

Measuring Freedom: Towards a Solution to John Rawls' Indexing Problem

THOMAS FERRETTI

London School of Economics

Abstract: Suppose a principle of distributive justice states that social institutions should maximize the freedom of the least well-off. Understanding how to do so would be easier if freedom only depended on one good, like income. If it depends instead on a composite index of social primary goods, a question arises: Which combination of social primary goods can maximize the freedom of the least well-off? This is John Rawls' indexing problem. Solving it requires addressing two related problems. The first consists in evaluating, *in theory*, under which conditions it is acceptable to substitute goods, that is, their substitution rates. The second consists in evaluating which acceptable substitutions are feasible *in practice*. This article proposes a framework to think clearly about this indexing problem within a Rawlsian, resourcist conception of distributive justice. I conclude by discussing a path towards solving the indexing problem. While further empirical exploration is needed, plausible assumptions about social regimes suggest that maximizing the freedom of the least well-off is likely to require giving them access to a social position with a balanced combination of social primary goods.

Keywords: freedom, indexing problem, John Rawls, social primary goods, substitution

JEL Classification: A13, D3, D63, I32, J81, P51

I. INTRODUCTION

According to John Rawls' liberal egalitarian theory of justice, the problem of distributive justice consists in finding how to regulate social institutions to realize a fair distribution of the means of freedom produced by

AUTHOR'S NOTE: This paper benefited from discussions with audiences at the universities of Princeton, Aarhus, Louvain, and the London School of Economics. I am particularly grateful to David V. Axelsen, Pier-André Bouchard St-Amant, Koen Decancq, Marc Fleurbaey, Axel Gosseries, Philippe Van Parijs, Alex Voorhoeve, Danielle Zwarthoed, and my former colleagues at the Hoover Chair of Economic and Social Ethics for their helpful comments at various stages of research and writing. I thank Agnes Ofner for helping with the graphs. Between 2016-2018, early research required for this article was funded by the Fonds de Recherche du Québec Société et Culture (Grant number: 197851).

social cooperation. In other words, the metric of justice used to compare individual positions in society is the freedom of individuals in such positions to advance their ends and the means of such freedom are what Rawls calls social primary goods, that is, the basic liberties and social resources allowing free and equal citizens to advance their ends (Rawls 2001, 50–52, 57–61).¹ For Rawls, some means of freedom such as basic liberties must be equal while others, such as income and wealth, can vary in their distribution. In the latter case, inequalities are acceptable if and only if they satisfy two conditions: they maximize the benefits of the least well-off and are attached to positions open to all under fair equality of opportunity (Rawls 2001, 42–43). So, once institutional rights and liberties are secured equally and fair equality of opportunity is guaranteed, institutions of the basic structure must distribute the other means of freedom to the greatest benefit of the least well-off. But understanding how to do so would be easier if freedom only depended on one good, like income.² If it depends instead on a composite index of social primary goods, a question arises: Which combination of social primary goods can maximize the freedom of the least well-off? This is Rawls' indexing problem.

This problem is formulated in slightly different ways in the literature. For instance, John Rawls adopts the standpoint of a representative individual in the least well-off position and asks, "Which combination of primary social goods it would be rational for [the least well-off] to prefer?" (Rawls 1971, 94), while Richard Arneson asks more generally: "How to aggregate a person's holdings of the various primary goods into a measure of her overall share of them?" (Arneson 1990, 445–446). Suppose that the freedom of the least well-off is affected by two goods: income and power. Does more income compensate for less power? If so, all substitutions might not preserve the value of the bundle: What is the substitution rate? And does the answer depend on each person's preferences?

To avoid this indexing problem, authors like John Tomasi and Samuel Freeman (at least in his later work, see Freeman 2013) propose to only consider or give priority to one good, either income or economic powers.³ Arneson argues instead that any metric must respect reasonable

¹ In what follows, I use 'resources' and 'social primary goods' interchangeably.

² I occasionally simplify Rawls' term 'income and wealth' by referring only to 'income'.

³ Tomasi insists that only *income* matters in increasing the worth of freedoms for individuals (Tomasi 2012, 190–191), while Freeman insists that the fair opportunity to exercise our *economic powers* should have priority over the difference principle and increasing the income and wealth of the least well-off (Freeman 2013, 31–32). By 'economic powers', he has in mind powers attached to positions of authority in the economy, such as organizing work within a firm, making impactful management decisions, and so on.

pluralism because people may disagree about the value of different goods. For him, “there really is no alternative to subjectivist standards of distributive justice—standards that let the valuation of resource shares depend on the evaluation that each individual herself gives to her share” (Arneson 1990, 446; see also Fleurbaey 2007, 633–636; 2008, 9). But subjective, welfarist metrics raise problems since people with different subjective evaluations of the least well-off’s share may disagree about what fair institutional arrangements are.

The main contribution of this article is to propose a framework to think clearly about the indexing problem within a Rawlsian, resourcist conception of distributive justice. Solving it requires addressing two related problems. The first consists in evaluating, *in theory*, under which conditions it is acceptable to substitute social primary goods—that is, their substitution rates. I argue that social primary goods have diminishing marginal returns and, therefore, diminishing marginal substitution rates: other things equal, the less of a good there is in the bundle, the higher its substitution rate gets. The second problem consists in evaluating which acceptable substitutions are feasible *in practice*. I argue that, because of scarcity constraints, some substitutions may be acceptable in theory but not feasible in practice, and the higher substitution rates get, the more difficult it is to afford substitutions.

While I mainly aim at proposing this framework, I conclude by discussing a path towards solving Rawls’ indexing problem. Further empirical exploration is needed for a full demonstration, but plausible assumptions about social regimes and the feasibility of substitutions suggest that maximizing the freedom of the least well-off is likely to require giving them access to a social position with a *balanced combination of all social primary goods*. This could open new lines of argument against authors proposing to give priority to one good, as Tomasi and Freeman do, for instance to reduce distributive justice to the distribution of income to the least well-off. Indeed, Tomasi justifies a kind of free market system partly on the capacity of this regime to improve the income of the least well-off, but other regimes may give the least well-off access to a more balanced bundle of all social primary goods that maximizes their overall freedom.

The article proceeds as follows. In section II, I review three important features of Rawls’ resourcist metric of justice. In section III, I start discussing the first problem and explain how to understand the substitution of goods and their substitution rates. In section IV, I discuss one way to evaluate the substitution rates of social primary goods. In section V, I turn

to the second problem, and I investigate how scarcity constraints affect the feasibility of substitutions. In section VI, I discuss how, given plausible assumptions about social regimes and the feasibility of substitutions, the indexing problem may have a solution. In section VII, I conclude.

II. RAWLS' RESOURCIST METRIC OF JUSTICE

I set aside issues regarding the protection of basic liberties. Conditions for their adequate protection are defined by Rawls' first principle: "Each person has the same infeasible claim to a fully adequate scheme of equal basic liberties" (Rawls 2001, 42).⁴ For Rawls, issues regarding basic liberties should be treated independently:

The fundamental liberties are always equal [...]; one does not need to balance these liberties and rights against other values. The primary social goods that vary in their distribution are the powers and prerogatives of authority, and income and wealth. (Rawls 1971, 93)

In this article, I focus on the social primary goods that vary in their distribution. Regarding these goods, Rawls' second principle claims that:

Social and economic inequalities are to satisfy two conditions: first, they are to be attached to offices and positions open to all under conditions of fair equality of opportunity; and second, they are to be to the greatest benefit of the least-advantaged members of society (the difference principle). (Rawl 2001, 42-43; see also Rawls 1971, 83)

For the sake of simplicity, I adopt one specific interpretation of Rawls' resourcist metric of distributive justice as a starting point to illustrate the indexing problem. My primary goal is not to get into exegetical arguments over the right interpretation of the Rawlsian metric, and my account may depart from usual accounts on some occasions. But assuming this specific interpretation of a resourcist metric, I focus on investigating what it means to maximize the value of the bundle of social primary goods of the least well-off, with the hope that this can inform any resourcist conception. Moreover, my account is vulnerable to external objections against resourcist metrics in general, but I will not discuss these in detail. Now, with these caveats in mind, I need to introduce three important features of a plausible resourcist conception of justice to provide sufficient context for my discussion of the indexing problem.

⁴ Rawls (1971, 93) also sets aside basic liberties when discussing the indexing problem.

Feature 1. Using Proxies of Freedom: Social Primary Goods

First, measuring how much freedom, that is, how many opportunities, individuals have to advance their ends requires weighing a variety of means of freedom—that is, the basic liberties and social resources allowing free and equal citizens to advance their ends (Rawls 2001, 50–52, 57–61).⁵ Indeed, freedom can be defined as the *capacity* of an agent to realize a *chosen* action without *constraint* (MacCallum 1967, 314). Under this conception, freedom is a matter of degree: it depends on the *capacity* of the agent, which depends on their external resources, such as income and wealth, and their internal resources, such as physical or intellectual capacities; it depends on the set of options from which they *choose*; and it depends on the degree of legal and non-legal *constraints*. The capacity to realize a given choice without constraint constitutes one opportunity.

A resourcist metric proposes to measure freedom by using proxies, that is, all-purpose and workable social primary goods. Rawls defines social primary goods as follows:

These are various social conditions and all-purpose means that are generally necessary to enable citizens adequately to develop and fully exercise their two moral powers, and to pursue their determinate conception of the good. (Rawls 2001, 57)⁶

A useful proxy of freedom is income, for example, because, in contemporary market economies, it is an all-purpose good allowing one to buy a large variety of external goods, their price being fixed by their competitive value on the market. As Thomas Pogge notes, these goods should be *all-purpose* (primary goods) like income to avoid controversial perfectionist judgments that would arbitrarily restrict individuals' set of options and increase the likelihood of disagreements (Rawls 1971, 90–95; Pogge 2002, 208–212). As Samuel Arnold notes, these goods should also be as *workable* as possible (social goods) to avoid epistemic and implementation problems: “Primary goods, Rawls holds, must respect the limits of the practical: they must be amenable to objective measurement through a process that’s simple enough to be ‘workable’ for everyday politics” (Arnold 2012, 97; see also Pogge 2002, 217). This is a reason to focus on *external* goods like income which, contrary to *internal* goods, are more

⁵ On formulating the Rawlsian metric of justice in terms of freedom, see Van Parijs (1991, 225) and Sen (1992, 26–30).

⁶ On social primary goods, see Rawls (1971, 90–95; 1993, 187–190; 2001, 57–61, 175) and Pogge (2002, 208–212, 217).

workable for policymaking because they are easier to measure objectively. For instance, Rawls insists that “it is not self-respect as an attitude toward oneself but the social bases of self-respect that count as a primary good” and illustrates such social bases with “the institutional fact that citizens have equal basic rights” (Rawls 2001, 60).

Using all-purpose and workable goods as proxies for freedom solves two important problems in the measurement of freedom and opportunity sets. The *first problem* is normative: we must accommodate reasonable pluralism when trying to reach an agreement on the value of external goods like cars and bicycles. We cannot give intrinsic value to some goods rather than others because people’s preferences for different goods affect the *value* of these goods for them. If a person hates driving, she may not care for the opportunities created by a car and may prefer the ones created by a bicycle. This is why Arneson proposes a subjective metric of “opportunities for welfare” (Arneson 1989, 77; see also Van Parijs 1995, 48–51), which considers individuals’ actual preferences for specific goods when measuring the value of opportunity sets. Yet, one issue with relying on the subjective value of each specific good an opportunity set contains (for example, cars, bicycles, and so on) is that this would lead to disagreements about the value of the bundle of the least well-off, which in turn would lead to disagreements about what fair institutional arrangements are. While welfarist metrics make sense on a personal level, when we personally question what value goods have *for us*, a political conception of justice requires us to agree on what value these goods have *for other people* and, in particular, *for the least well-off*. Behind the veil of ignorance, we do not know who will end up in the least well-off position so we cannot base the evaluation of their bundle of goods on their actual preferences. This is why Rawls argues that “citizens’ appropriate shares of primary goods are not regarded as approximating to their good as specified by any particular comprehensive religious, philosophical, or moral doctrine”, and the reason to reject subjective understandings of the value of social primary goods is “to hold open the possibility of finding a public basis of justification supported by an overlapping consensus” (Rawls 2001, 60). When evaluating the share of resources attached to the lowest social position, we must adopt the perspective of a representative individual in the least well-off position and ask which combination of social primary goods would be rational for the least well-off to prefer (Rawls 1971, 94). In other words, we should represent ourselves as doing so on behalf of the least well-off, without knowing *who they will be* and with no information about

their *preferences* (for example, for cars or bicycles). This is one reason why Rawls recommends that: “For questions of social justice we should try to find some objective grounds for [interpersonal] comparisons, ones that men can recognize and agree to” (Rawls 1971, 90–91).⁷ Distributing all-purpose goods like income, that allow people to buy cars or bicycles as they prefer, is Rawls’ compromise to have some objective ground on which to build agreements on the value of the bundle of the least well-off, without making perfectionist judgments that could restrict individual options arbitrarily and lead to disagreements.

Using all-purpose and workable goods as proxies for freedom solves a *second problem* that is practical in nature. It is impossible to count the ‘number’ of opportunities or to measure the ‘physical size’ of the opportunity set opened by a given good, such as a bicycle. This is because any good opens an infinite number of unexpected opportunities, such as using bicycles to create contemporary art. Therefore, in practice, our lack of information about all potential uses of a good leads to incomplete rankings of opportunity sets because predicting every single thing that contemporary artists could do with a bicycle is not possible. One solution would be to stipulate that two opportunity sets are unequal only if one is a subset of the other. But this solution is inadequate because it also provides very incomplete rankings: it prevents any comparison between sets that do not overlap perfectly. If cars do things bicycles cannot do and vice versa, we cannot compare the opportunity sets opened by cars and bicycles.⁸ A more workable solution consists in using all-purpose goods like income to measure opportunities because it allows individuals to buy both cars and bicycles, thus avoiding the difficult task of comparing the opportunities opened by each specific good.

Considering individual preferences when measuring the value of opportunity sets, as in Arneson’s subjective metric, adds further workability problems. To begin, welfarist metrics require an account of individuals’ *authentic* preferences which raises epistemic problems: preferences may be ill-informed; people tend to discount future outcomes and misevaluate risks; psychological processes may lead individuals to develop expensive tastes or instead to adapt their preferences to their modest circumstances; interpersonal comparison of preference intensity is difficult; and

⁷ On the need to accommodate reasonable pluralism in selecting social primary goods, see Rawls (1971, 94–95; 1993, 187–190; 2001, 50–61) and Clayton and Williams (1999, 450–451, 458–459).

⁸ Van Parijs (1995, 21–22, 48–51) summarizes these standard difficulties in the measurement of opportunities.

people sometimes change preferences. Moreover, some point out the difficulty of constructing *publicly verifiable* measures of individual welfare.⁹ Finally, considering individual preferences may require making intrusive judgments about which preferences should count or not.¹⁰

To sum up, measuring freedom by using all-purpose and workable proxies, such as social primary goods, is Rawls' compromise to respect reasonable pluralism and workability while avoiding the normative and practical problems of subjective, welfarist metrics appealing to individual preferences. This provides some justification for a resourcist metric that includes all-purpose and workable social primary goods such as income and wealth, and the powers and prerogatives of positions of authority.

Feature 2. Distributing Goods to Social Positions, Not to People

Second, Rawls' conception of justice does not actually measure how much social primary goods people have but instead what *expectations* or *prospects* they have over their complete life, given the distribution of social primary goods between *social positions*. Indeed, Rawls explicitly rejects what he calls conceptions of 'allocative justice' which require that public institutions allocate social primary goods directly to individuals whose particular needs, desires, or preferences are known to us. He adopts instead what he calls a conception of 'distributive justice' which requires that institutions of the basic structure create *social positions* to which social primary goods are attached, so that, if everyone follows the rules of social cooperation and takes up a position in a just cooperative scheme, the resulting distribution of resources will be just (Rawls 2001, 50-54; 1993, 283). The role of the basic structure is to distribute social primary goods, not directly to people, but to social positions.

The result is a *two-step* system. In the *first step*, social institutions create a cooperative scheme with social positions (for example, janitor, artist, teacher, lawyer) which combine a share of the burdens of cooperation (for example, labor) with a share of its benefits (the social primary goods). The difference principle applies to these social positions: the share of benefits attached to the lowest social position should be as high as possible. In the *second step*, individuals can choose a social position under conditions of fair equality of opportunity (this explains why the

⁹ Several authors underline these common problems with welfarist metrics, including Rawls (1993, 187-190), Elster (1982, 219), Clayton and Williams (1999, 448-451), and Voorhoeve (2006, 266).

¹⁰ Anderson (1999, 310) raises this argument against assessing personal responsibility for our preferences.

two parts of Rawls' second principle of justice are indissociable). In such a system, the principles of justice do not apply to the share of social primary goods that individuals end up having, but to the share of goods that are attached to the social position they can access (Rawls 1993, 283; 2001, 50-63, 175; Freeman 2007, 106-109, 125-127). What matters for social justice is the long-term *expectations* or *prospects* of individuals living in a society so organized. By maximizing the bundle of goods attached to the lowest social position, we maximize the life-long prospects of the least well-off and what they can expect even if they remain in the lowest social positions. As Philippe Van Parijs notes:

Properly understood, the difference principle is an opportunity-egalitarian principle [...] phrased in terms of expectations associated with social positions, rather than directly in terms of primary goods. (Van Parijs 2003, 214)

There are two kinds of reasons to reject an allocative conception and prefer a distributive one. The *first kind* concerns measurement issues discussed earlier: (a) reasonable pluralism would prevent agreements about principles to allocate goods directly to individuals according to their personal attributes such as preferences, needs, or merit, and (b) epistemic and feasibility problems involved in measuring what people prefer, need, or deserve would make such allocations unworkable. The two-step system of distributive justice, by contrast, avoids these problems because, once goods are distributed to social positions, individuals can choose the social position with the share of goods that best fits their preferences, including their preferences for occupation, resources, and work/leisure balance.

The *second kind* of reasons to prefer a distributive conception concerns the need for institutions of the basic structure to create the conditions for fair social cooperation to achieve justice over time (Rawls 2001, 50-61). For instance, making our access to social primary goods conditional on taking up a share of the burdens of cooperation may be important to create the incentives necessary to produce social primary goods in the first place. This is not because people should work to *deserve* a share of the goods: Rawls explicitly says that a conception of moral desert cannot be incorporated into a political conception of justice given the fact of reasonable pluralism (Rawls 2001, 73). Instead, this is because incentivizing people to work is instrumentally useful to produce the resources necessary to maximize the bundle accessible to the least well-off.

To sum up, in Rawls' conception of *distributive justice* (as opposed to *allocative justice*), the issue consists in finding an agreement on the value of the bundle of social primary goods attached to the *lowest social position* within a particular cooperative scheme. Achieving this would allow partners in the original position to compare different schemes and choose the one maximizing the share of goods attached to the lowest social position.

Feature 3. Setting Aside Differences Between Persons

Third, Amartya Sen argues that resourcist metrics of freedom are problematic because they neglect two elements that make persons different: their preferences and needs (Sen 1992, 85, 1999; Pogge 2002, 176–178). I explained why a resourcist approach does not take into account *preferences*, but freedom also depends on individual differences in *needs*, which depend on people's differing *abilities* to convert resources into opportunities. Since Rawls' conception of justice is primarily concerned with distributing burdens and benefits between fully cooperating members of society having abilities in the "normal range" (Rawls 2001, 175; Freeman 2007, 106–109), one could object that it wrongfully abstracts from injustices arising from illness or disability. To defend the Rawlsian account, one could underline that it does not ignore these injustices but simply breaks down the complex task of realizing justice into two steps.

In the *first step*, again, public institutions should secure a fair distribution of social primary goods to social positions (the indexing problem that concerns us in this article appears at this step). Succeeding at this step would already solve some injustices resulting from individual differences in needs and abilities. To begin, people that are able to participate in social cooperation but with less marketable talents will end up in the lowest social positions, but the bundle of goods attached to these positions will be as high as possible (Rawls 2001, 170–176; Pogge 2002, 196–204; Van Parijs 2003, 215; Daniels 2008, 46–58, 60–62). Moreover, existing differences in people's natural goods and internal abilities—such as the ones resulting from illness or disability—are often the result of current injustices. As Pogge underlines, in a fairer society, some of the social determinants of illness and disability would disappear (Pogge 2002, 186–188, 196–204; see also Daniels 2008, 79–88).

In the *second step*, once institutions have achieved a fair distribution of goods to social positions, they must secure access to these positions under fair equality of opportunity. This includes implementing policies to mitigate people's differences in needs and abilities, such as access to

health care and social insurance schemes, to compensate for life events, illness, and disability, and restore their capacity to participate in social cooperation or to convert their resources into opportunities (Rawls 2001, 175; Daniels 2008, 57). These are crucial issues of justice, but they are not the concern of the first step of the inquiry. I focus on the indexing problem arising when distributing social primary goods to social positions.

Summary. A Simplified Indexing Problem

Measuring freedom using an index of social primary goods raises problems: “One problem clearly is the construction of the index itself. How are the different primary social goods to be weighed?” (Rawls 1971, 93–94). Rawls simplifies this problem in various ways. First, he sets aside basic liberties to focus on goods varying in distribution:

Assuming that the two principles of justice are serially ordered, this problem is greatly simplified. The fundamental liberties are always equal [...]; one does not need to balance these liberties and rights against other values. The primary social goods that vary in their distribution are the powers and prerogatives of authority, and income and wealth. (Rawls 1971, 93)

Moreover, Rawls’ *resourcist* metric focuses on all-purpose and workable proxies for freedom to respect reasonable pluralism. But at the same time, by focusing on social primary goods that everyone would rationally want more of to advance whatever ends they may have, it aims at fostering agreements on the value of the share attached to the lowest positions:

Greater intelligence, wealth and opportunity, for example, allow a person to achieve ends [they] could not rationally contemplate otherwise. [...] While the persons in the original position do not know their conception of the good, they do know, I assume, that they prefer more rather than less primary goods. (Rawls 1971, 93)

In addition, Rawls’ *distributive* account of justice focuses on how institutions distribute social primary goods to social positions and then lets individuals choose the position satisfying their preferences. This avoids the need to take into account individual preferences when measuring the value of social primary goods. Finally, this account postpones issues regarding differences between persons’ abilities to a later step of realizing fair equality of opportunity. As Rawls summarizes:

The only index problem that concerns us is that for the least advantaged group. [...] It is unnecessary to define weights for the more favored positions in any detail [...]. If we know how the distribution of goods to the more favored affects the expectations of the most disfavored, this is sufficient. The index problem largely reduces, then, to that of weighting primary goods for the least advantaged. (Rawls 1971, 93–94)

Thus, Rawls simplifies the indexing problem by only focusing on the value of the bundle of goods attached to the lowest social positions.

III. THE INDEXING PROBLEM AND SUBSTITUTIONS

Despite the simplification described in the previous section, any metric of freedom based on more than one social primary good still faces this problem: Which combination of social primary goods can maximize the freedom of the least well-off? I now introduce important definitions to understand the substitution of social primary goods. Usually, the literature in economics adopts a metric of utility, that is, preference satisfaction, and defines substitutes and complements according to how goods contribute to the purpose of preference satisfaction. In the framework I propose below, I apply the same concepts to a metric of freedom, and define substitutes and complements according to how goods contribute to the purpose of increasing freedom.

Definitions 1. Substitutes versus Complements

Suppose that a metric of freedom M depends on how much of certain goods one holds. For example, suppose that there are two goods a and b . *Substitutability* arises when the amount of M provided by a may be replaced by the amount provided by b , and vice versa.

Substitutes: Given a metric M affected by a and b , goods are substitutes if an increase in the amount of a (x_a) can compensate for a decrease in the amount of b (x_b) while preserving the total value of the bundle.

Suppose a metric of freedom with only positive values and affected by a list of social primary goods. ‘Income and wealth’ and ‘economic powers’ could be considered *substitutes* if both provide independently valuable opportunities, that is, a person can use one good or the other to achieve the same purpose of improving their freedom. Instead, if goods are not substitutable at all, they are *complements*.

Complements: Given a metric M affected by a and b , goods are complements if an increase in the amount of a (x_a) cannot compensate for a decrease in the amount of b (x_b).

For example, electrical equipment and electricity have *complementary* functions because getting opportunities from electrical equipment requires electricity, and having no electrical equipment or no electricity suffices to prevent *any* opportunity from either of them. In other words, having one is necessary to make proper use of the other.

Definitions 2. Substitution Rates

In what follows, I consider a metric M affected by two goods a and b . Substitution rates are understood in *absolute* terms: if the goal is to preserve the total amount of M , the substitution rate n refers to the absolute number of units of a required to replace units of b .¹¹

If goods are *perfect complements*, each good is necessary but not sufficient to provide any unit of M . The level of M is constrained by the good in the smallest quantity in the bundle (x_a, x_b) . One way to formalize it is that their substitution rate n is either 0 or infinite: $n = 0$ or $n = \infty$ (depending on how substitution rates are calculated). In such cases, perfect complements can be represented by a function of the form:

$$M(x_a, x_b) = \min \{x_a, x_b\}, \text{ for example: } M(4,2) = M(5,2) = 2$$

But for many M and bundles (x_a, x_b) , increasing the amount of a still increases M even with a fixed amount of b : $M(x_a, x_b) < M(x_a + \Delta x_a, x_b)$. For instance, a person does get more freedom if she gets a higher income even if her economic bargaining power remains the same, and vice versa. If so, it becomes possible to substitute some a with some b while preserving the value of the bundle. When substitutions are possible, substitution rates become important. We have to ask ourselves: For a given change in good a (Δx_a) how does good b have to change (Δx_b) to preserve the value of the bundle so that $M(x_a, x_b) = M(x_a + \Delta x_a, x_b + \Delta x_b)$?

If goods are *perfect substitutes*, an increase in the amount a can compensate for a decrease in the amount b while preserving the value of the bundle and the substitution rate is constant. For example, assuming a constant substitution rate $n = 1$ and fixed amounts x_a and x_b providing

¹¹ The formalisation is generally following standard microeconomics but may diverge on occasion to simplify the explanation (see: Varian 2014, 38-41, 61-62).

comparable amounts of M , the value of the bundle (x_a, x_b) is always the sum of x_a and x_b , regardless of the distribution in the bundle: 1 additional unit of a can compensate for 1 lost unit of b . In this case, perfect substitutes can be represented by the following function:

$$M(x_a, x_b) = x_a + x_b, \text{ for example: } M(1,1) = M(2,0) = 2$$

But for many M and bundles (x_a, x_b) , substitution rates might not be constant. If so, the goods involved are only *imperfect* substitutes. There may be a variety of underlying reasons explaining why some goods are only imperfect substitutes, as I discuss later. If two goods are *imperfect substitutes*, the substitution rate will vary with the amounts a and b in the bundle. For example, a case of imperfect substitutes would be when one needs to raise the amount of a by an increasing rate n to compensate for the loss of each additional unit of b . One way to represent some kinds of imperfect substitutes would be by a function of the form:

$$M(x_a, x_b) = x_a x_b, \text{ for example: } M(4,4) = M\left(5\frac{1}{3}, 3\right) = M(8,2) = M(16,1) = 16$$

Importantly, if goods are *imperfect* substitutes, the substitution rate n is not constant but varies in absolute terms depending on the amount of the respective goods a person has in her bundle. This does not depend on individual preferences, which we have no information about, but on assumptions about the marginal returns of the different social primary goods in a bundle. For example, under the assumption of diminishing marginal returns, which I elaborate on below.

Definitions 3. Diminishing Marginal Returns

The account I presented assumes that freedom can only have positive values and is affected by several social primary goods. The core idea in this article is that social primary goods all have diminishing marginal returns, that is, the first units of each good provide more freedom than the last ones. If so, given specific *assumptions* specified below, they also have diminishing marginal substitution rates: other things equal, the less of one good there is in a bundle, the higher its substitution rate gets. In other words, other things equal, substituting one unit of a with more b is *more costly* when someone does not have much of a and becomes *less costly* when someone has more of a . For example, if we take a balanced bundle, $(4,4)$, with freedom $M(4,4) = 4 * 4 = 16$ as a reference, and if we want to

preserve its total value (16) then, for each additional unit of a that we want to replace with more of b , the substitution cost will increase.

Figure 1 and figure 2 illustrate this idea. In figure 1, M is affected by an all-purpose good a , with diminishing marginal returns. We assume that μa is a given unit change. As we can see, when someone does not have much of a , one unit μa provides a substantial amount of M , as reported on the vertical axis, but as the person gets more of a , one additional unit μa provides less M . This means that, other things equal, if the goal is to preserve the total amount of M in a given bundle (x_a, x_b) , replacing one unit μa by some of b will be *more costly* when someone has a low amount of a and *less costly* when someone has more of a . In other words, other things equal and under conditions stated below, if good a has diminishing marginal returns, it also has diminishing marginal substitution rates.

In figure 2, the indifference curve represents all combinations of two goods a and b providing an identical amount of M . Whenever goods a and b have diminishing marginal substitution rates, the curve is convex to the origin: when you have a balanced amount of a and b , the substitution rate n is close to 1, but the more you depart from a balanced bundle, the costlier further substitutions become. When substitution rates rise quickly, the indifference curve is very convex. Evaluating how high substitution rates can get is an empirical issue.

The specific form of the substitution function depends on the kind of goods involved. The claim that whenever a has diminishing marginal returns, a also has diminishing marginal substitution rates is only true when the goods involved are assumed to be *imperfect substitutes* (not perfect substitutes) and *all-purpose*. Goods that are *perfect substitutes*, such as Dollars and Pounds, may both have diminishing marginal returns but not diminishing marginal substitution rates since they open the same opportunities. Goods that are *complements* and thus *not substitutable* such as electrical equipment and electricity may both have diminishing marginal returns, but because their functions are interdependent, they do not have diminishing marginal substitution rates: the value of the bundle always depends on the good that is in the lowest quantity. Finally, some goods may be substitutable but have substitution functions with irregular variations and thresholds, but in the case of *all-purpose* goods like income, giving access to a large variety of other goods, it is common and

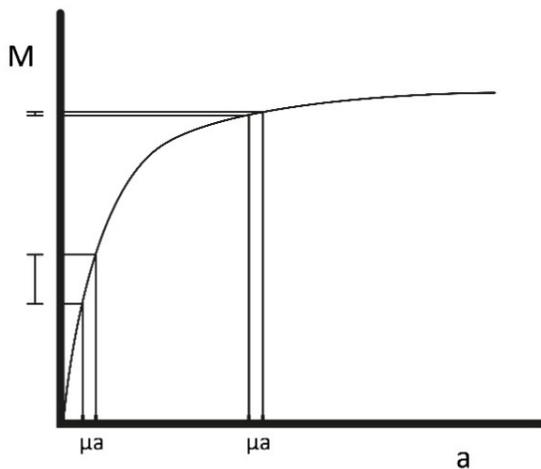


Figure 1: Diminishing marginal returns

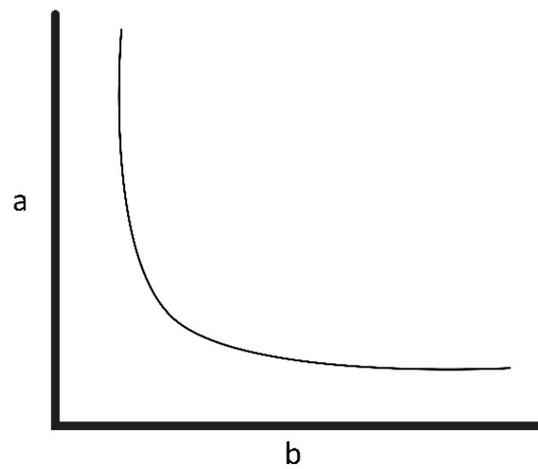


Figure 2: Indifference curve

plausible to assume that they are continuously divisible and that the marginal substitution rates will be the same (in absolute terms) regardless of the direction of exchange, which explains smooth substitution functions.

The core idea is that for *imperfect substitutes* and *all-purpose goods*, whenever they have diminishing marginal returns, they also have diminishing marginal substitution rates: the more you depart from a balanced bundle, the higher the substitution rate n gets.

With this framework in mind, answering the indexing problem raised by a resourcist metric of justice, and finding which combination of goods the least well-off should get, requires answering two related problems. The next section deals with the first problem, which consists in evaluating, *in theory*, which substitutions are acceptable. In other words, we need to evaluate the *substitution rates* of various social primary goods.

IV. SOCIAL PRIMARY GOODS HAVE DIMINISHING MARGINAL SUBSTITUTION RATES

I now apply the framework presented above to the case of social primary goods. For the sake of simplicity, I focus on the goods that Rawls identifies as *income and wealth* and the *powers and prerogatives of positions of authority* since Rawls notes that “the primary social goods that vary in their distribution are the powers and prerogatives of authority, and income and wealth” (Rawls 1971, 93). I assume that these two goods are commensurable because they both contribute to people’s opportunities, but they do so in different ways. I argue that these goods are imperfect substitutes and all-purpose, and I give reasons suggesting that they have diminishing marginal returns and, therefore, diminishing marginal

substitution rates. To be clear, I do not want to argue for any specific list of social primary goods. I use these two goods simply to illustrate the framework I propose to think about the indexing problem.

First, what Rawls refers to as *income and wealth* allow for the exchange of various external goods on the market. In contemporary market economies at least, they are the most all-purpose and workable proxies of purchasing power. Distributing income and wealth helps to allocate other external goods. Individuals can use their income to purchase a variety of goods at prices set by competitive markets: scarce goods having higher prices and abundant ones having lower prices.¹²

Second, social institutions also create positions of authority and responsibility. These positions are attached to *powers and prerogatives* (Rawls 1993, 308; 2001, 58). Power in general can contribute to our opportunities by giving us the ability to bring about desired states of the world, some control over decisions affecting our lives, and protection from domination by others (Lovett 2010, 64–84). But one can understand this more specifically by mobilizing republican intuitions: social positions are attached to *power over* other people which can lead to domination (Lovett 2010, 74–84, 120). Frank Lovett defines *power over* as follows:

One person or group has power over another if the former has the ability to change what the latter would otherwise prefer to do—i.e., change the strategy the latter would otherwise select from their opportunity set. (Lovett 2010, 75)

Lovett proposes to measure the *power* of an individual or a group over another by measuring the degree to which the former can change what the latter might otherwise prefer to do, that is, can make a difference in the opportunities or strategies that the latter opts for. Because power is positional, what matters is not only our absolute level of power but the *imbalance* of power. There is domination when someone can exercise *arbitrary* power over others, uncontrolled by public rules or procedures (Lovett 2010, 78–84, 111, 120). The ‘powers and prerogatives of positions of authority’ could be understood as an all-purpose good. They are the

¹² In this article, income and wealth are understood in real terms which means their value is in real purchasing power. Distributing income for people to purchase external goods avoids the problem of agreeing on a method to compare the subjective value of all external goods given reasonable pluralism and differences in preferences. See Rawls (2001, 58–59), Van Parijs (1995, 41–45, 48–54), and Sen (1992, 28–30, 102–116).

social conditions securing the balance of power necessary to protect people from domination, which helps protecting their opportunities.

Now, income and wealth can be useful to get political influence or bargaining power.¹³ One could question whether ‘income and wealth’ and ‘powers and prerogatives’ are *perfect* substitutes. However, the opportunity sets they create do not perfectly *overlap* and having one does not *necessarily* allow getting the other. Indeed, the extent to which income and wealth can be converted into power over others depends on existing social institutions, as these examples illustrate. To begin, while income and wealth can sometimes buy political influence, democratic institutions can be designed to isolate politics from the influence of money by regulating lobbying practices and designing participatory mechanisms to allow people with fewer means to exercise political influence. These arrangements would limit the capacity to convert income and wealth into power over others or create a balance of power. Moreover, while an unconditional basic income could provide workers with more bargaining power in the labor market (Van Parijs 1995, 20–29, 32–38), a higher but conditional income does not always lead to more bargaining power. Firm managers can even pay higher wages to workers precisely to *increase* their power over them. Indeed, by paying workers above their marginal productivity, managers increase the cost of being fired and can use the risk of unemployment as a discipline device to make workers obey and accept difficult working conditions without complaint (Shapiro and Stiglitz 1984, 433). By contrast, unions are an alternative way to build bargaining power that is independent of income. Thus, income and wealth are not necessarily a perfect substitute for political influence or bargaining power.

The *powers and prerogatives* attached to positions of authority and responsibility can be understood differently, as the self-governing capacities required to make autonomous and intelligent use of our resources. This is a different, but equally important, social primary good. Indeed, social positions are also learning opportunities allowing us to develop important capacities required to make intelligent use of our resources. Rawls says that positions of authority and responsibility enable the development of the various “self-governing and social capacities of the self” (Rawls 1993, 308; 2001, 57–59; Arnold 2012, 98). Thus, Samuel Arnold understands this good as the social bases of self-governing capacities:

¹³ Large income and wealth inequalities create power inequalities and domination (Rawls 2001, 137–138). By contrast, some argue that a universal basic income could give all individuals more bargaining power in their economic relationships in the labor market by reducing exit costs (Van Parijs 1995, 20–29, 32–38; Lovett 2010, 196–200).

Offices and positions involving complex work cultivate the internal resources of intelligence and virtuosity [...]. By “intelligence” I mean the ability to reason, to plan, to solve problems, to think abstractly, to comprehend ideas, and to learn. By “virtuosity” I mean skillfulness or cultivated aptitude [...]. Other things equal, a sharp and skillful person enjoys greater prospects of success across a wider range of endeavors than someone who is dull and incompetent. (Arnold 2012, 101, 114)

Note that for Rawls, the most important social primary good is what he calls *the social bases of self-respect*, providing us with a sense of our own value and the motivation and confidence necessary to achieve our goals. For him, the social bases of self-respect are: “Those aspects of basic institutions normally essential if citizens are to have a lively sense of their worth as a person and to be able to advance their ends with self-confidence” (Rawls 2001, 59; see also Rawls 1971, 440–446, 2001, 59; Freeman 2007, 113). Without a minimum of self-respect, nothing seems to have any value and one would abandon their goals. Yet, I set this good aside because, contrary to other goods, one could question whether the social bases of self-respect constitute a separate good. Rawls himself illustrates what such social bases are by referring to other social primary goods such as “the institutional fact that citizens have equal basic rights and the public recognition of the fact that everyone endorses the difference principle” (Rawls 2001, 60), which might be *sufficient* to secure self-respect.

Social primary goods may be *complements* up to some minimum level. A minimum of each social primary good seems necessary if only to secure the fair value of political liberties required by the first principle. For instance, the formal freedom of speech has no value if someone has no income to feed themselves, no protection from domination, or no intellectual capacity to meaningfully exercise free speech.¹⁴ A minimum of each social primary good may also be required to enjoy real opportunities because their functions are complementary at least up to some level. Income and wealth are useful for purchasing power, but without any protection from domination or any self-governing capacities, we may not be able to use our money in any useful way. But they arguably become *imperfect substitutes* after that: more income increases your freedom even if your protection from domination remains minimal. If social primary goods are substitutes, we must evaluate their substitution rates.

¹⁴ Anderson (1999, 317–319) discusses capabilities necessary for functioning as an equal citizen, for example.

I discuss reasons suggesting that Rawls' social primary goods have diminishing marginal returns below. Yet, this claim may only be true for the least well-off who have quantities of goods within a certain range (in figure 3, they find themselves between 'i.' and 'ii.'). First, extremely small amounts (between '0' and 'i.') may be too small to be useful and initial units of these goods may have a flat or increasing marginal return. But in any social regime pretending to be just, the least well-off would have a bundle of goods that is above some minimum threshold. Second, in real societies, resources are scarce and unequally distributed. If a person has a lot of resources (above 'ii.'), chances are that others have much fewer resources and the person with more resources can take advantage of the poverty of others, tilt the political process to their advantage, and get large benefits. This suggests that, above some threshold, the value of additional units may be increasing and not diminishing anymore. But the indexing problem I focus on concerns the bundle of the least well-off. Whatever happens in these specific cases (below 'i.' or above 'ii.'), I only claim that social primary goods have diminishing marginal returns *for the least well-off* (between 'i.' and 'ii.'). In this context, there are reasons suggesting that Rawls' social primary goods do have diminishing marginal returns and, therefore, diminishing marginal substitution rates. Thus, the amount of freedom (M) opened by one social primary good (a) like income, arguably evolves as shown in figure 3.

One reason why the first units of social primary goods, like income, have more value than the last ones and, therefore, why their substitution rates can become very high is the *clustering effect*. Jonathan Wolff and Avner de-Shalit point out that disadvantages tend to cluster because they are interconnected and often reinforce one another (Wolff and de-Shalit 2007, 119-155; Daniels 2008, 61, 79-88). Indeed, low *income* is associated with various interconnected disadvantages, such as analphabetism, mental and physical illness, stress, obesity, child mortality, and teenage pregnancies; poverty also often comes with living in neighborhoods in which there is more violence and homicides, more drugs, higher rates of incarceration, and less social mobility (Wilkinson and Pickett 2010, 18-24). Therefore, when poor people get out of poverty, they tend to gain all at once a lot of new opportunities. By contrast, the same units of income create far fewer opportunities for a richer person because her basic needs

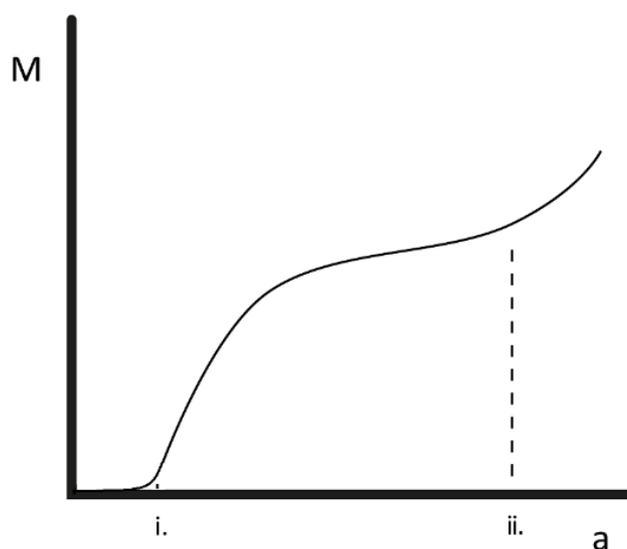


Figure 3: Social primary goods have diminishing marginal returns

are already covered and she has already access to most basic consumer goods. Additional income only gives access to more consumer goods.¹⁵

Lovett (2010, 143) claims that *power* has diminishing marginal returns in terms of opportunities. The clustering effect may again explain why. Indeed, the first units of power providing basic protection from domination can protect from the most gruesome forms of exploitation and violence. By contrast, getting more power when you are already protected against most forms of domination opens fewer additional opportunities.

Arnold (2012, 113-114) finally underlines that improving *self-governing capacities* is more important for disadvantaged people. Take the case of education and training. Basic primary education can provide all-purpose skills such as calculus and writing that are very useful in life and facilitate many opportunities for further education and employment. Basic education also indirectly impacts hygiene, health and life expectancy, the risk to engage in criminal activity, and teenagers' reproductive choices.¹⁶ By contrast, achieving more advanced higher education or qualification mainly creates a few additional employment opportunities and perhaps some opportunities for intellectual satisfaction. Thus, early education has arguably more impact on crucial aspects of life. Of course, further research would be required to fully demonstrate these claims.

¹⁵ Empirical research suggests the diminishing marginal return of income in metrics like happiness or well-being too (Diener et al. 1993, 204; Veenhoven 1989, 15-18; Frey and Stutzer 2002, 90; Inglehart 2000, 219).

¹⁶ Wolff and de-Shalit (2007, 119-155) qualify these kinds of functionings as very “fertile”. See also Pogge (2002, 213-214) and OECD (2012, 162-212).

The clustering effect provides a good reason to believe that social primary goods have diminishing marginal returns. Under the assumptions specified in the previous section, we can conclude that they also have diminishing marginal substitution rates: other things equal, the less of a good there is in the bundle, the higher its substitution rate gets. Moreover, given how important the first units of each good are, the clustering effect suggests that the substitution rates of these goods can become very high, that is, their indifference curves are very convex.

V. SCARCITY CONSTRAINTS AND THE FEASIBILITY OF SUBSTITUTIONS

When trying to maximize the freedom of the least well-off, the first problem consisted in evaluating the substitution rate of social primary goods. Until now, I have analyzed their substitutability as if all acceptable substitutions were possible. Yet, some substitutions could be acceptable *in theory* but not feasible *in practice* because the substitution cost would be too high. Thus, answering the indexing problem requires solving a second problem: evaluating which acceptable substitutions are feasible in practice. In other words, we need to find which combination of social primary goods *can* maximize the freedom of the least well-off *in the real world*. This depends on how abundant or scarce social primary goods are.

The abundance or scarcity of social goods like income (contrary to natural goods like diamonds) depends on the social regime in place. If we consider only the social regimes that can pretend to realize a just society and maximize the freedom of the least well-off, these regimes would arguably be able to provide them with some amount of each social primary good. However, different regimes will provide a different combination of goods to the least well-off. The simplest illustration of this is that the relative economic productivity of different social regimes might affect the income attached to the lowest social positions.

If a regime were able to produce one good, like income, in absolute abundance, public institutions would always be able to afford the cost of substituting all other goods even if they had high substitution rates. However, if all goods are moderately scarce, public institutions have to choose the combination of social primary goods that *can* maximize the freedom of the least well-off within a limited set of *feasible* combinations. Moreover, the higher the substitution rates get, the more difficult it becomes for them to afford substitution costs.

Figure 4 illustrates how scarcity constraints restrict the set of feasible substitutions, that is, the ‘domain of possibilities’. This depends on the

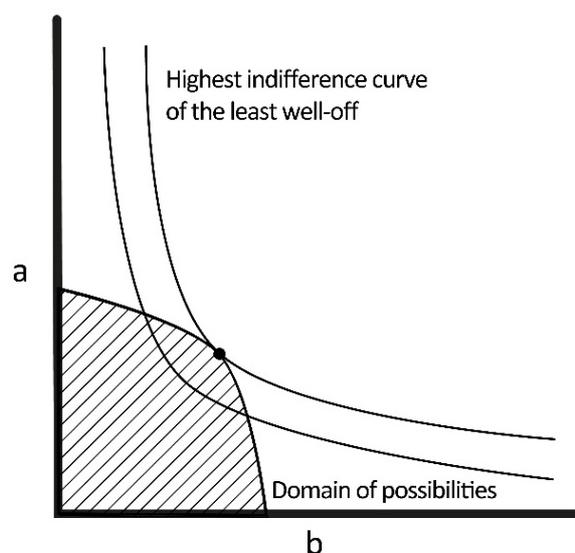


Figure 4: Scarcity constraints restrict the domain of possibilities

relative scarcity of goods, which depends in turn on the capacity of different social regimes to produce these goods. The production possibility curve delineates the domain of possibilities. Any combination of goods a and b that is outside the domain of possibilities is simply impossible, and combinations within are possible but do not maximize the value of the bundle because more a or b could be produced (in figure 4, I represent the production function that delineates the domain of possibilities as concave, instead of flat or convex. I discuss alternatives in figures 6 and 7). Given the range of combinations that would be acceptable in theory (on an indifference curve) and feasible in practice (within the domain of possibilities), the combination of two goods a and b that is feasible *and* maximizes the freedom of the least well-off is represented by the point in the domain of possibilities that intersects with the highest possible indifference curve. From this point, providing more a to compensate for less b , or vice versa, would be acceptable, in theory, if it remains on the indifference curve, but it would not be feasible in practice because it would fall outside the domain of possibilities.

The scarcity of goods partly depends on how independent or dependent they are in production. Two goods are independent in production if making one good more available does not affect the availability of the other. By contrast, two goods are dependent in production if making one good more available requires making another good less available.¹⁷ For

¹⁷ Tomasi (2012, 189) and Arnold (2013, 394) refer to goods dependent in production as “rival”, not in the usual economic sense—that is, a good for which its consumption by

instance, *income and wealth* and *powers and prerogatives* may be goods dependent in production because policies required to improve the income of the least well-off may require reducing social protections preventing domination and vice versa. Market deregulation could foster free exchange and thus improve economic productivity and the income of the least well-off, but it might also increase capital mobility and competition which would reduce the bargaining power of low-skilled workers. On the contrary, implementing a basic income or democratizing workplaces could increase workers' bargaining power and protection from domination, but these policies could negatively affect incentives to work and to invest, potentially reducing the overall productivity of the economy and, perhaps, reducing the income of the least well-off.¹⁸ Thus, these two social primary goods may be dependent in production, at least in some contexts, and this partly explains why they are moderately scarce.¹⁹

One source of disagreement between 'left' and 'right' Rawlsians is how optimistic they are regarding the respective capacity of different social regimes to produce each social primary good. Like other liberals, John Tomasi considers that freedom should be the metric of justice. But Tomasi suggests that the freedom of the least well-off can be secured simply by giving them *income*. He reduces distributive justice to the distribution of income and does not care about other goods:

Free market fairness sees increases in income as holding out the promise of increasing the worth of the freedoms enjoyed by all citizens. [...] Free market fairness interprets the difference principle as requiring that we increase the income of the least well-off. (Tomasi 2012, 190–191)

One way to reach this conclusion is to assume that more income can always compensate for other goods and that a Free Market System (FMS) can produce enough income to afford the cost of substituting all other social primary goods.

By contrast, Samuel Freeman explains that in a regime such as a Property-Owning Democracy (POD)—in which *income and wealth* are more dispersed but in which workers also have more of what Freeman calls

one prevents its consumption by others—but in the sense that producing more of one good requires producing less of the other. Here, I use 'dependent in production'.

¹⁸ On basic income, see Van Parijs (1995). On workplace democracy, see Dow (2003) and Malleson (2014) for instance.

¹⁹ Tomasi (2012, 189–191) and Arnold (2013, 394) disagree about how scarce or how dependent in production /rival social primary goods are.

economic powers, that is, more powers and prerogatives of authority—the value of the bundle of the least well-off is higher than in a welfare state capitalist regime (and *a fortiori* in Tomasi's FMS) which only distributes income. For Freeman, the reason is that, despite potentially having a lower income, workers in POD have a larger share of other social primary goods:

In a “property-owning democracy”, workers’ share of economic powers and the bases of self-respect are greater than they are in a capitalist welfare state, since they have partial control over their working conditions and the management of production. In this regard, the index of primary goods of the least advantaged can exceed that of the least advantaged in the capitalist welfare state, even though the latter have greater income and wealth. (Freeman 2007, 113; see also Arnold 2013, 394; O’Neill 2008, 51)

One way to justify Freeman’s claim (without giving a priority to economic powers as he does in his later work, such as Freeman 2013, 31–32) is to demonstrate that welfare state capitalism or FMS are not productive enough to produce the amount of income required to afford the substitution cost of all other social primary goods.

VI. DISCUSSION: TOWARDS A SOLUTION TO RAWLS’ INDEXING PROBLEM

I have proposed a general framework to think clearly about the indexing problem within a liberal egalitarian, resourcist metric of distributive justice. If our goal is to identify which combination of social primary goods *can* maximize the freedom of the least well-off *in the real world*, evaluating their substitution rates is not sufficient. We also need broad empirical knowledge about the respective capacity of different social regimes to produce social primary goods and to distribute them to the least well-off. This task is beyond the scope of this article but to open the discussion and illustrate a potential upshot of this framework, I now consider a path towards solving Rawls’ indexing problem. This suggests that maximizing the freedom of the least well-off is likely to require giving them access to a social position with a *balanced combination of all social primary goods*.

Compare the two theoretical regimes discussed above and their respective capacity to distribute income (*a*) and power (*b*) to the least well-off. In a POD, we assume that the workers occupying lower social positions have a balanced bundle with a good income and a substantial share of economic powers, through more bargaining power in their workplace which protects them from domination (Rawls 2001, 135–140; Freeman

2007, 219–235; 2013). By contrast, in Tomasi’s FMS, we assume that workers have an unbalanced bundle, with more income because the economy is more productive, but less economic powers because they have very little bargaining power in their workplace (Tomasi 2012, 190–191).

Each regime gives the least well-off access to a bundle of social primary goods that falls at the same time within the domain of possibilities and on an indifference curve of the least well-off. Between these two regimes, the one that maximizes the freedom of the least well-off is the one whose bundle falls on the highest indifference curve. Under this framework, to demonstrate that a regime such as a POD is superior to FMS, one would have to demonstrate that the combination of goods under POD falls on a higher indifference curve than it does under FMS.

Figure 5 illustrates the kind of demonstration required to conclude that POD is superior to FMS. We compare the two regimes by tracing the indifference curve running through the combination of income (*a*) and power (*b*) that they procure to the least well-off. If it can be demonstrated that the balanced bundle of goods under POD falls on a higher indifference curve than the unbalanced one under FMS, then POD is the regime best able to maximize the freedom of the least well-off. In this case, moving from POD to FMS and getting more income in exchange for less power would be bad for the least well-off. But this illustration relies on several assumptions. First, regarding indifference curves, if social primary goods have diminishing marginal returns and if their substitution rates can become very high, then indifference curves are very convex to the origin. Second, regarding the relative capacity of available social regimes to provide income and power to the least well-off, we assume that while FMS is more productive than POD, only some of the productivity gains benefit the least well-off. We also assume that producing more of one good at the expense of the other has an increasing opportunity cost, explaining the concave shape of the production possibility curve.

If these assumptions are verified, a higher indifference curve is reached more easily by providing a *balanced* bundle of goods, like in POD, than an unbalanced bundle with more income but less power, like in FMS. Indeed, even if we assumed that a social regime like FMS were more effective at producing income, it may not be productive enough to afford the high cost of a substantial substitution of power—taking as a reference the balanced bundle of goods of the least well-off under a POD. To illustrate, in figure 5, if our starting point is the bundle provided by FMS, reaching

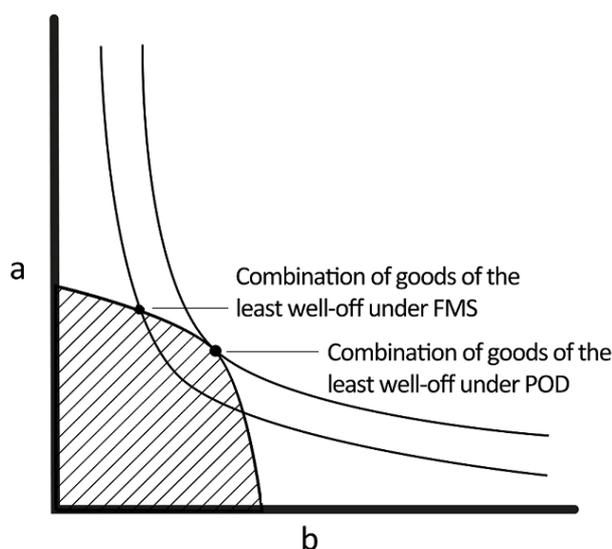


Figure 5: Comparing social regimes

the next indifference curve (as depicted) requires a large amount of additional income but only a small amount of additional power.

Defenders of FMS could question these assumptions regarding the production possibility curve. They could argue that, while POD gives the least well-off access to a balanced bundle of income and power, FMS is so productive that it can improve workers' income sufficiently to offset lower economic powers. This is represented in figures 6 and 7. For simplicity, suppose that the production possibility curves are flat with a constant opportunity cost. In figure 6, FMS is *slightly* more productive than POD and the least well-off are better under POD, while in figure 7, FMS is *significantly* more productive and can substantially increase the income of the least well-off, thus reaching a higher indifference curve.

Comparing social regimes requires testing these assumptions about the shape and slope of the production possibility curve, defining the domain of possibilities. To begin, we should not assume too quickly that POD is less economically productive than FMS. Moreover, what matters in a Rawlsian framework is not the total productivity allowed by each social regime, that is, the 'size of the pie'. What matters is the amount of income that each regime can give *to the least well-off*. This means that even if POD is less productive overall, it could nonetheless outperform FMS at maximizing the income *of the least well-off*. For POD to provide less income to the least well-off, it would have to be seriously less productive than FMS.

Yet, for the sake of argument, suppose that FMS does provide more income to the least well-off, although at the cost of reducing their economic powers. As shown in figure 6, if FMS is not sufficiently productive

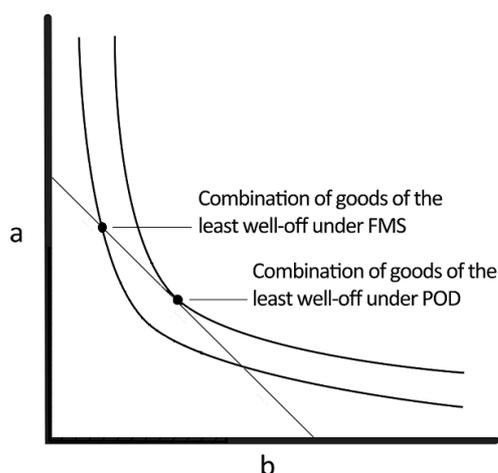


Figure 6: *Slightly* more productive

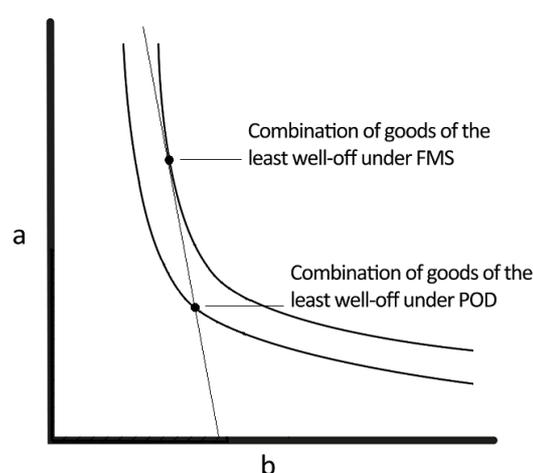


Figure 7: *Significantly* more productive

to provide enough additional income to compensate workers for the loss of economic powers, POD would again remain better at maximizing the overall value of the bundle. As shown in figure 7, FMS would have to be exceptionally more productive than POD to be able to increase the income of the least well-off sufficiently to provide them with a combination of goods on a higher indifference curve than POD.

Determining whether this is true is an empirical issue beyond the scope of this article. But some literature suggests that a system like POD—despite involving more interventionist policies aiming at a significant redistribution of income and wealth and the improvement of workers’ share of economic powers by promoting unionization or workplace democracy—could be a viable social regime, productive enough to maximize the value of the bundle of the least well-off (O’Neill 2008; 2012, 75–100; 2020; Arnold 2013, 389–398; Freeman 2007, 219–235; 2013). This argument points towards a potential solution to Rawls’ indexing problem: if these assumptions are correct, maximizing the freedom of the least well-off is likely to require giving them access to a social position with a *balanced combination of all social primary good*.

VII. CONCLUSION

The contribution of this article is first and foremost to propose a framework to think about the indexing problem within a Rawlsian, resourcist metric of distributive justice. After introducing the main features of such a metric, I noted that solving the indexing problem requires addressing two related problems. The first consists in evaluating, *in theory*, under which conditions it is acceptable to substitute social primary goods, that

is, in evaluating their substitution rates. I argued that social primary goods have diminishing marginal returns and, therefore, diminishing marginal substitution rates: other things equal, the less of a good there is in the bundle, the higher its substitution rate gets. The second problem consists in evaluating which acceptable substitutions are feasible *in practice*. I argued that, because of scarcity constraints, some substitutions may be acceptable in theory but not feasible in practice, and the higher substitution rates get, the more difficult it is to afford substitutions.

While the article mainly aims at presenting this framework, I concluded by discussing a path towards solving Rawls' indexing problem, which avoids giving any priority to some goods over others. Further empirical exploration is needed for a full demonstration, but I argued that plausible assumptions about social regimes and the feasibility of substitutions suggest that maximizing the freedom of the least well-off is likely to require giving them access to a social position with a *balanced combination of all social primary goods*.

If verified, this could open interesting lines of argument. One of them is a distributive response against arguments proposing to reduce distributive justice to improving the income of the least well-off, while avoiding the need to give any priority to some goods over others. Tomasi justifies a kind of Free Market System partly on the capacity of this regime to improve the income of the least well-off, but other social regimes may give the least well-off access to a more balanced bundle of all social primary goods. Tomasi might assume that income can compensate for all other social primary goods and that a Free Market System can produce enough income to afford the cost of substituting all other goods. But our discussion suggests that substitution costs might quickly become unaffordable. As a result, a social regime in which lower social positions are attached to a balanced bundle of social primary goods would be more likely to maximize the lifelong prospects of the least well-off. This could provide a distributive reason to prefer a regime like Property-Owning Democracy. Indeed, even if this regime proved to be relatively less productive, which could negatively affect the income of the least well-off, the overall value of their bundle could still remain higher if they have access to more powers and prerogatives of authority or self-governing capacities.

REFERENCES

- Anderson, Elizabeth. 1999. "What Is the Point of Equality?" *Ethics* 109 (2): 287–337.
- Arneson, Richard, J. 1989. "Opportunities for Welfare." *Philosophical Studies* 56 (1): 77–93.
- Arneson, Richard, J. 1990. "Primary Goods Reconsidered." *Noûs* 24 (3): 429–454.
- Arnold, Samuel. 2012. "The Difference Principle at Work." *Journal of Political Philosophy* 20 (1): 94–118.
- Arnold, Samuel. 2013. "Right-Wing Rawlsianism: A Critique." *Journal of Political Philosophy* 21 (4): 382–404.
- Clayton, Matthew, and Andrew Williams. 1999. "Egalitarian Justice and Interpersonal Comparison." *European Journal of Political Research* 35 (4): 445–464.
- Daniels, Norman. 2008. *Just Health: Meeting Health Needs Fairly*. Cambridge: Cambridge University Press.
- Diener, Ed, Ed Sandvik, Larry Seidlitz, and Marissa Diener. 1993. "The Relationship Between Income and Subjective Well-being: Relative or Absolute?" *Social Indicators Research* 28 (3): 195–223.
- Dow, Gregory. 2003. *Governing the Firm: Workers' Control in Theory and Practice*. Cambridge: Cambridge University Press.
- Elster, Jon. 1982. "Sour Grapes—Utilitarianism and the Genesis of Wants." In *Utilitarianism and Beyond*, edited by Amartya Sen and Bernard Williams, 219–238. Cambridge: Cambridge University Press.
- Fleurbaey, Marc. 2007. "Social Choice and the Indexing Dilemma." *Social Choice and Welfare* 29 (4): 633–648.
- Fleurbaey, Marc. 2008. *Fairness, Responsibility, and Welfare*. Oxford: Oxford University Press.
- Freeman, Samuel. 2007. *Rawls*. New York, NY: Routledge.
- Freeman, Samuel. 2013. "Property-Owning Democracy and the Difference Principle." *Analyse & Kritik* 35 (1): 9–36.
- Frey, Bruno S., and Alois Stutzer. 2002. *Happiness and Economics: How the Economy and Institutions Affect Well-being*. Princeton, NJ: Princeton University Press.
- Inglehart, Ronald. 2000. "Globalization and Postmodern Values." *The Washington Quarterly* 23 (1): 215–228.
- Lovett, Frank. 2010. *A General Theory of Domination and Justice*. Oxford: Oxford University Press.
- MacCallum, Gerald C., Jr. 1967. "Negative and Positive Freedom." *The Philosophical Review* 76 (3): 312–334.
- Malleson, Tom. 2014. *After Occupy: Economic Democracy for the 21st Century*. Oxford: Oxford University Press.
- OECD (Organization for Economic Cooperation and Development). 2012. *Education at a Glance 2012: OECD Indicators*. Paris: OECD Publishing.
- O'Neill, Martin. 2008. "Three Rawlsian Routes Towards Economic Democracy." *Revue de Philosophie Économique* 8 (2): 29–55.
- O'Neill, Martin. 2012. "Free (and Fair) Markets without Capitalism: Political Values, Principles of Justice, and Property-Owning Democracy." In *Property-Owning Democracy: Rawls and Beyond*, edited by Martin O'Neill and Thad Williamson, 75–100. Oxford: Wiley-Blackwell.

- O'Neill, Martin. 2020. "Social Justice and Economic Systems: On Rawls, Democratic Socialism, and Alternatives to Capitalism." *Philosophical Topics* 48 (2): 159–202.
- Pogge, Thomas. 2002. "Can the Capability Approach be Justified?" *Philosophical Topics* 30 (2): 167–228.
- Rawls, John. 1971. *A Theory of Justice*. Cambridge, MA: Harvard University Press.
- Rawls, John. 1993. *Political Liberalism*. New York, NY: Columbia University Press.
- Rawls, John. 2001. *Justice as Fairness*. Cambridge, MA: Harvard University Press.
- Sen, Amartya. 1992. *Inequality Reexamined*. Cambridge, MA: Harvard University Press.
- Sen, Amartya. 1999. *Commodities and Capabilities*. Oxford: Oxford University Press.
- Shapiro, Carl, and Joseph E. Stiglitz. 1984. "Equilibrium Unemployment as a Worker Discipline Device." *American Economic Review* 74 (3): 433–444.
- Tomasi, John. 2012. *Free Market Fairness*. Princeton, NJ: Princeton University Press.
- Van Parijs, Philippe. 1991. *Qu'est-ce qu'une société juste? Introduction à la pratique de la philosophie politique*. Paris: Le Seuil.
- Van Parijs, Philippe. 1995. *Real Freedom for All*. Oxford: Oxford University Press.
- Van Parijs, Philippe. 2003. "Difference Principles." In *The Cambridge Companion to Rawls*, edited by Samuel Freeman, 200–240. Cambridge: Cambridge University Press.
- Varian, Hal R. 2014. *Intermediate Microeconomics: A Modern Approach*. 9th Edition. New York, NY: W. W. Norton & Company.
- Veenhoven, Ruut. 1989. "National Wealth and Individual Happiness." In *Understanding Economic Behavior*, edited by Klaus G. Grunert and Folke Ölander, 9–32. Dordrecht: Springer.
- Voorhoeve, Alex. 2006. "Preference Change and Interpersonal Comparisons of Welfare." In *Preferences and Well-Being*, edited by Serena Olsaretti, 265–279. Cambridge: Cambridge University Press.
- Wilkinson, Richard, and Kate Pickett. 2010. *The Spirit Level: Why Equality is Better for Everyone*. London: Penguin Books.
- Wolff, Jonathan, and Avner de-Shalit. 2007. *Disadvantage*. Oxford: Oxford University Press.

Thomas Ferretti is a Fellow in philosophy at the London School of Economics in the United Kingdom. His research is interdisciplinary and focuses on three main areas: theories of distributive justice, fairness within economic organizations, and the ethics of artificial intelligence. Contact e-mail: <t.ferretti@lse.ac.uk>