be effective. So conceived, non-ideal theory presupposes that ideal theory is already on hand. For until the ideal is

identified, at least in outline – and that is all we should expect – non-ideal theory lacks an objective, an aim, by reference to which its queries can be answered.¹²

The rough idea is that before we can take any steps forward, we need to know where we are supposed to end up. Otherwise, we cannot know whether any given step is a step in the right direction.

This priority assumption operates in both partial compliance and transitional theory. Under partial compliance, we need to know what the ideal principle of justice is (in Murphy's case, the principle of beneficence) and what fair shares it assigns, in order to know how the 'compliance condition' operates. Otherwise, we will be unable to specify the limits it sets on individual sacrifice. Similarly, in transitional theory, we need to know what the ideal institutions are (in *The Law of Peoples*, some description of a 'well-ordered society') in order to know what agents are obligated to introduce. Otherwise, we will be unable to specify the 'cut-off' point for the duty of assistance.

Of course, I do not deny that non-ideal theory *can* work like this. But I want to suggest that it need not. More strongly, there exists a kind of non-ideal theory for which the priority assumption fails. On this conception, non-ideal theory functions as an anticipation of ideal theory. Its prescriptions anticipate the ideal requirements of justice rather than presupposing them. To do so, non-ideal theory has to make assumptions about the minimum requirements that *any plausible and complete* ideal theory of justice will include. In this vein, it can define targets for practical action *before* a complete ideal has been worked out, even in outline. Furthermore, if our assumptions about the minimum demands of justice are defensible, we can be confident that steps towards these targets are steps in the right direction.

Let us call this non-ideal theory as *anticipatory* theory. A comparison with supervaluationism about vague predicates may be instructive.¹³ What the two theories have in common is that, in each case, the subset of what all the disagreeing contenders agree upon is counted as correct. With supervaluationism, the contenders are 'precisifications' of some vague predicate. With an anticipatory theory of justice, the contenders are plausible and complete specifications of the requirements of ideal justice. Both approaches reach a core of agreement by circumventing existing disagreements instead of resolving them.¹⁴

I take it that non-ideal theory so conceived is coherent and distinctive. What remains to be seen is whether it has any significant instantiations. Let me therefore propose an anticipatory theory of international distributive justice: any plausible and complete ideal theory of international distributive justice will minimally include an obligation on the richest nations to transfer *1 percent* of their GDP to the poorest nations.¹⁵ For concreteness, imagine this as an obligation incumbent on the 'major seven' (G7) countries of the Organisation for Economic Co-operation and Development (OECD). In that case, for 2004, we are considering an obligation to transfer some US\$241.5 billion. By contrast, in 2004, offi-

cial development assistance from the G7 was 0.22 percent of GDP (US\$56.686 billion).¹⁶ So even a 1 percent transfer would clearly be a step of some kind. But would it be a step in the right direction?

In my view, the answer is obviously 'yes'. However, this can be disputed, as the nascent debates about international distributive justice already make clear. To establish the 1 percent proposal as an instance of anticipatory theory, then, we would have to show that it can be secured *without* having to resolve various debates in ideal theory. The aim would be to demonstrate that such a transfer is philosophically, and not simply intuitively, secure as a step towards justice between nations and to do so before an ideal theory is settled or in hand.

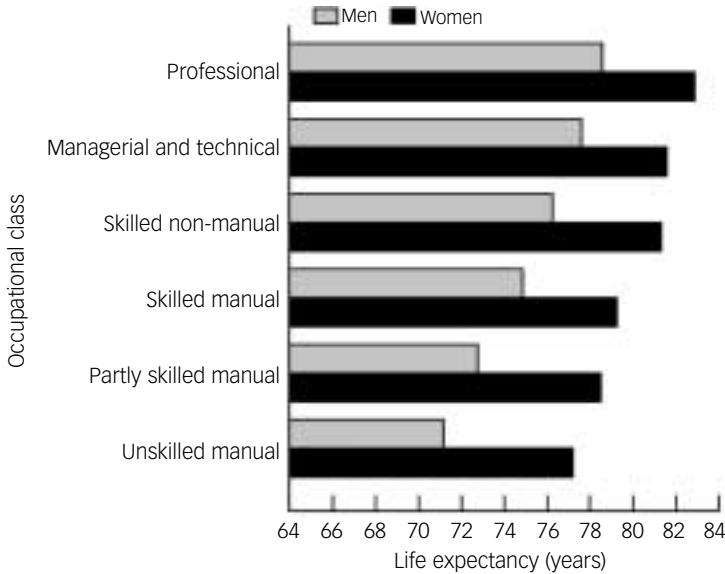
2.

I shall not attempt to discharge that burden comprehensively here. My present aim is more limited: to show how focusing on the health of the worst off helps to vindicate this minimum obligation. To make this focus explicit in the proposal, let us understand the obligation as requiring 1 percent of GDP to be spent specifically on improving the health of the globally worst off.

A background review of the underlying determinants of health will put us in a better position to see the advantages of framing the obligation in these terms. I shall begin with a general overview of the social determinants of health. Next I shall consider some of the causal pathways that have been postulated to mediate between particular social factors and health. Finally, I shall describe the fundamental determinants of health operative in developing countries specifically, since that is where efforts to improve the health of the globally worst off would have to be targeted.

At the outset I mentioned some of the correlations between income and health. Evidence on these correlations is the stock in trade of a well-established, and still rapidly growing, literature in the field of population health. A central lesson of this literature is that there are important social determinants of health. In this context, a *social determinant* of health is a socially controllable factor outside the health-care system (medical care and public health) that is an independent partial cause of an individual's health status. Candidate examples include income, education, occupational rank, and social or occupational class. To recognize that there are social determinants of health is not to deny the importance of health care as another partial cause, but it is to place other socially controllable factors at least *on a par* with health care as determinants of health.¹⁷

While income dominates the literature, it is by no means the only relevant social factor. In fact, it may not even be the most important social determinant of health. We should begin, in any case, with a more general focus, since the literature's most significant and powerful finding can actually be replicated with *any* of the listed candidate social determinants: this is the existence, within a given society, of a *social gradient* in health.



Source: R. Wilkinson and M. Marmot, *Social Determinants of Health: The Solid Facts*, 2nd edn. (Copenhagen: WHO, 2003), p. 10.

Figure 1 **Occupational class differences in life expectancy, England and Wales (1997–99)**

To illustrate, take occupational class as the candidate determinant. Figure 1 exhibits the differences in life expectancy by occupational class in England and Wales for men and women in the period 1997–99. At *each* step up the class ladder, from class V (unskilled manual) through to class I (professional), there is a clear improvement in individual life expectancy. This stepwise gradient holds for both sexes, with the cumulative life-expectancy gap between bottom and top being more than seven years for men and almost six years for women. Notice, moreover, that this gradient emerges against a background of free universal access to health care.

Similar domestic gradients in individual life expectancy can be found when the social variable is *income*,¹⁸ when it is *education*,¹⁹ and when it is *occupational rank*.²⁰ The slope of the social-class gradient is steeper in some countries than in others (for example, it is steeper in Britain than in Sweden), and certain details change with different social variables. But the basic fact of a social gradient in health appears to be a constant.

This certainly suggests that *something* in addition to health care exercises a powerful influence on individual health – something, moreover, that at least co-varies with a social variable. It remains unclear, however, whether these social variables each function as a ‘marker’ for a different underlying causal factor or

whether different social variables function as alternative markers for the same underlying causal factor or some mixture of both. Nor is it clear whether any of these social variables can be itself plausibly seen as a direct causal factor.²¹

3.

To determine whether any of these correlations between individual life expectancy and a social variable is causal, one needs some account of the *causal pathways* between candidate social determinants and specific mortality risk factors. Unfortunately, these pathways are not well understood.²² While research in this area remains preliminary, let me try to convey some impression of the possibilities.

To begin with, it helps to distinguish *material* pathways from *psychosocial* ones. Certain conditions of absolute material deprivation constitute well-recognized risks of ill health and mortality, including inadequate nutrition, lack of clean water and sanitation, and poor housing. A very plausible causal pathway runs from low levels of individual income through these material risk factors to lower individual life expectancy.

However, the cited social gradients in life expectancy were mainly observed in highly developed societies, where the prevalence of absolute material deprivation is fairly low. In particular, a significant social gradient was observed in the Whitehall studies, in which the occupants of even the lowest occupational rank were nevertheless all stably employed civil servants (again, with free access to health care). Since entire gradients can emerge in the absence of material deprivation, many researchers have been moved to postulate additional pathways (that is, psychosocial pathways) between health and some aspect of social status.²³

One of the most prominent specific risk factors envisaged as the terminus for a psychosocial pathway is *stress* (or, more precisely, the effects of stress). As Brunner and Marmot explain, the long-term effects of stress differ importantly from its short-term effects.²⁴ In the short term, an individual's fight-or-flight response to external stressors is beneficial because (or in so far as) it enables him or her to cope with threats and challenges. Among other things, this acute stress response involves the activation of neuroendocrine pathways, along which adrenaline and cortisol, for example, are released into the bloodstream. These hormones stimulate psychological arousal (for example, vigilance) and mobilize energy, while simultaneously inhibiting functions irrelevant to immediate survival (for example, digestion, growth, and repair). An optimal reactivity pattern is characterized by a sharp increase in levels of circulating adrenaline (and, later, cortisol), followed by a rapid return to baseline once the challenge has passed. Suboptimal patterns are characterized by elevated baseline levels and slower returns to baseline.

By contrast, the long-term effects of stress (either from over-frequent provocation of acute stress or from chronic stress) can be physiologically harmful.

Stress-induced damage is mediated, among other things, by prolonged elevation of adrenaline and cortisol levels in the blood. Elevated cortisol can lead to the accumulation of cholesterol (for example, by raising glucose levels even during inactivity) and elevated adrenaline increases the blood's tendency to clot (as does elevated fibrinogen, promoted by other stress-related hormones), which can add to the formation of arterial plaques and thereby lead to an increased risk of heart disease and strokes. Other risks that may be increased by stress-induced damage include risks of cancer, infection, and cognitive decline.

A psychosocial pathway running from stress-induced damage (or 'allostatic load'²⁵) has next to be traced to some social factor, preferably one amenable to policy manipulation. Two factors that have attracted considerable attention in this connection are 'social rank' and 'job control'. Let me describe them briefly in turn.

The most specific evidence on the role of *social rank* in producing stress-induced damage comes from studies of non-human primates.²⁶ In various primate species, social life is organized in terms of clear and stable dominance hierarchies. Sapolsky and Mott found that hierarchies of free-ranging male baboons exhibit an inverse social gradient both in cortisol elevations and in adverse cholesterol ratios.²⁷ Subordinate baboons have higher baseline levels of cortisol and lower levels of high-density lipoprotein (that is, 'good') cholesterol than dominant baboons, while total cholesterol levels are similar across the hierarchy. In subordinate baboons, cortisol levels also return slowly to baseline following a challenge, whereas (a subset of) dominant baboons have optimal stress-reactivity patterns.²⁸ Furthermore, when the dominance hierarchy is experimentally disrupted, then *all* the baboons (including the former dominants) exhibit the sub-optimal stress-reactivity patterns of subordinates.

Yet more specific evidence that stress-induced damage is sensitive to rank (that is, to relative social status) per se comes from studies of captive macaque monkeys. In these studies, experimenters manipulated the dominance hierarchy, forcing individual monkeys to occupy new ranks, while holding their diet and environment constant. Shively and Clarkson fed female macaques a cholesterol-rich diet while manipulating their hierarchy. Over a two-year period, all of the monkeys developed atherosclerosis (coronary plaques). However, dominant monkeys who became subordinate had a fivefold excess as compared to those who remained dominant.²⁹ Cohen and colleagues exposed male macaques to an adenovirus while manipulating their hierarchy.³⁰ They found an inverse social gradient in the susceptibility to viral infection, with the occupants of the lowest social rank (whoever they might be) being at 'substantially greater risk' of infection. Lower status monkeys also exhibited a greater cortisol response to the hierarchy manipulations, but this did not account for their differential susceptibility.

Evidence on the role of *low job control* in producing stress-induced damage comes from the Whitehall II study.³¹ 'Job control' refers to an individual's level

of task control in the workplace, operationalized here in terms of a questionnaire concerning decision authority and skill discretion. One of the principal diseases for which stress-induced damage increases the risk is coronary heart disease (CHD). In Whitehall II, there was an inverse social gradient in age-adjusted CHD incidence: compared to their senior-grade counterparts, male intermediate-grade civil servants were 1.25 times more likely to develop a new case of CHD in a five-year interval, while men at lower grades were 1.5 times more likely.³² For women, the odds ratios were 1.12 and 1.47, respectively. Marmot and his colleagues also found an inverse social gradient in low job control.³³ But their key finding was that a substantial part of the gradient in CHD incidence could be attributed to differences in job control. Controlling for low job control reduced the odds ratio of new CHD for males at low civil service grades from 1.50 to 1.18 and for women from 1.47 to 1.23.³⁴ By comparison, known CHD risk factors only reduced the same ratios from 1.5 to 1.3 and from 1.47 to 1.35, respectively.

Finally, of course, plausible causal pathways between stress-induced damage and these particular social factors will only help to breathe causality into the correlations with which we began if either social rank or job control can, in turn, be suitably connected with income, education, occupational rank, or social class. To date, few such connections have been established, apart from that between job control and occupational rank.

4.

Our survey of the social determinants of health has proceeded in very general terms. Since we are particularly interested in improvements in the health of the globally worst off, we should also briefly review the fundamental determinants of health specifically in developing countries.

Basic health care

Recognizing the role of the social determinants of health should not, of course, obscure the significance of health care as a determinant of health. In particular, public health and primary health-care systems are important determinants of health, especially in developing countries. For example, the significant contribution made by immunization, vector control, clean water, and sanitation to reducing mortality in the developing world has been well documented.³⁵ Preston estimated that at least 50 percent of the mortality gains by developing nations between 1940 and 1970 were due to factors *other than* income, literacy, and nutrition.³⁶ While this remainder includes unknown factors, Preston attributed a significant part of it to public health measures.

Absolute individual income

In the context of the developed world, there is an ongoing debate about precisely which definition of 'income' is adequate to capture the contribution that

individual income makes to individual life expectancy.³⁷ However, when attention is restricted to developing countries, this controversy dissipates. All sides agree that, at very low levels of income, an individual's *non-comparative* income makes a significant contribution to his or her life expectancy.³⁸ In addition, there is general agreement on the causal pathways through which non-comparative income contributes to life expectancy, namely, via the material risk factors of inadequate nutrition, lack of clean water and sanitation, and poor housing, *inter alia*. Indeed, the causal significance of these factors (especially nutrition) and their sensitivity to individual (or household) income is quite widely agreed.³⁹

Anand and Ravallion argue that the entire relationship between per capita GDP and life expectancy can be explained in terms of two factors: per capita public spending on health and the proportion of the population in extreme poverty.⁴⁰ On their analysis, in other words, the relevance of national income to life expectancy is entirely mediated by the extent to which it funds *public spending* on our first determinant;⁴¹ and by the extent to which it (that is, our second determinant) is distributed to the poorest inhabitants. Anand and Ravallion calculate that roughly two-thirds of their explanation is due to the first factor and one-third to the second.

Education

A final fundamental determinant of health is education. In developing countries, *female* education in particular correlates very highly with infant and child (under five) life expectancy, even after controlling for income and other factors.⁴² Thus, mothers with primary schooling have child mortality rates 26 percent lower than mothers with no schooling, while mothers with secondary schooling have rates 36 percent lower again than mothers with only primary schooling.⁴³ Subbarao and Raney estimate that doubling female secondary-school enrolments in 1975 (to 38 percent, from the actual level of 19 percent) would have lowered annual infant deaths in 1985 by 64 percent.⁴⁴

Caldwell describes several pathways through which greater female education contributes to improved health, both a woman's own health and that of her children.⁴⁵ These include not only improvements in (health and general) knowledge, but also the empowerment of women. Indeed, Caldwell emphasizes the important role of female *autonomy* in the most impressive cases of health gains by developing countries (on which, more below). A further pathway, which combines the previous ones, works through an increased demand for health services. In addition to better access to care, increased demand contributes to improvements in the efficiency of local health services. Caldwell thereby suggests several possible interactions between education and health services as determinants of health.

Filmer and Pritchett dispute the claim that *public* spending on health contributes significantly to life expectancy.⁴⁶ They find that 95 percent of the cross-national variation in child mortality can be explained in terms of the level and

distribution of income, the extent of female education, and two other social factors,⁴⁷ while adding public spending on health to their equation improves the explanation only trivially. By their estimate, each additional year of female schooling yields roughly a 10 percent decrease in child mortality.

5.

We can now return to the proposed 1 percent obligation. Various objections to the proposal can be imagined. I shall not attempt to refute those who deny that there is any obligation of any kind on rich nations to transfer resources to poor nations.⁴⁸ The most plausible ground on which to object to such an obligation would be that it is too demanding. Yet, in the present case, that objection is pre-empted, I believe, by the extreme modesty of the proposal. That is to say, if a theory of international justice licenses *that* objection against a 1 percent obligation, it is thereby disqualified as a plausible contender. However, I shall not undertake to argue for this here.

Instead, I shall try to exhibit the appeal of the 1 percent proposal among the more limited, but still significant, coalition of those who accept some obligation to transfer resources internationally. Arguably, this includes global egalitarians and prioritarians of various kinds; international Rawlsians;⁴⁹ utilitarians; decent humanitarians; as well as many decent, ordinary people.⁵⁰ More specifically, I shall indicate how a focus on improving the *health* of the globally worst off contributes to vindicating the 1 percent obligation as an anticipatory requirement, by pre-empting certain other objections to it.

Even among our coalition of the willing, two serious objections of principle may spring to mind. First, it may be objected that 1 percent of GDP is too small a transfer to qualify as a minimum obligation. To describe an obligation as the 'minimum' implies that the moral performance of those who discharge it is, in some sense, 'satisfactory'. It draws a significant distinction between them and those who do less. No rich nation that only transfers 1 percent of its GDP, it may be felt, should be shielded from full moral censure in this way. Second, whatever its magnitude, there are, naturally, different ways to allocate a given resource transfer. Even from the standpoint of concern for the well-being of the worst off, various alternative expenditures can plausibly claim top priority. An obligation to spend the 1 percent specifically on improving the health of the worst off may thus be found objectionable independently of its magnitude.

A proper understanding of the fundamental determinants of health allows us to pre-empt both of these objections. We should begin by recognizing that proposals to improve the health of the globally worst off actually require improving the *determinants* of health in developing countries. As we can now appreciate, this means that the transfers should therefore be targeted at (1) primary health care and public health, (2) basic nutrition and income support, and (3) education (especially for girls and women). If we allocate a quarter percent to each of

these fundamental determinants, that leaves a quarter percent to cover existing development commitments. It turns out that 0.75 percent of GDP from the G7 will fund a per capita package of US\$144 for 1.26 billion people, which covers the world's bottom quintile.

This refined proposal is immune to the objection from alternative priorities. From the standpoint of individual well-being, nutrition, shelter, basic income, and education are reasonably conceived as instrumental priorities on a par with health care. For on any plausible theory of well-being, knowledge and autonomy, to which education is instrumental, will count as basic intrinsic components. In this respect, they are comparable to health. Income is not itself an intrinsic component. But it is the primary all-purpose means to well-being, while nutrition is simply an indispensable means.⁵¹ Still, important as they are, these priorities cannot possibly compete with the social determinants of health because they are identical to them. Moreover, nothing else plausibly has a similar priority for individual well-being.

In this light, we can see more precisely how health functions as a notably effective summary measure of well-being. Not only is health itself a basic intrinsic component, but its social determinants comprehend all of the plausible instrumental competitors to health *care* for priority in improving well-being. I observed at the very outset that the miserable health of the global poor strikes an especially salient chord. On one level, this represents an emotional response open to rhetorical exploitation. Yet, on a deeper level, the particular salience of health actually turns out to have a secure rational basis.

By likewise comprehending all of the fundamental determinants of health within its spending target, the refined proposal also pre-empts the pittance objection. We will be able to see this better if we first notice some of the practical advantages of its 'comprehensive approach'. To begin with, the relative strength of the causal contributions made by the respective determinants of health remains disputed, as we have seen. Not only is this true as between the traditional health-sector determinants and the social determinants, but also within the social determinants, that is, between income and education. However, by spreading the US\$144 per capita over all three, the refined proposal maintains a bet, as it were, on all the principal horses in the race. It thereby mitigates the uncertainty concerning the precise causal strengths at work.⁵²

Furthermore, this approach draws important support from the historical experience of those developing countries that have achieved exceptional life expectancy despite a very low GDP.⁵³ Among 'open societies', these 'high achievers' include Sri Lanka (life expectancy of 71 years), Kerala (71 years),⁵⁴ and Costa Rica (77 years); and among 'closed' societies, they include China (71 years), Cuba (77 years), and Vietnam (71 years). Their life expectancies are all notably higher than the global average (66.75 years).⁵⁵ For our purposes, the main lesson lies in the path the high achievers followed, which was precisely the comprehensive approach of concerted investment in (1) primary health care and

public health, (3) basic education, including for girls (thus achieving a high degree of literacy among women) and (2) the provision of a nutritional floor.⁵⁶

Finally, 0.75 percent of GDP from the G7 is enough to fund this comprehensive package for the world's bottom quintile at levels comparable to those actually employed by the high achievers. That is because US\$144 per capita is a real dollar figure, whereas cross-national comparisons should be made in purchasing power parity (PPP) equivalents. Since the relevant PPP multiplier can be conservatively set at 3,⁵⁷ US\$144 PPP can be spent per capita on *each* of the three fundamental determinants. In Sri Lanka, for comparison, total health expenditure in 2002 was US\$131 (PPP) per capita and public educational expenditure in 1995–97 was US\$111 (PPP) per capita.⁵⁸ Hence, there is no 'budgetary' need to forgo the advantages of the comprehensive approach.

To fix ideas, then, let us say that spending US\$432 (PPP) annually per capita on the comprehensive package in jurisdictions where life expectancy is 15 years or more below the global average (this includes not only many countries of sub-Saharan Africa, but also the worst-off Indian states and Chinese provinces) would raise life expectancy there by 10 years. While by no means guaranteed, the evidence we have reviewed makes this entirely plausible.⁵⁹ In that case, the objection that 1 percent of GDP is *too small* to qualify as a minimum obligation simply cannot be sustained. Far from being a pittance, a 10-year improvement in life expectancy represents a huge gain in well-being for the world's worst-off inhabitants.

A 1 percent obligation is light enough in its burden on the G7, so I have assumed, to pre-empt the objection that it is too demanding. Yet its effects on the well-being of the globally worst off, it now turns out, are nevertheless also bountiful enough to make 1 percent worthy of the status of 'minimum obligation'. What reconciles these claims is the fact that targeting the 1 percent at the fundamental determinants of health in developing countries produces a disproportionate 'bang for the buck' in terms of individual well-being.

An important part of this tremendous leverage is explained by the familiar consideration that a greater yield always results from directing resources to the bottom end of an outcome distribution when there are diminishing marginal returns (here, in life expectancy) to the relevant instrumental inputs (here, the various fundamental determinants of health). Of course, the leverage 1 percent can exert is also partly explained by the severity of international economic inequalities. These severe inequalities explain how such a small relative contribution from the G7 becomes such a large sum, both absolutely and relatively, when transferred to developing countries; they also underwrite the PPP multiplier, which further magnifies that difference.

To factor these respective explanations, notice that US\$432 (PPP) roughly doubles the income of someone living on US\$1 (PPP) per day. Thus, 0.75 percent of GDP from the G7 roughly doubles the income of the world's poorest quintile. However, while this observation already does something to allay the pittance

objection, I submit that the objection is much more powerfully dispelled by the addition of 10 years to these people's lives. The greater power of the latter reply highlights a compelling advantage of focusing on the health of the globally worst off, an advantage that helps to secure recognition of the 1 percent obligation as a vital step towards justice in our non-ideal world.

notes

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1. For arguments of this sort, see, for example, P. Unger, *Living High and Letting Die* (New York: Oxford University Press, 1996); T. Pogge, *World Poverty and Human Rights* (Oxford: Blackwell, 2002).
2. Unless otherwise noted, the life-expectancy figures cited are for 2003. World Health Organization, *World Health Report 2005* (Geneva: WHO, 2005), Annex Table 1.
3. In this, as in so much else, philosophers were following John Rawls: his two principles of justice apply only to the basic structure of a society that is both 'a closed system isolated from other societies' and also 'well-ordered'. See J. Rawls, *A Theory of Justice*, revised edn. (Cambridge, MA: Harvard University Press, 1999 [1971]), pp. 7–8.
4. See especially C. Beitz, *Political Theory and International Relations*, revised edn. (Princeton, NJ: Princeton University Press, 1999 [1979]); T. Pogge, *Realizing Rawls* (Ithaca, NY: Cornell University Press, 1989); Pogge, *World Poverty and Human Rights*.
5. J. Rawls, *The Law of Peoples* (Cambridge, MA: Harvard University Press, 1999). Notoriously, Rawls's own account of international justice lacks a principle of distributive justice.
6. For an overview, see S. Caney, 'International Distributive Justice', *Political Studies* 49 (2001): 974–97; S. Caney, *Justice Beyond Borders* (Oxford: Oxford University Press, 2005), Ch. 4. New contributions continue apace: P. Singer, *One World* (New Haven, CT: Yale University Press, 2002); D. Chatterjee (editor), *The Ethics of Assistance: Morality and the Distant Needy* (New York: Cambridge University Press, 2004); T. Nagel, 'The Problem of Global Justice', *Philosophy and Public Affairs* 33 (2005): 113–47. Singer, of course, was one of the earliest contributors to this topic. See P. Singer, 'Famine, Affluence, and Morality', *Philosophy and Public Affairs* 1 (1972): 229–43.
7. Liam Murphy is a significant exception, but he does not address the international case. See L. Murphy, *Moral Demands in Nonideal Theory* (New York: Oxford University Press, 2000).

8. For a fuller analysis, see G. Sreenivasan, 'What is Non-Ideal Theory?', in *Transitional Justice*, NOMOS L, edited by M. Williams and J. Elster (New York: New York University Press, forthcoming).
9. Rawls, *A Theory of Justice*, Sections 2, 39, 69.
10. Murphy appears to identify non-ideal theory *wholly* with partial compliance theory. Murphy, *Moral Demands in Nonideal Theory*, pp. 5, 135. One might think that this narrow view of non-ideal theory flows from his well-known scepticism about institutions as the primary subject of justice. However, that would be a mistake, as I have argued elsewhere. See Sreenivasan, 'What is Non-Ideal Theory?' For Murphy's scepticism about institutions, see L. Murphy, 'Institutions and the Demands of Justice', *Philosophy and Public Affairs* 27 (1998): 251–91.
11. Rawls, *A Theory of Justice*, pp. 99, 293–4. In fact, the only example of an obligation to transfer resources that Rawls accepts in the international case belongs to this branch of non-ideal theory. His 'duty to assist burdened societies' is explicitly an obligation of transitional justice, since its aim is to assist 'burdened societies' to *become* 'well-ordered'. Rawls, *The Law of Peoples*, pp. 106, 114–16. Moreover, from Rawls's point of view, this has a crucial consequence, namely, that the duty towards a given society *expires* once that society has become well-ordered. One of his main objections to principles of global distributive justice is that they lack a 'target and a cut-off point'. *Ibid.*, pp. 115–9. In other words, the objectionable principles are proposed in ideal theory, and so entail *permanent* obligations.
12. Rawls, *The Law of Peoples*, pp. 89–90. Compare Rawls, *A Theory of Justice*, pp. 8, 216; Beitz, *Political Theory and International Relations*, pp. 170–1.
13. K. Fine, 'Vagueness, Truth and Logic', *Synthese* 30 (1975): 265–300.
14. Alternative comparisons might be to C. Sunstein, 'Incompletely Theorized Agreements', *Harvard Law Review* 108 (1995): 1733–72 or to John Rawls, *Political Liberalism* (New York: Columbia University Press, 1993), Lecture 4. But since their subjects are closer to home, those comparisons may also distract and mislead.
15. I have elaborated on this proposal in G. Sreenivasan, 'International Justice and Health: A Proposal', *Ethics and International Affairs* 16 (2002): 81–90. Parts of the present discussion extend that article and others abbreviate it. The formulation in the text presupposes a certain degree of inequality between nations. I omit to specify the degree because, on any plausible specification, current international inequalities clearly satisfy it and because we should, anyhow, begin by regarding the 1 percent obligation as temporary (see note 48).
16. OECD, *OECD in Figures* (Paris: OECD, 2005), pp. 13, 65.
17. For a brief corrective against the tendency to reserve a privileged position for health care, see M. Marmot and R. Wilkinson (eds), *Social Determinants of Health* (Oxford: Oxford University Press, 1999), Ch. 1.
18. P. McDonough, G. Duncan, D. Williams and J. House, 'Income Dynamics and Adult Mortality in the United States, 1972 through 1989', *American Journal of Public Health* 87 (1997): 1476–83.
19. M. Huisman et al., 'Educational Inequalities in Cause-Specific Mortality in Middle-Aged and Older Men and Women in Eight Western European Populations', *Lancet* 365 (2005): 493–500; E. Crimmins and Y. Saito, 'Trends in Healthy Life Expectancy in the United States, 1970–1990: Gender, Racial, and Educational

- Differences', *Social Science and Medicine* 52 (2001): 1629–41; I. Elo and S. Preston, 'Educational Differences in Mortality: United States, 1975–1989', *Social Science and Medicine* 42 (1996): 47–57; A. Kunst and J. Mackenbach, 'The Size of Mortality Differences Associated with Educational Level in Nine Industrialized Countries', *American Journal of Public Health* 84 (1994): 932–7.
20. M.G. Marmot, G. Rose, M.J. Shipley and P.J.S. Hamilton, 'Employment Grade and Coronary Heart Disease in British Civil Servants', *Journal of Epidemiology and Community Health* 32 (1978): 244–9. Twenty-five-year follow-up data are given in C. van Rossum et al., 'Employment Grade Differences in Cause Specific Mortality', *Journal of Epidemiology and Community Health* 54 (2000): 178–84.
 21. No doubt there is also some 'reverse causation' between health and social variables, notably from poor health to lower income. See A. Deaton, 'Policy Implications of the Health and Wealth Gradient', *Health Affairs* 21 (2002): 13–30. In addition, there is plainly some causation *between* social variables, notably from education to both higher income and higher occupational status. However, income still appears to have a significant effect on life expectancy, even controlling for education, and vice versa. See E. Backlund et al., 'A Comparison of the Relationships of Education and Income with Mortality: The National Longitudinal Mortality Study', *Social Science and Medicine* 49 (1999): 1373–84; Elo and Preston, 'Educational Differences in Mortality: United States, 1975–1989'.
 22. N. Adler and K. Newman, 'Socioeconomic Disparities in Health: Pathways and Policies', *Health Affairs* 21 (2002): 60–76; N. Adler and J.M. Ostrove, 'Socioeconomic Status and Health: What We Know and What We Don't', in *Socioeconomic Status and Health in Industrial Nations: Social, Psychological, and Biological Pathways*, edited by N. Adler et al. (New York: New York Academy of Sciences, 1999), pp. 3–15; R. Evans, M. Hodge and I.B. Pless, 'If Not Genetics, Then What? Biological Pathways and Population Health', in *Why Are Some People Healthy and Others Not?*, edited by R. Evans, M. Barer and T. Marmor (New York: De Gruyter, 1994), pp. 161–88.
 23. M. Marmot, *The Status Syndrome* (New York: Henry Holt, 2004).
 24. E. Brunner and M. Marmot, 'Social Organization, Stress, and Health', in *Social Determinants of Health*, edited by M. Marmot and R. Wilkinson (Oxford: Oxford University Press, 1999), pp. 17–43. In this paragraph and the next, my summary is drawn from this chapter.
 25. B. McEwen, 'Protective and Damaging Effects of Stress Mediators', *New England Journal of Medicine* 338 (1998): 171–9.
 26. Brunner and Marmot, 'Social Organization, Stress, and Health'; Evans et al., 'If Not Genetics, Then What? Biological Pathways and Population Health'.
 27. R.M. Sapolsky and G.E. Mott, 'Social Subordination in Wild Baboons is Associated with Suppressed High Density Lipoprotein-Cholesterol Concentrations: The Possible Role of Chronic Stress', *Endocrinology* 121 (1987): 1605–10.
 28. R.M. Sapolsky, 'Endocrinology Alfresco: Psychoendocrine Studies of Wild Baboons', *Recent Progress in Hormone Research* 48 (1993): 437–68. In the Whitehall II study, similar inverse social gradients both in stress markers (here, fibrinogen) and adverse cholesterol ratios were observed in the civil service hierarchy. Civil servants also follow an inverse gradient in their ability to return blood glucose to an optimum baseline and in their ability to regain optimum blood

- pressure after returning home from work. See Brunner and Marmot, 'Social Organization, Stress, and Health'. Some have found these parallels between civil servants and free-ranging baboons irresistible.
29. It seems that part of this excess was due to the stress associated simply with a *change* in social rank (as distinct from a demotion), since subordinate monkeys who became dominant also had more atherosclerosis (albeit only twice as much) compared to those who remained subordinate. C.A. Shively and T.B. Clarkson, 'Social Status and Coronary Artery Atherosclerosis in Female Monkeys', *Arteriosclerosis Thrombosis and Vascular Biology* 14 (1994): 721–6.
 30. S. Cohen et al., 'Chronic Social Stress, Social Status, and Susceptibility to Upper Respiratory Infections in Nonhuman Primates', *Psychosomatic Medicine* 59 (1997): 213–21.
 31. M.G. Marmot et al., 'Contribution of Job Control and Other Risk Factors to Social Variations in Coronary Heart Disease Incidence', *Lancet* 350 (1997): 235–9.
 32. Compare note 28.
 33. Among men, 8.7 percent of high-level civil servants, 26.6 percent of intermediate civil servants, and 77.8 percent of civil servants at low grades reported low job control; for women, the percentages were 10.1 percent, 34.8 percent, and 75.3 percent, respectively.
 34. Marmot and his colleagues reject the interpretation that 'job control' and 'employment grade' functioned here as alternative measures of the same thing, since they had previously established that the association between low job control and CHD incidence is independent of employment grade.
 35. J. Caldwell, 'Routes to Low Mortality in Poor Countries', *Population and Development Review* 12 (1986): 171–220.
 36. S.H. Preston, 'Causes and Consequences of Mortality Declines in Less Developed Countries During the Twentieth Century', in *Population and Economic Change in Developing Countries*, edited by R. Easterlin (Chicago, IL: University of Chicago Press, 1980), pp. 289–360.
 37. I survey this debate in a forthcoming entry in the *Stanford Encyclopedia of Philosophy*. For a more technical account, see A. Deaton, 'Health, Inequality, and Economic Development', *Journal of Economic Literature* 41 (2003): 113–58.
 38. Compare Richard Wilkinson, the foremost proponent of the 'relative income' hypothesis: 'we should probably interpret the leveling off of the curve of rising life expectancy with increasing GNP per capita as the attainment among the majority of the population of a minimum real material standard of living, above which *further* increases in personal subsistence *no longer* provide the key to *further* increases in health'. See R. Wilkinson, *Unhealthy Societies: The Afflictions of Inequality* (London: Routledge and Kegan Paul, 1996), p. 45 (emphases added).
 39. See notes 35 and 36. For evidence supporting the operation of these pathways in South Africa, see A. Case, 'Health, Income, and Economic Development', *Proceedings of the World Bank Conference on Economic Development, 2001–2002* (Washington, DC: World Bank, 2002), pp. 221–41.
 40. S. Anand and M. Ravallion, 'Human Development in Poor Countries: On the Role of Private Incomes and Public Services', *Journal of Economic Perspectives* 7 (1993): 133–50. But they caution that their results are based solely on their sample of 22 countries.

41. Note that this is a narrower interpretation of 'health care' than we specified, since it excludes private spending on health care. Like that on clean water and sanitation, private spending on health care doubles as a material pathway through which our second determinant (individual income) contributes to health.
42. J. Hobcraft, 'Women's Education, Child Welfare, and Child Survival: A Review of the Evidence', *Health Transition Review* 3 (1993): 159–75.
43. D. Filmer and L. Pritchett, 'The Impact of Public Spending on Health: Does Money Matter?', *Social Science and Medicine* 49 (1999): 1309–23.
44. K. Subbarao and L. Raney, 'Social Gains from Female Education: A Cross-National Study', *Economic Development and Cultural Change* 44 (1995): 105–28.
45. Caldwell, 'Routes to Low Mortality in Poor Countries'.
46. Filmer and Pritchett, 'The Impact of Public Spending on Health: Does Money Matter?'
47. The additional factors are the extent of ethnolinguistic fragmentation and whether a country is predominantly Muslim.
48. Nor shall I enter into the disagreement between Rawls and others about whether obligations to transfer resources between nations are permanent obligations of ideal theory or temporary obligations of transitional non-ideal theory (see note 11). I myself think the 1 percent obligation is plausibly regarded as a part of ideal theory, and so as a permanent obligation. But for the purposes of anticipatory non-ideal theory, it makes no sense to insist on this. Hence, we may begin by regarding it as a transitional obligation. To this end, I specify suitable targets and cut-off points in Sreenivasan, 'International Justice and Health: A Proposal', p. 90.
49. See note 48.
50. For example, potential members of the coalition include Pogge and Singer, who explicitly endorse a 1 percent minimum. See Pogge, *World Poverty and Human Rights*, Ch. 8; Singer, *One World*, pp. 192–5. Outside of philosophy, they include Jeffrey Sachs and Bono, who endorse the UN's Pearson target of 0.7 percent. See J. Sachs, *The End of Poverty* (New York: Penguin Press, 2005), Ch. 15.
51. I am taking shelter to be covered in the proposal under 'income'.
52. The sub-allocations can obviously be adjusted, once the relative causal contributions of the three determinants become more reliably known.
53. Alternatively, they have achieved high life expectancy with very low per capita health expenditure. Except for Costa Rica (US\$498), all the countries that follow in the text spent markedly less than US\$500 per capita (in purchasing power parities) on the health sector in 1997. See the figure in D. Leon et al., 'International Perspectives on Health Inequalities and Policy', *British Medical Journal* 322 (2001): 592.
54. While Kerala is an Indian state, its population is 30 million. Unlike the other life-expectancy figures, which are for 2003, the Kerala figure is for 1988–91. T.N. Krishnan, 'The Route to Social Development in Kerala: Social Intermediation and Public Action', in *Development with a Human Face*, edited by S. Mehrotra and R. Jolly (Oxford: Clarendon Press, 1997), p. 205.
55. Indeed, Costa Rica and Cuba have the same life expectancy as the USA.
56. See S. Mehrotra and R. Jolly (eds), *Development with a Human Face* (Oxford: Clarendon Press, 1997); Caldwell, 'Routes to Low Mortality in Poor Countries'. Amartya Sen invokes the same high achievers in the context of distinguishing two

- paths of development: 'support led' versus 'growth mediated'. See A. Sen, *Development as Freedom* (New York: Knopf, 1999), Ch. 2. His purpose is both to question the traditional definition of 'development' and to emphasize that the achievement of high life expectancy does not depend on economic growth. The latter point bears, incidentally, on criticisms of international aid that focus specifically on its contribution to *growth*. See, for example, N. Birdsall et al., 'How to Help Poor Countries', *Foreign Affairs* 84 (2005): 136–52. However, like other pressing issues of implementation, this requires separate treatment elsewhere.
57. In 2003, the World Bank's multiplier ranged from an average of 4.49 for low-income countries to 3.03 for middle-income countries. See UNDP, *Human Development Report 2005* (New York: Oxford University Press, 2005), p. 269. For Sri Lanka, it was 3.99. *Ibid.*, p. 267.
 58. Health expenditures come from *ibid.*, p. 237. Educational expenditures come from UNDP, *Human Development Report 2001* (New York: Oxford University Press, 2001), pp. 171, 179. More recent educational expenditure has been lower.
 59. Compare Caldwell's conclusion: 'These findings . . . show that low mortality is indeed within the reach of all countries.' Caldwell, 'Routes to Low Mortality in Poor Countries', p. 209.