

ARTICLE

# Must Prioritarians be Antiegalitarian?

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## Abstract

It has been argued that Prioritarianism violates *Risky Non-Antiegalitarianism*, a condition stating roughly that an alternative is socially better than another if it both makes everyone better off in expectation and leads to more equality. I show that Risky Non-Antiegalitarianism is in fact compatible with Prioritarianism as ordinarily defined, but that it violates some other conditions that may be attractive to prioritarians. While I argue that the latter conditions are not core principles of Prioritarianism, the choice between these conditions and Risky Non-Antiegalitarianism nonetheless constitutes an important intramural debate for prioritarians.

**Keywords:** Prioritarianism; egalitarianism; Ex-Ante Pareto; expected equally distributed equivalent; well-being

Suppose that you could increase the well-being of any one individual by a fixed amount. According to Utilitarianism, the socially optimal allocation is the one that maximizes the sum of individual well-being, so it does not matter which individual you choose to benefit. According to Prioritarianism, the socially optimal allocation is instead the one that maximizes the sum of *priority-weighted* individual well-being. On this view, benefiting individuals matters more the worse off they are – a verdict that is often considered normatively appealing.

Despite the *prima facie* appeal of prioritarian orderings of (risk-free) well-being allocations, Prioritarianism leads to serious difficulties when tasked with ranking risky lotteries (i.e. probability distributions) over well-being allocations. A well-known result, which traces back to Harsanyi's (1955) Aggregation Theorem, is that if the social ordering over lotteries satisfies the axioms of Expected Utility Theory (EUT), then Prioritarianism violates the following condition:<sup>1</sup>

<sup>1</sup>Harsanyi's (1955) original theorem relies on *Ex-Ante* Pareto Indifference rather than Weak *Ex-Ante* Pareto. Weymark (1993) explores a version of Harsanyi's theorem using Weak *Ex-Ante* Pareto. Rabinowicz (2002) introduces an example that illustrates that versions of Prioritarianism that satisfy EUT (or even the weaker requirement of Statewise Dominance) must violate Weak *Ex-Ante* Pareto.

**Weak *Ex-Ante* Pareto.** For any two lotteries  $p$  and  $p'$ , if each individual has a higher expectation of well-being under  $p$  than under  $p'$ , then  $p$  is socially better than  $p'$ .

Under the plausible assumption that a lottery is better for an individual if the individual has a higher expectation of well-being under that lottery,<sup>2</sup> Weak *Ex-Ante* Pareto simply states that what is better for everyone is also socially better. The fact that versions of Prioritarianism that satisfy EUT violate Weak *Ex-Ante* Pareto is therefore widely viewed as a strong argument against such versions of Prioritarianism (Greaves 2015; Broome 2017; Gustafsson 2021). However, many prioritaricians are willing to bite this bullet and reject Weak *Ex-Ante* Pareto (Rabinowicz 2002; Fleurbaey 2010; Adler and Holtug 2019).

The violation of Weak *Ex-Ante* Pareto is however not the only challenge that Prioritarianism faces in situations with risk. Ord (2015) presents a counterexample that he argues raises an even worse problem for Prioritarianism. Expressed in general terms, Ord's counterexample aims to illustrate a tension between Prioritarianism (when combined with EUT) and the following condition, which is weaker and arguably even more compelling than Weak *Ex-Ante* Pareto:<sup>3</sup>

**Risky Non-Antiegalitarianism.** For any two lotteries  $p$  and  $p'$ , if

- (i) each individual has a higher expectation of well-being under  $p$  than under  $p'$ ,
- (ii)  $p$  is guaranteed to result in a perfectly equal well-being allocation whereas  $p'$  is guaranteed to result in an unequal well-being allocation, and
- (iii) each individual has the same expected well-being under  $p$  whereas some individuals' expected well-being levels differ under  $p'$ ,

then  $p$  is socially better than  $p'$ .

As Ord (2015: 228) puts it, 'prioritarianism sometimes recommends acts that will make things more unequal while simultaneously lowering the total well-being and making things worse for everyone *ex ante*'. Ord takes this to be 'a serious counterexample for prioritarianism' (2015: 228).

In this paper, I show that Prioritarianism, as ordinarily defined, is in fact compatible with both EUT and Risky Non-Antiegalitarianism. However, I also show that prioritaricians cannot jointly satisfy Risky Non-Antiegalitarianism and some additional conditions that McCarthy (2017) considers to be core principles of Prioritarianism. I suggest that these additional conditions should not be regarded as core principles of Prioritarianism, but that the choice between these principles and Risky Non-Antiegalitarianism should nonetheless be regarded as an important intramural debate for prioritaricians.

<sup>2</sup>This assumption, sometimes called *Bernoulli's hypothesis*, is endorsed by many prioritaricians (Rabinowicz 2002; Fleurbaey 2010; Adler and Holtug 2019). It is defended at length by Broome (2017) and Greaves (2017).

<sup>3</sup>'Risky Non-Antiegalitarianism' is my term, but the idea is the same as in Ord (2015). The term was chosen to highlight the similarity with the non-antiegalitarianism principle sometimes invoked in population ethics (Ng 1989; Huemer 2008).

## 1. Defining Prioritarianism

Let  $N$  be the set of the  $n$  individuals of concern and let  $U \subseteq \mathcal{R}^n$  be the set of all possible allocations of well-being to these individuals.<sup>4</sup> For any individual  $i \in N$  and any allocation  $u = (u_1, \dots, u_n) \in U$ , the well-being of  $i$  in  $u$ , denoted  $u_i$ , is assumed to be fully cardinal and interpersonally comparable. Moreover, let  $\Delta U$  be the set of simple lotteries over  $U$  (i.e. the set of all probability distributions  $p$  over  $U$  for which the support,  $\text{supp}(p)$ , is finite). Let  $\succeq$  be the social ordering on  $\Delta U$ , so that  $p \succeq p'$  denotes that ' $p$  is socially at least as good as  $p'$ '. Similarly, in line with the standard abuse of notation,  $u \succeq u'$  denotes that 'the degenerate lottery yielding  $u$  with certainty is socially at least as good as the degenerate lottery yielding  $u'$  with certainty'. Finally, let  $\succ$  and  $\sim$  be the (strict) social betterness and social indifference relations (i.e. the asymmetric and symmetric parts of  $\succeq$ ).

Given the notation above, the standard definition of Prioritarianism can be formally stated as follows:

**Definition 1. (Prioritarianism)** *A social ordering  $\succeq$  is prioritarian if, for any  $u, u' \in U$ ,  $u \succeq u'$  if and only if  $V_p(u) \geq V_p(u')$ , where*

$$V_p(u) = \sum_{i \in N} f(u_i),$$

for some strictly increasing and strictly concave priority-weighting function  $f$ .

Under Definition 1, the class of prioritarian social orderings can be shown to be equivalent to the class of welfarist (i.e. satisfying Strong Pareto and Anonymity) and continuous social orderings that satisfy the following two principles:<sup>5</sup>

**Pigou-Dalton.** *A transfer of a given amount of well-being from an individual to another individual who is worse off (even after transfer) yields a socially better allocation.*

**Separability.** *The comparative goodness of two well-being allocations is invariant to the well-being levels of unaffected individuals.*

Pigou-Dalton reflects the idea that Prioritarianism (unlike Utilitarianism) is sensitive to the distribution of well-being, whereas Separability reflects the idea that Prioritarianism (unlike Egalitarianism) evaluates each individual's well-being independently of other individuals' well-being.

Three clarifications are in order. First, for the purpose of this paper, I take Prioritarianism to be a view about the ethics of distribution in *fixed-population settings*. Difficult issues arise when Prioritarianism is applied in population ethics (Brown 2007; Nebel 2021; Francis 2022). Since these issues fall outside the scope of this paper, I assume throughout that  $n$  is fixed. Second, Prioritarianism is not a single social ordering, but a family of such orderings: one for each strictly increasing and strictly concave function  $f$ . For simplicity, I sometimes illustrate my arguments

<sup>4</sup>I assume that  $U$  is sufficiently rich to allow for the type of examples and proofs that are included in this paper.

<sup>5</sup>See Adler (2011) and Adler and Holtug (2019) for extensive discussions of these principles.

**Table 1.** Ord’s case

	Heads		Tails		Expected well-being	
	Person <i>i</i>	Person <i>j</i>	Person <i>i</i>	Person <i>j</i>	Person <i>i</i>	Person <i>j</i>
<i>p</i>	4	4	100	100	52	52
<i>p'</i>	36	49	36	49	36	49

in the main text using the example  $f(\cdot) = \sqrt{\cdot}$ , so that Prioritarianism implies that  $u \geq u'$  if and only if  $\sum_{i \in N} \sqrt{u_i} \geq \sum_{i \in N} \sqrt{u'_i}$ .<sup>6</sup> My arguments can however be generalized to any other strictly increasing and strictly concave priority-weighting function (as I show in the Appendix). Third, I treat Prioritarianism as an axiological view (that is, a view about what is socially good) rather than a deontic view (that is, a view about what is right). Thus, nothing in this paper hinges on whether consequentialism is correct.

## 2. The Challenge from Risky Non-Antiegalitarianism

Why believe that Prioritarianism violates Risky Non-Antiegalitarianism? Ord cleverly illustrates the idea by presenting a case where *Heads* and *Tails* are two equiprobable states of nature, *p* and *p'* are two lotteries, and *i* and *j* are two individuals whose well-being levels in each state of nature under each lottery are given as in Table 1 (Ord 2015: 301):

Since *p* makes everyone better off in expectation and is perfectly equal both *ex post* and *ex ante*, Risky Non-Antiegalitarianism clearly implies that *p* is socially better than *p'* in Ord’s case. Why would Prioritarianism make the opposite recommendation? Ord (2015) admits that the argument does not apply to the view known as *Ex-Ante* Prioritarianism, but focuses on a view known as *Ex-Post* Prioritarianism, which ‘coheres best with standard approaches to decision theory’ (2015: 299).<sup>7</sup> The phrase ‘standard approaches to decision theory’ here refers to EUT, which in this context means that the social ordering can be represented by the expected value of some social utility function over well-being allocations. If the social ordering satisfies EUT and the social utility function is given by  $V_p(u) = \sum_{i \in N} f(u_i)$  for all  $u \in U$ ,<sup>8</sup> then a view known as *Ex-Post Prioritarianism* follows:

<sup>6</sup>Ord (2015) takes the same approach. Note that  $\sqrt{\cdot}$  is undefined for negative values, so  $U$  must be restricted to (a subset of)  $\mathcal{R}_{>0}^n$  in these examples.

<sup>7</sup>*Ex-Ante* Prioritarianism states that  $p \pm p'$  if and only if  $V_{EAP}(p) \geq V_{EAP}(p')$ , where:

$$V_{EAP}(p) = \sum_{i \in N} f \left( \sum_{u \in \text{supp}(p)} p(u) u_i \right).$$

In state-contingent decision-theoretic frameworks, this view does not only violate EUT, but also the much weaker principle of Statewise Dominance (Adler and Holtug 2019). Moreover, it violates a sequential version of Weak *Ex-Ante* Pareto (Gustafsson 2021).

<sup>8</sup>This is the assumption that I later in the paper argue that prioritarians can relax.

**Definition 2. (Ex-Post Prioritarianism)** A social ordering  $\succeq$  is ex-post prioritarian if, for any  $p, p' \in \Delta U$ ,  $p \succeq p'$  if and only if  $V_{EPP}(p) \geq V_{EPP}(p')$ , where

$$V_{EPP}(p) = \sum_{u \in \text{supp}(p)} p(u) \left( \sum_{i \in N} f(u_i) \right)$$

for some strictly increasing and strictly concave priority-weighting function  $f$ .

That Ex-Post Prioritarianism violates Risky Non-Antiegalitarianism can be illustrated using the aforementioned simplifying assumption that the priority-weighting function is the square root. Under this assumption, Ex-Post Prioritarianism clearly implies that  $p$  is socially worse than  $p'$  in Ord's case.<sup>9</sup> This is because:

$$\underbrace{\frac{1}{2} \left[ \sqrt{4} + \sqrt{4} \right] + \frac{1}{2} \left[ \sqrt{100} + \sqrt{100} \right]}_{V_{EPP}(p)} < \underbrace{\frac{1}{2} \left[ \sqrt{36} + \sqrt{49} \right] + \frac{1}{2} \left[ \sqrt{36} + \sqrt{49} \right]}_{V_{EPP}(p')}.$$

Conceptually, Ex-Post Prioritarianism violates Risky Non-Antiegalitarianism because the concavity of the priority-weighting function does not only result in sensitivity to the distribution of well-being among people, but also in risk aversion. In other words, Ex-Post Prioritarianism does not only give more priority to those that are worst off in a given outcome: it also gives more priority to those that are in the worst outcomes (cf. Ord 2015: 301). Ord's case is constructed such that  $p'$  is risk-free whereas  $p$  is sufficiently risky that the risk aversion of Ex-Post Prioritarianism renders  $p'$  to be socially better than  $p$ .

### 3. A Prioritarian Escape Route

Risky Non-Antiegalitarianism is logically weaker than Weak Ex-Ante Pareto. Is violating Risky Non-Antiegalitarianism also more concerning than violating Weak Ex-Ante Pareto for someone with prioritarian sympathies? A negative answer to this question is given by Adler and Holtug (2019: 138), who argue that 'it is not clear why prioritarians (who place no intrinsic moral weight on inequality) should be more bothered by Ord's demonstration [that Ex-Post Prioritarianism violates Risky Non-Antiegalitarianism] than by violations of ex ante Strong Pareto alone'.

It is worth distinguishing between at least two interpretations of Adler and Holtug's reply. On the first interpretation, it invokes a principle saying something like, 'if a theory places no intrinsic moral weight on feature  $F$ , then advocates of the theory need not be bothered by counterexamples that rely on  $F$ '. Such a principle rules out too many counterexamples. For example, a critique against Utilitarianism is that it favours the perfectly unequal well-being distribution  $(2 + \epsilon, 0)$  over the perfectly equal well-being distribution  $(1, 1)$ . It would be unsatisfactory for the utilitarian to respond to this

<sup>9</sup>For any strictly concave priority-weighting function, it is possible to construct a version of Ord's case such that Ex-Post Prioritarianism violates Risky Non-Antiegalitarianism (Ord 2015: 301).

critique by simply pointing out that ‘it is not clear why utilitarians (who place no intrinsic weight on the distribution of well-being) should be bothered by this’.<sup>10</sup>

On the other interpretation of Adler and Holtug’s reply, their complaint is rather that Risky Non-Antiegalitarianism somehow begs the question against Prioritarianism. However, this reply cannot be right. Adler and Holtug defines Prioritarianism in accordance with Definition 1 and argues for it on the basis of Strong Pareto, Anonymity, Separability, Continuity and Pigou-Dalton. I show below that Risky Non-Antiegalitarianism is compatible with Prioritarianism in this sense and therefore also with each of these axioms. Thus, Risky Non-Antiegalitarianism clearly does not beg the question against Prioritarianism under Definition 1.

Moreover, it seems reasonable to assume that many prioritarrians would be more bothered by violating Risky Non-Antiegalitarianism than by violating Weak *Ex-Ante* Pareto. As Ord writes:

Many people who are now prioritarrians preferred more equal distributions of well-being before becoming familiar with the non-relational argument for doing so, and saw prioritarianism as a way of explaining that moral preference while avoiding giving any support to equality through levelling down. (Ord 2015: 300)

At least for prioritarrians that fit Ord’s description, it does seem like violating Risky Non-Antiegalitarianism would be more concerning than violating Weak *Ex-Ante* Pareto. Fortunately for such prioritarrians, I argue that there is a way for prioritarrians inclined towards EUT to satisfy Risky Non-Antiegalitarianism.

The key observation underlying the argument is that *Ex-Post* Prioritarianism is not the only ordering of lotteries that both satisfies EUT and ranks degenerate lotteries (i.e. lotteries yielding one given well-being allocation with certainty) according to the prioritarian outcome-ranking formula  $V_P(\cdot) = \sum_{i \in N} f(\cdot)$ . This observation is often overlooked in the literature.<sup>11</sup> I suspect that this oversight is caused by a failure to recognize that EUT only implies that the social ordering of lotteries can be represented by the expectation of *some* social utility function, and that the social utility function only needs to be a strictly increasing transformation of  $V_P(\cdot)$  in order for the social ordering to cohere with the prioritarian outcome-ranking.<sup>12</sup>

A social ordering is thus both prioritarian and satisfies EUT if and only if there exists some strictly increasing function  $g$  such that the ordering can be represented by the expectation of  $g(V_P(\cdot))$ . *Ex-Post* Prioritarianism corresponds to the special case where  $g$  is set as the identity function (i.e.  $g = 1$ ). Another special case, known

<sup>10</sup>Utilitarians have instead provided *arguments* for why the distribution of well-being does not matter, e.g. that if each individual thought that they were equally likely to be any one of the two they would be better off in expectation under  $(2 + \varepsilon, 0)$  than under  $(1, 1)$  (cf. Harsanyi 1953).

<sup>11</sup>McCarthy (2017: 233–234) cites several examples of passages from papers that seem to falsely presuppose that *Ex-Post* Prioritarianism follows from EUT and Prioritarianism. Moreover, even in papers that do not explicitly make this mistake the discussion is often confined to *Ex-Post* and *Ex-Ante* Prioritarianism without any mention of EEDE Prioritarianism, a view I define below.

<sup>12</sup>A reviewer pointed out to me that this mistake is reminiscent of the frequent conflation between EUT for individual betterness and what Broome (2017) calls Bernoulli’s hypothesis of the good.

as *Expected Equally Distributed Equivalent (EEDE) Prioritarianism*, is obtained when  $g$  is set as the inverse of the priority-weighting function  $f$  (i.e.  $g = f^{-1}$ ):<sup>13</sup>

**Definition 3. (EEDE Prioritarianism).** A social ordering  $\succeq$  is EEDE prioritarian if, for any  $p, p' \in \Delta U$ ,  $p \succeq p'$  if and only if  $V_{EPP}(p) \geq V_{EPP}(p')$ , where

$$V_{EPP}(p) = \sum_{u \in \text{supp}(p)} p(u) f^{-1} \left( \frac{1}{n} \sum_{i \in N} f(u_i) \right)$$

for some strictly increasing and strictly concave priority-weighting function  $f$  (with  $f^{-1}$  being its inverse function).<sup>14</sup>

EEDE Prioritarianism ranks degenerate lotteries in the same way as *Ex-Post* Prioritarianism, but has substantially different implications for the ranking of non-degenerate lotteries. For the purpose of this paper, the important point is that EEDE Prioritarianism avoids Ord’s counterexample (cf. Fleurbaey 2010):<sup>15</sup>

**Proposition 1.** *EEDE Prioritarianism satisfies Risky Non-Antiegalitarianism.*

The formal proof of Proposition 1 is laid out in the Appendix. Here I instead illustrate the key intuition for the proposition using Ord’s case and our previous assumption that  $f(\cdot) = \sqrt{\cdot}$  (so that  $f^{-1}(\cdot) = (\cdot)^2$ ). In line with Risky Non-Antiegalitarianism, EEDE Prioritarianism implies that  $p$  is socially *better* than  $p'$  in Ord’s case. This is because:

$$\underbrace{\frac{1}{2} \left[ \frac{\sqrt{4} + \sqrt{4}}{2} \right]^2 + \frac{1}{2} \left[ \frac{\sqrt{100} + \sqrt{100}}{2} \right]^2}_{V_{EEDE}(p)} > \underbrace{\frac{1}{2} \left[ \frac{\sqrt{36} + \sqrt{49}}{2} \right]^2 + \frac{1}{2} \left[ \frac{\sqrt{36} + \sqrt{49}}{2} \right]^2}_{V_{EEDE}(p')}$$

This example illustrates that EEDE Prioritarianism does not violate Risky Non-Antiegalitarianism in Ord’s case when  $f(\cdot) = \sqrt{\cdot}$ . However, as Proposition 1 states (and as I prove in the Appendix), EEDE Prioritarianism satisfies Risky Non-Antiegalitarianism more generally. Conceptually, the reason for this is that applying the inverse of the priority-weighting function to the mean of priority-weighted well-being preserves the sensitivity to the distribution of well-being associated with *Ex-Post* Prioritarianism without retaining its risk aversion. In Ord’s case, this means that EEDE Prioritarianism is neutral about the risk associated with  $p$ , but still averse to the inequality in  $p'$ . In line with Risky Non-Antiegalitarianism, EEDE Prioritarianism therefore makes the plausible verdict that  $p$  is socially better than  $p'$ .

<sup>13</sup>The inverse function  $f^{-1}$  of a function  $f$  is defined such that  $f^{-1}(f(w)) = w$  for all  $w$  in the domain of  $f$ . The quadratic function  $(\cdot)^2$  is for instance the inverse function of  $\sqrt{\cdot}$  because  $(\sqrt{a})^2 = a$  for all  $a \geq 0$ .

<sup>14</sup>EEDE Prioritarianism is discussed in e.g. Fleurbaey (2010), Adler (2011), McCarthy (2015) and Adler and Holtug (2019).

<sup>15</sup>See Fleurbaey (2010) for a related result implying that a general class of moral theories, including EEDE Prioritarianism, satisfies a similar principle that Fleurbaey calls ‘Weak Pareto for Equal Risk’ (see also McCarthy’s (2017) ‘Reduction to Prospects’ axiom). Apart from the principles being somewhat different and the more narrow scope of Proposition 1, and Fleurbaey’s result also differ in that I do not use a state-contingent formulation of EUT.

To summarize, EEDE Prioritarianism satisfies both EUT and Risky Non-Antiegalitarianism. Insofar as EEDE Prioritarianism counts as a form of Prioritarianism (more on this below), this shows that Risky Non-Antiegalitarianism is not convincing by itself as an objection against Prioritarianism, but should rather be viewed as a reason for prioritarists with an inclination towards EUT to adopt EEDE Prioritarianism instead of *Ex-Post* Prioritarianism.

#### 4. Sharpening the Challenge to Prioritarianism

The argument of this paper has so far been that, because EEDE Prioritarianism satisfies both EUT and Risky Non-Antiegalitarianism, prioritarists can hold on to both of these principles. This crucially relies on the taxonomic assumption that EEDE Prioritarianism counts as a form of Prioritarianism. Rejecting this assumption requires that one gives up Definition 1.

The appropriateness of adopting any given definition of Prioritarianism depends on the context in which it is invoked. In the context of this paper, there are two strong *prima facie* reasons for adopting Definition 1. First, Definition 1 is the definition that is employed in the aforementioned papers by Ord (2015) and by Adler and Holtug (2019). Second, Definition 1 is the most widely adopted explicit definition of Prioritarianism in the literature more broadly. In light of this, the choice of Definition 1 can hardly be viewed as particularly contentious or question-begging.

It is nonetheless worth commenting on the main alternative definition of Prioritarianism, which has been developed by McCarthy (2017).<sup>16</sup> In order to do this, I first need to state two normative principles introduced by McCarthy (2017). The first of these is the Priority Principle:<sup>17</sup>

**Priority Principle.** *Let  $U^e = \{(u_1, \dots, u_n) \in \mathcal{R}^n \mid (\forall i, j \in N : u_i = u_j)\}$  be the subset of well-being allocations with perfect equality. For any  $u, u', u'' \in U^e$ ,*

- (i)  $u \succ u'$  iff  $u_i > u'_i$  for all  $i \in N$ , and
- (ii) if  $u_i > u'_i > u''_i$  and  $u'_i = \frac{1}{2}u_i + \frac{1}{2}u''_i$  for all  $i \in N$ , then  $u' \succ [\frac{1}{2}, u; \frac{1}{2}, u'']$ .

Part (i) of the Priority Principle simply amounts to the claim that the social betterness relation between any two well-being allocations with perfect equality must always align with the individual betterness relations between these allocations. Part (ii) of the Priority Principle amounts to the much more controversial claim that the social betterness relation between any two *lotteries* over well-being allocations with perfect equality must sometimes *deviate* from the individual betterness relations between these lotteries. In particular, part (ii) implies that the social ordering is generally more risk averse than the individual ordering.

The second principle that must be introduced before McCarthy's (2017) definition of Prioritarianism can be stated is the following:

<sup>16</sup>See McCarthy (2013), Broome (2015), Fleurbaey (2015) and Hausman (2015) for further discussion about how to define 'Prioritarianism'.

<sup>17</sup>It should be noted that McCarthy's (2017) statement of the Priority Principle is somewhat more general than the statement provided here.



**Anteriority.** For any lotteries  $p, p' \in \Delta U$ , if, for every  $i \in N$ , the probability that  $i$  obtains any given welfare level is the same under  $p$  as under  $p'$ , then  $p \sim p'$ .

Anteriority states that if each individual faces the same probability of obtaining any given welfare level under one lottery as under another, then these two lotteries are equally socially valuable. This could be viewed as reflecting the prioritarian-sounding idea that the social ordering should evaluate lotteries solely on the basis of each individual's prospect of well-being taken separately (cf. Broome 2015).

Having introduced the Priority Principle and Anteriority, it is now possible to present McCarthy's (2017) alternative definition of Prioritarianism:

**Definition 1\*** (McCarthy's definition of Prioritarianism) *An anonymous social ordering  $\succeq$  that conforms to EUT is prioritarian if it satisfies the Priority Principle and Anteriority.*<sup>18</sup>

EEDE Prioritarianism does not count as a version of Prioritarianism under Definition 1\*. In fact, EEDE Prioritarianism violates both the Priority Principle and Anteriority (as is implied by Proposition 2 and 3 below). More broadly, the Priority Principle and Anteriority can be used to sharpen the challenge that Risky Non-Antiegalitarianism poses to Prioritarianism. This is most straightforward in the case of the Priority Principle, as the following proposition shows (proof in Appendix):

**Proposition 2.** *Let  $\succeq$  be any social ordering that satisfies Continuity. If  $\succeq$  satisfies the Priority Principle, then  $\succeq$  must violate Risky Non-Antiegalitarianism.*

Continuity requires that if a well-being allocation  $u$  is socially better than a well-being allocation  $u'$ , then any well-being profile that is sufficiently close (in the Euclidean sense) to  $u$  must also be socially better than  $u'$ , and any well-being allocation that is sufficiently close to  $u'$  must be socially worse than  $u$ . Proposition 2 states that, under Continuity, the Priority Principle rules out Risky Non-Antiegalitarianism. Avoiding this conclusion by rejecting Continuity would amount to admitting that the strength of the prioritarian concern formalized by the Priority Principle only matters infinitesimally.<sup>19</sup> Thus, in practise, Proposition 2 implies that social orderings that are prioritarian under Definition 1\* must violate Risky Non-Antiegalitarianism.

A similar result can be stated in terms of Anteriority, though it requires somewhat stronger assumptions than Continuity (proof in Appendix):

**Proposition 3.** *Let  $\succeq$  be any social ordering that satisfies EUT (or just Stochastic Equivalence<sup>20</sup>), Continuity, and is prioritarian as defined by Definition 1. If  $\succeq$  satisfies Anteriority, then  $\succeq$  must violate Risky Non-Antiegalitarianism.*

<sup>18</sup>McCarthy (2017) defines as prioritarian any social ordering that satisfies the Priority Principle, Anteriority and a condition called 'Two-Stage Anonymity'. Since Two-Stage Anonymity is implied by Anonymity and EUT, Definition 1\* trivially follows from McCarthy's definition.

<sup>19</sup>McCarthy (2015) makes an analogous point about egalitarians that reject Continuity.

<sup>20</sup>Stochastic Equivalence states that the social value of two lotteries is the same if the probability of obtaining any given social utility level is the same for both lotteries. This condition is significantly weaker than EUT.

Proposition 3 thus shows that, under assumptions that prioritarians tend to accept, Anteriority rules out Risky Non-Antiegalitarianism.

The upshot of the discussion so far concerning the Priority Principle and Anteriority is threefold. First, EEDE does not count as a version of Prioritarianism under Definition 1\*. Second, Definition 1\* implies that prioritarians must violate Risky Non-Antiegalitarianism (given Continuity). Third, even under Definition 1, prioritarians that accept EUT (or just Stochastic Equivalence) must choose between rejecting the Priority Principle and Anteriority, or rejecting Risky Non-Antiegalitarianism.

In the next section, I provide some reasons against the view that the Priority Principle and Anteriority should be considered core principles of Prioritarianism.

### 5. Assessing the Priority Principle and Anteriority

How should we determine whether a condition is a core principle of Prioritarianism? McCarthy points out that ‘it was [Derek] Parfit who introduced the term “the priority view” (as well as its synonym “prioritarianism”), so any definition of it has to largely defer to what he said about it’ (2017: 219). In discussing whether the Priority Principle and Anteriority are indeed core principles of Prioritarianism, I will at least partly adopt this methodology. I start by discussing the Priority Principle and turn to Anteriority thereafter. Readers with no interest in the semantic debate regarding the definition of Prioritarianism may skip this section as it is mainly focused on taxonomy.

The Priority Principle plays a similar role for Definition 1\* as Pigou-Dalton does for the standard definition of Prioritarianism: it is meant to distinguish Prioritarianism from Utilitarianism. However, while Pigou-Dalton is directly about the distribution of well-being across people, the Priority Principle is instead about the distribution of well-being across outcomes under risk. Given that Parfit’s (1991) seminal paper that introduced Prioritarianism is focused entirely on the distribution of well-being across people and does not even mention risk, there is a *prima facie* case for thinking that Pigou-Dalton is a better candidate for a core principle of Prioritarianism compared with the Priority Principle.

McCarthy’s (2017) argument for not regarding Pigou-Dalton as a core principle of Prioritarianism is that it is not ‘transparently plausible’ because prioritarians have not provided a ‘convincing backstory about why there is a sufficiently determinate welfare measure, and an explanation of why intuition about the distribution of welfare units is reliable’ (2017: 222). However, this strikes me as an argument against *accepting* Pigou-Dalton, but not necessarily as an argument against viewing Pigou-Dalton as a core principle of Prioritarianism. As Adler and Holtug (2019: 112) point out, ‘[t]he substantive plausibility of Pigou–Dalton should not be conflated with the prior, taxonomic, question about what distinguishes utilitarianism from prioritarianism’.

The Priority Principle also raises conceptual issues of its own. In particular, as McCarthy (2017) himself has pointed out, the deviation between social and individual orderings implied by the Priority Principle raises difficult questions about how these orderings should be interpreted. It is therefore not clear that the Priority Principle is more ‘transparently plausible’ than Pigou-Dalton.

Table 2. Myerson's case

	Heads		Tails	
	Person <i>i</i>	Person <i>j</i>	Person <i>i</i>	Person <i>j</i>
<i>q</i>	0	0	1	1
<i>q'</i>	0	1	1	0

Let us now turn to Anteriority. Anteriority plays a similar role in Definition 1\* as Separability plays in the standard definition of Prioritarianism: it is meant to distinguish Prioritarianism from Egalitarianism. In particular, McCarthy (2017) takes Anteriority to be implied by Parfit's remark that '[a]ccording to the priority view, and in contrast with egalitarianism, it does not matter how well off people are relative to one another' (Parfit 1991: 22–23). To illustrate this point, McCarthy (2017) invokes the case described in Table 2, which was first introduced by Myerson (1981).<sup>21</sup>

In Myerson's case, each of the two individuals have a 50% probability of obtaining a well-being level of 0 and a 50% probability of obtaining a well-being level of 1 – and this holds true under both *q* and under *q'*. However, *q* is guaranteed to result in a perfectly equal outcome whereas *q'* is guaranteed to result in an unequal outcome. McCarthy (2017) therefore argues that an egalitarian should prefer *q* over *q'*, whereas a prioritarian should be indifferent between *q* and *q'*. Anteriority is meant to capture this prioritarian judgement.

McCarthy's argument for regarding Anteriority as a core principle of Prioritarianism has some force. However, as in the discussion of the Priority Principle above, the fact that risk does not feature prominently in Parfit's (1991) seminal paper (nor in a lot of other literature on Prioritarianism) weighs against viewing Anteriority as a core principle of Prioritarianism. Moreover, *q* and *q'* do not only differ in terms of inequality; they also differ in the sense that *q* (but not *q'*) implies that there is a chance that no individual ends up in the bad outcome. As Fleurbaey (2015) has pointed out, 'this difference may matter even without introducing the kind of comparisons between individuals that prioritarians want to avoid'. Thus, even if one accepts that prioritarians should not be concerned with inequality, it is not clear that prioritarians must be indifferent between *q* and *q'*.<sup>22</sup>

The assessment above suggests that there is a case for not regarding the Priority Principle and Anteriority as core principles of Prioritarianism.<sup>23</sup> Insofar as this

<sup>21</sup>The case has also been discussed by e.g. Rabinowicz (2002: 14), Fleurbaey (2010: 664) and Broome (2015: 223).

<sup>22</sup>Another possible argument for regarding Anteriority as the core principle of Prioritarianism is the following: since prioritarians evaluate each individual's well-being independently of other individuals' well-being, they should also evaluate each individual's risky prospect of well-being independently of other individuals' prospects (cf. Adler and Holtug 2019: 111). However, such inferences from principles about the social evaluation of outcomes to principles about the social evaluation of lotteries cannot be consistently endorsed by prioritarians as that would also require them to adopt Weak *Ex-Ante* Pareto, which as noted in the Introduction rules out Prioritarianism.

<sup>23</sup>This is fully compatible with finding McCarthy's (2017) taxonomy useful. The ethics of distribution has much to learn from considering risk, and McCarthy's (2017) taxonomy provides a useful way of partitioning views that one could have on the matter.

assessment is correct, prioritarians need not violate Risky Non-Antiegalitarianism. Instead, as I have shown, they can adopt EEDE Prioritarianism.

It is worth noting, however, that inasmuch as one *does* take the Priority Principle and Anteriority to be part of the definition of Prioritarianism (as Definition 1\* purports), this may offer a better justification for biting the bullet with regards to violating Risky Non-Antiegalitarianism. In section 3, I criticized Adler and Holtug's (2019) bullet-biting reply to Ord (2015), partly because it does not show that Risky Non-Antiegalitarianism begs the question against the core principles that Adler and Holtug's (2019) take to define Prioritarianism (i.e. Pigou-Dalton, Separability, etc.). However, this critique relies on the fact that Adler and Holtug (2019) explicitly endorse and defend Definition 1. In contrast, as Proposition 2 and 3 show, there is a very close link between accepting Prioritarianism under Definition 1\* and rejecting Risky Non-Antiegalitarianism. Given this, a bullet-biting reply to the challenge from Risky Non-Antiegalitarianism seems more plausible under Definition 1\* than under Definition 1.

## 6. Conclusion

Given the standard definition of Prioritarianism (Definition 1), I have shown that insofar as prioritarians are compelled to satisfy Risky Non-Antiegalitarianism, they can do so without violating EUT. In particular, they can do this by adopting EEDE Prioritarianism. This suggests that Risky Non-Antiegalitarianism is not convincing by itself as an objection against Prioritarianism and that it should rather be viewed as a reason for prioritarians with an inclination towards EUT to adopt EEDE Prioritarianism instead of *Ex-Post* Prioritarianism.

I have also shown that versions of Prioritarianism that satisfy Risky Non-Antiegalitarianism must violate the Priority Principle and Anteriority. Although I have suggested that these principles should not be regarded as core principles of Prioritarianism, prioritarians may still find these principles appealing. The choice between adopting Risky Non-Antiegalitarianism on the one hand, and adopting the Priority Principles and Anteriority on the other, is therefore an important topic for intramural debate among prioritarians.

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## Appendix

### Proof of Proposition 1

Let  $p$  and  $p'$  be any lotteries for which Risky Non-Antiegalitarianism recommends  $p$  over  $p'$ . It follows that each individual must have a higher expectation of well-being in  $p$  than in  $p'$ , or mathematically:

$$\sum_{u \in \text{supp}(p)} p(u)u_i > \sum_{u \in \text{supp}(p')} p'(u)u_i \quad \forall i \in N.$$

Summing over all individuals and dividing by  $n$  yields:

$$\sum_{u \in \text{supp}(p)} p(u) \frac{1}{n} \sum_{i \in N} u_i > \sum_{u \in \text{supp}(p')} p'(u) \frac{1}{n} \sum_{i \in N} u_i.$$

Since Risky Non-Antiegalitarianism recommends  $p$  over  $p'$ , it must be the case that  $p$  is guaranteed to result in a perfectly equal outcome. The inequality above therefore implies that

$$\sum_{u \in \text{supp}(p)} p(u)u_j > \sum_{u \in \text{supp}(p')} p'(u) \frac{1}{n} \sum_{i \in N} u_i \quad \forall j \in N. \quad (1)$$

Now, we aim to show that EEDE must also recommend  $p$  over  $p'$ . Suppose to the contrary that it were the case that EEDE weakly favoured  $p'$  over  $p$ . This would imply that

$$\sum_{u \in \text{supp}(p')} p'(u) f^{-1} \left( \frac{1}{n} \sum_{i \in N} f(u_i) \right) \geq \sum_{u \in \text{supp}(p)} p(u) f^{-1} \left( \frac{1}{n} \sum_{i \in N} f(u_i) \right)$$

As before, the fact that Risky Non-Antiegalitarianism recommends  $p$  over  $p'$  implies that  $p$  is guaranteed to result in a perfectly equal outcome, so the weak inequality above implies that

$$\sum_{u \in \text{supp}(p')} p'(u) f^{-1} \left( \frac{1}{n} \sum_{i \in N} f(u_i) \right) \geq \sum_{u \in \text{supp}(p)} p(u) u_j \quad \forall j \in N. \tag{2}$$

Equations (1) and (2) jointly imply that

$$\sum_{u \in \text{supp}(p')} p'(u) f^{-1} \left( \frac{1}{n} \sum_{i \in N} f(u_i) \right) > \sum_{u \in \text{supp}(p')} p'(u) \frac{1}{n} \sum_{i \in N} u_i. \tag{3}$$

However, (3) is false. To see why, note that for any strictly concave function  $f$ , it follows from Jensen’s inequality that

$$\frac{1}{n} \sum_{i \in N} f(u_i) < f \left( \frac{1}{n} \sum_{i \in N} u_i \right) \quad \forall u \in U.$$

Applying  $f^{-1}$  to both sides and taking the sum over each well-being allocation weighted by its probability under lottery  $p'$  yields:

$$\sum_{u \in \text{supp}(p')} p'(u) f^{-1} \left( \frac{1}{n} \sum_{i \in N} f(u_i) \right) < \sum_{u \in \text{supp}(p')} p'(u) \frac{1}{n} \sum_{i \in N} u_i. \tag{4}$$

Equation (4) implies that (3) must be false. Since (3) follows from (1) and (2), and since (1) is a direct consequence of Risky Non-Antiegalitarianism, it must be the case that (2), i.e. the supposition that EEDE violates Risky Non-Antiegalitarianism, is false. Thus, it must be the case that EEDE satisfies Risky Non-Antiegalitarianism. Q.E.D.

**Proof of Proposition 2**

Suppose that  $\geq$  satisfies Continuity and the Priority Principle. For simplicity, consider a case with only two individuals:  $n = 2$ . Let  $u, u', u'' \in U^e$  be such that  $u_i > u'_i > u''_i$  and  $u' = \frac{1}{2}u + \frac{1}{2}u''$ . It follows from the Priority Principle that  $u' > [\frac{1}{2}, u; \frac{1}{2}, u'']$ . By Continuity, there must exist some  $\varepsilon > 0$  and some  $\delta > 0$  with  $\varepsilon \neq \delta$  such that  $w = [u'_1 - \varepsilon, u'_2 - \delta] \in U$  is close enough to  $u'$  to ensure that  $w > [\frac{1}{2}, u; \frac{1}{2}, u'']$ . In contrast, Risky Non-Antiegalitarianism implies that  $[\frac{1}{2}, u; \frac{1}{2}, u''] > w$ . This line of reasoning generalizes to any finite  $n \geq 2$ . Thus, it must be the case that any  $\geq$  that satisfies Continuity and the Priority Principle must violate Risky Non-Antiegalitarianism. Q.E.D.

**Proof of Proposition 3**

Suppose that  $\succeq$  is prioritarian in the sense of Definition 1, and that it satisfies Stochastic Equivalence and Anteriority. For simplicity, consider a case with only two individuals:  $n = 2$ . Consider the following lotteries in  $\Delta U$ :

$$p = \left[ \frac{1}{2}, (0, 0); \frac{1}{2}, (2, 2) \right]$$

$$p' = \left[ \frac{1}{2}, (0, 2); \frac{1}{2}, (2, 0) \right]$$

$$p'' = \left[ \frac{1}{2}, (0, 2); \frac{1}{2}, (0, 2) \right] = [(0, 2)]$$

$$u = [(1, 1)]$$

$$u' = [(1 - \varepsilon, 1 - \delta)].$$

Anteriority implies that  $p \sim p'$ . Prioritarianism under Definition 1 and Stochastic Equivalence jointly imply that  $p' \sim p''$ . Prioritarianism under Definition 1 implies that  $u \succ p''$ . Therefore, by Continuity, it is also the case that  $u' \succ p''$  given that  $\varepsilon > 0$  and  $\delta > 0$  are sufficiently small. It follows that  $u' \succ p$ . In contrast, if we let  $\varepsilon \neq \delta$ , Risky Non-Antiegalitarianism implies that  $p \succ u'$ . This line of reasoning generalizes to any finite  $n \geq 2$ . Thus, it must be the case that any  $\succeq$  that satisfies Prioritarianism (in the sense of Definition 1), Stochastic Equivalence, Anteriority and Continuity must violate Risky Non-Antiegalitarianism. Q.E.D.

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