

## **An ancient paradox applied to the difference principle (with the help of cryptocurrencies)**

*Author:* Terence Rajivan Edward

*Abstract.* John Rawls's difference principle says that we should change our economic system if doing so is better for the worst-off group, on the condition that certain basic rights are secured. This paper presents a kind of case that challenges the principle. If we modify the principle to cope with the challenge, we open the way to a Sorites paradox.

According to John Rawls's difference principle, if we have a choice between economic systems A and B and the worst-off group under A would be better off than the worst-off group under B, then we should prefer to implement A over B, as long as certain basic rights are secured (1999, p. 68). Such a system is more just, says Rawls. Here we can understand "just" as another word for fair.<sup>1</sup> Rawls thinks that the value of being in a more just society should not be compromised for realizing any other value (1999, p. 304). But this leads to a worry.

Let us suppose that being better off under a given economic system is a matter of having more wealth. This is a simplification of Rawls's thinking, but harmless here.<sup>2</sup> Let us also suppose the following. We live in a society with one particular economic system and there is an alternative available to us. This alternative system would leave the worst-off group with more wealth, but the increase would be miniscule. In this case, it seems acceptable to prefer the current system or be indifferent between the two. And yet Rawls's difference principle tells us that we should prefer the alternative system and that if we do not prefer it, we are unjust.

Rawls discusses a kind of case involving the option of tiny improvements and tells us that

---

<sup>1</sup> For an analysis of the relationship between these terms in Rawls, see Steiner, 2018, p. 378.

<sup>2</sup> Rawls tells us that the difference principle concerns income and wealth, not just wealth (1999, p. 53). Max Seeger understands the difference principle to not just be concerned with material goods but also with self-respect (2011).

it is unrealistic (1999, p. 136; see also Copp, 1974, pp. 234-236; Mackenzie, 1977, p. 383). I do not think he can say this for the kind of case I have described. The difference principle applies to any government economic decision,<sup>3</sup> and not just to grand questions such as whether to have a capitalist or communist economic system. Many such decisions can themselves be described as decisions between two systems: two sets of economic rules. Here then is a hypothetical example which may soon be relevant: the government of the UK introduces its own cryptocurrency, called the cryptopound. At the time when it is introduced, a single cryptopound is worth the same as one ordinary pound, but unlike the ordinary pound it can be divided extremely finely. The government gives some cryptopound to the worst-off group when introducing the currency and plans to do so again each year. A certain alternative system which relies on a different cryptocurrency, one with slightly faster transaction speeds, would be slightly better for the economy as a whole, but the gain for the worst-off group would be miniscule. For example, the gain when the next payment occurs is equivalent to 0.00000001 cryptopound.

One thing that Rawlsians might say is that there needs to be a significant gap between the wealth levels of the worst-off groups under the current economic system and the alternative, or else it is not the case that we should prefer the alternative. It is acceptable to prefer the current system or be indifferent between the two. If they say this, I take them to be modifying the difference principle. Now it is only the case that one should prefer economic system A over B if certain basic rights are secured and if the worst-off group would be significantly better off under A. However, this modification gives rise to a paradox (Luce, 1956, p. 179). More precisely, it gives rise to a paradox if we grant the following transitivity claim: if it is acceptable to be

---

<sup>3</sup> It seems more faithful to Rawls's text to say, "any government decision which concerns the basic structure of society" (see Rawls, 1999, p. 3), but I cannot see that this qualification makes a difference below. The wording of Rawls's tiny improvements material (1999, p. 136), with changing currencies and unlabelled gain-loss tables, makes me worry that I have missed something!

indifferent between economic systems A and B, and it is also acceptable to be indifferent between economic systems B and C, then it is acceptable to be indifferent between A and C.

Let us consider nine economic systems and label them 1 to 9. Let us suppose that there is a significant gap between the worst-off positions under 1 and 9 (even if we are unsure where exactly the boundary between significant and insignificant lies). The worst-off group under 9 is significantly wealthier. But between 1 and 2 there is no significant gap, nor between 2 and 3, nor between 3 and 4, and so on. The small gaps build up so that there is a significant gap between 1 and 9. Owing to the small gaps, it is acceptable to be indifferent between 1 and 2, and it is acceptable to be indifferent between 2 and 3. By transitivity, it is therefore acceptable to be indifferent between 1 and 3. It is acceptable to be indifferent between 3 and 4. So, given that it is acceptable to be indifferent between 1 and 3, by transitivity it is also acceptable to be indifferent between 1 and 4. By continuing on this path, we can argue that it is acceptable to be indifferent between 1 and 9, which contradicts the modified difference principle.

I find it natural to associate this problem with a family of paradoxes, namely Sorites paradoxes; but perhaps there is some reason to reserve the term “a Sorites paradox” for paradoxes that are about vague terms.<sup>4</sup> In any case, what are the options for defending the difference principle? I shall only present some obvious options below, because the other options that occurred to me do not raise distinct issues.

One option is to give up on the transitivity claim presented above. But Rawls commits himself to this claim when specifying what it is for individuals who are deciding on rules for society to be rational (1999, pp. 123-124).

A second option is to reject the modified difference principle and simply insist on the unmodified difference principle. But the unmodified principle seems too demanding. It requires

---

<sup>4</sup> The paradox I have presented would arise even if “significant” were not vague.

us to change the economic system to improve the wealth level of the worst-off group, even if the consequent improvement is fractional.<sup>5</sup> The government will presumably pay some people to implement a new system. Nevertheless, if a politician were to bizarrely propose, “Let us change to this new system, because of the 0.00000001% gain for the worst off,” it is a petty political morality which entails that we are unjust and immoral not to. For it is reasonable to say, “Shall we wait until a system with a more significant improvement comes along?”

A third option is to deny my starting point: that there could be a society which has one particular economic system when there is an alternative that is better for the worst-off, but this alternative is only fractionally better. After all, it is this starting point which leads to a modification of the difference principle, which leads to a paradox. But at present I cannot see any grounds for pursuing this third option. Given what we know at the moment, the cryptocurrency example I gave earlier is plausible.

It is well-known that the pioneers of cryptocurrency are libertarians who do not think that governments should control money supply. Beyond their specific libertarianism, it seems that there is a “metaphysical incompatibility” between Rawlsian liberalism and cryptocurrencies in general. The very nature of this phenomenon gives rise to possibilities that the Rawlsian system has no suitable way of dealing with.

---

<sup>5</sup> Perhaps someone will try to defend the unmodified difference principle by saying, “If the improvement in what the worst-off group gets is very small, then we will not be able to tell beforehand that the alternative system would be an improvement. We know that we should implement the system which is better for the worst-off group, but we do not know which system this is.” But why think that the principle itself is true if the improvement is tiny? In any case, perhaps we can be reasonably confident that a change would make a slight difference. We can model two economic systems which are very similar, but one relies on a cryptocurrency with a slightly faster transaction speed.

## References

Copp, D. (1974). Justice and the Difference Principle. *Canadian Journal of Philosophy*, 4, 229-240.

Luce, R.D. (1956). Semiorders and a theory of utility discrimination. *Econometrica*, 24, 78-191.

Mackenzie, N. (1977). A note on Rawls' 'decision theoretic' argument for the difference principle. *Theory and Decision*, 8, 381-385.

Rawls, J. (1999). *A Theory of Justice, Revised Edition*. Cambridge, Massachusetts: The Belknap Press.

Seeger, M. (2011). A Critique of the Incentives Argument for Inequalities. *Kriterion – Journal of Philosophy*, 25: 40-52.

Steiner, H. (2018). Exploitation, Intentionality and Injustice. *Economics and Philosophy*, 34, 369-379.