


# Equity in decline: illustrating fairness in a worse-off world

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The past six decades showcase remarkable global advancements in human health and well-being.<sup>1-4</sup> However, gains are unevenly distributed, leaving large disparities within and between countries.<sup>5,6</sup> The Agenda for Sustainable Development's 191-country pledge, 'to leave no one behind', remains unfulfilled.<sup>7</sup> The expectation, however, is that as development progresses, socioeconomic benefits should increasingly reach the poor and marginalised.

Imagine, however, that we are entering a new period of a bleaker and less forgiving world. Life is going to be harder—year on year.<sup>8</sup> Human health and well-being will experience sustained, global decline. Such a retrogression is easy to imagine when looking at the reports on climate change,<sup>9-11</sup> food and water shortages,<sup>12,13</sup> and the fracturing of global accords.<sup>14-16</sup>

What would the current notions of fairness and equity mean within the context of continuously diminishing resources? What would it mean to 'leave no one behind' and fairly distribute harms, when we are all slipping inexorably further behind? In a recent article, we suggested that the understanding of equity that developed in the later half of the 20th century does not translate to a world in decline, and will require a substantial rethinking.<sup>17</sup>

Roughly 10 years ago, Froehle designed a two-panel graphic contrasting equality and equity using the example of three people (tall, medium and short) trying to see over a wall to watch a sports match.<sup>18</sup> Between them, they had three boxes they could stand on to help them see over the wall. Alternative distributions of the boxes illustrated equity and equality. We have extended the graphic in two ways. First, we have added two panels: 'Reality', showing the likely unequal resource distribution, and 'Utility', showing the resource distribution that maximises the benefit. Second, we extend the idea by showing a time series

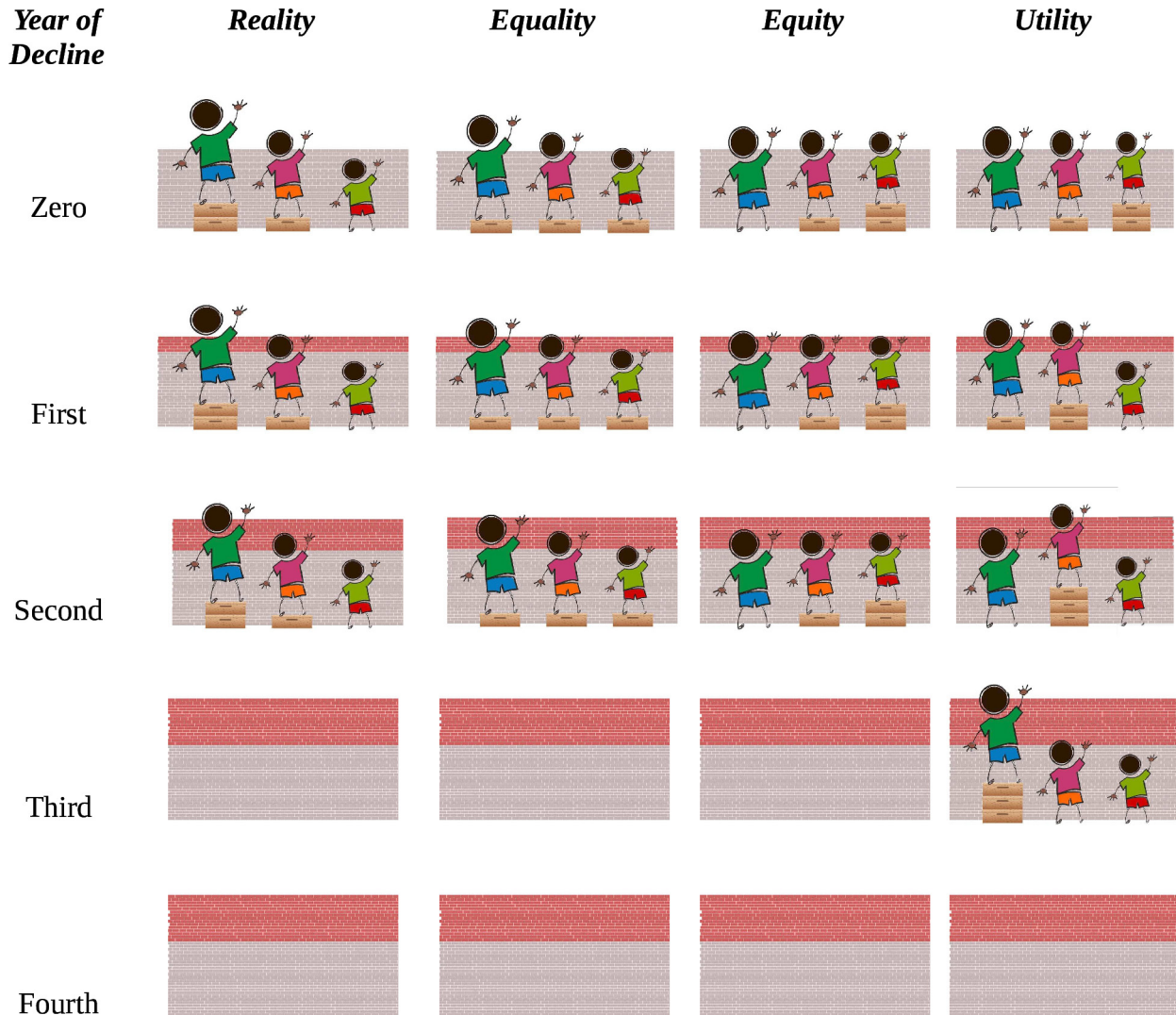
## SUMMARY BOX

- ⇒ Equity in a world of declining resources poses unique challenges and requires rethinking traditional models of fairness and resource distribution.
- ⇒ In the event of sustained decline, there is no clear sequential path of resource distribution to maintain fairness over time, with the exception of 'mutual failure.'
- ⇒ The power dynamics in redistributive choices play a crucial role in managing equity.
- ⇒ We illustrate these points using the ubiquitous image of three boys sharing boxes to see over a wall to watch a sports match, and a hypothetical scenario of food redistribution in a world facing increasing food scarcity.
- ⇒ Addressing equity in a world of sustained decline requires explicit considerations and informed choices about resource management to avoid sacrificing the health and well-being of the most vulnerable populations.

of additional rows. Each row shows the height of the wall increasing year-on-year, simulating a decline in resources. Although the three boxes remain constant, the increasing height of the wall erodes their value.

Froehle's graphic has been used widely to illustrate and understand equity. However, the intuitions one might develop from Froehle's illustration break down rapidly as the wall gets higher. How the resources should be distributed and re-distributed to achieve equity, equality or utility shift. Who is likely relinquishing or receiving resources also shifts. It is neither linear nor straightforward. Indeed, the need to revisit the idea of equity when someone is inevitably left behind only becomes a consideration in a declining world.

Let's move from an illustration of boxes and a sports match and ground the problem in a simplified, global health context. Imagine countries with high, medium and low per capita food production—analogue to Froehle's height differences. Food surpluses are somewhat like the boxes—resources that can



**Figure 1** Declining worlds may become unforgiving for everyone.

be redistributed. In a warming world, global food production will reduce year-on-year from droughts, floods and other extreme events. Food surpluses will begin to disappear. Countries with the most fragile per capita food production will be hit hardest.<sup>19</sup> Tensions around food redistribution will emerge—some countries will try to hold on to surpluses, removing them from the world market.<sup>20 21</sup> Equality would mean a per capita redistribution of surpluses, favouring countries with well-fed populations. Equity would mean a per capita redistribution of global food production across countries, and attention to differences in access within countries. Utility would aim to maximise the number of people receiving adequate nutrition, with no attention to who those people are and what hurdles to access they may face. With continuing declines in food production, it's likely that at some point utility and equity unchecked will result in the same outcome. (With the boxes, this occurred on the first row of [figure 1](#)). Below some critical threshold of food production, an absolute per capita redistribution of food (equity) will no longer maximise the number of people receiving adequate nutrition (utility). In fact, pursuing

equity (as per Froehle's diagram), without attention to the specific challenges of distinct populations, would result in many more people experiencing inadequate nutrition.

Countries that redistribute food may resist doing so again if it causes their general population hardship. Those countries receiving food will argue that an unequal sharing of the nutritional burden caused by climate change is unfair. Why should they suffer the brunt of scarcity? Just as in the extended Froehle metaphor, continuous decline strains our current approaches to equity.

Engaging with the idea of equity in decline reshapes the calculation of fair distributions. It implicitly asks who decides what is redistributed, to whom, and when. At present, redistribution is always decided by the more powerful, those who hold the resources. The less fortunate must wait for the better-off to relinquish something. The power to make these redistributive decisions is, in itself, part of the resources that one might expect to be equitably redistributed in a world in decline.<sup>17</sup>

There is a legitimate worry that in a worsening world, 'realists' might frame issues in a way that at best

overlooks equity and at worst, outright rejects it.<sup>22</sup> Life would become nasty, brutish, and short.<sup>23</sup> It would, to paraphrase the Director General of the WHO, put the world on course for ‘a catastrophic moral failure.’<sup>24</sup> The powerful would prevail, and the health and well-being of the poor, sick, disabled and socially marginalised would be sacrificed.<sup>25</sup> Only by considering what equity might mean in a world of sustained decline can we make informed and explicit decisions about managing it. The toolkit we currently have for thinking about equity is found in such places as the Commission on the Social Determinants of Health report,<sup>26</sup> and numerous books on health equity and inequalities.<sup>27–29</sup> Though published in this century, they employ an equity lens developed in the last century—one that is looking in the wrong direction, back to a time of growth. So embedded are these approaches that, even under threats of climate change, conflict, and growing economic instability we examine equity using the old lens.<sup>30</sup>

Our extension of Froehle’s diagram offers a starting point for considering the philosophical, methodological and practical issues tied to equity in a declining world: how the traditional approach fails, and the impact it will have on health and well-being.

Limitations of the illustration notwithstanding, thinking about equity using this extended metaphor surfaces vital, overlooked considerations regarding fair resource allocation in a world in continuing decline. The example of growing food scarcity brought a reality to the problem. Equity would mean not only an absolute per capita redistribution of global food production across countries, but the need to pay particular attention to those who are most disadvantaged and unlikely to benefit from a set-piece response. In a world in decline, it is not only individual and group differences in capabilities or opportunities that have to be confronted but also the intersectional nature of the challenge. Prevailing notions of equity will have to be re-examined with an eye to increasingly complex and cascading challenges. New frameworks for addressing equity must integrate diverse, tailored approaches with the flexibility to adapt protections and interventions as the environment evolves. The static models of the 20th century will prove inadequate.

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#### REFERENCES

- 1 Pinker S. *Enlightenment Now: The Case for Reason, Science, Humanism, and Progress*. New York, NY: Viking, 2018.
- 2 Reich RB. *The Common Good*. New York: Knopf, 2018.
- 3 Rosling H, Rosling O, Rönnlund AR. *Factfulness: ten reasons we're wrong about the world - and why things are better than you think*. London: Sceptre, 2019.
- 4 Ridley M. Rational optimist. *New Scientist* 2010;206:30.
- 5 Kanbur R. Inequality in a global perspective. *Oxford Review of Economic Policy* 2019;35:431–44.
- 6 Lakner C, Mahler DG, Negre M, et al. How much does reducing inequality matter for global poverty? *J Econ Inequal* 2022;20:559–85.
- 7 United Nations General Assembly. Transforming our world: the 2030 Agenda for Sustainable Development, . 2015 Available: [http://www.un.org/ga/search/view\\_doc.asp?symbol=A/RES/70/1&Lang=E](http://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E) [Accessed 4 Oct 2017].
- 8 Kemp L, Xu C, Depledge J, et al. Climate Endgame: exploring catastrophic climate change scenarios. *Proc Natl Acad Sci U S A* 2022;119:e2108146119.
- 9 Armstrong McKay DI, Staal A, Abrams JF, et al. Exceeding 1.5°C global warming could trigger multiple climate tipping points. *Science* 2022;377:eabn7950.
- 10 Stevenson S, Coats S, Touma D, et al. Twenty-first century hydroclimate: A continually changing baseline, with more frequent extremes. *Proc Natl Acad Sci USA* 2022;119.
- 11 World Meteorological Organization. *WMO Global Annual to Decadal Climate Update*. Geneva: World Meteorological Organization, 2023.
- 12 Brownlie WJ, Sutton MA, Cordell D, et al. Phosphorus price spikes: A wake-up call for phosphorus resilience. *Front Sustain Food Syst* 2023;7.
- 13 Hickel J. The global food crisis is here. *Foreign Policy*; 2019. Available: <https://foreignpolicy.com/2019/08/21/the-global-food-crisis-is-here/> [Accessed 16 Oct 2022].
- 14 Bhatt G. A deeper look at forces Fragmenting our world—and how to respond. *IMF Blog*; 2022. Available: <https://www.imf.org/en/Blogs/Articles/2022/06/02/a-more-fragmented-world> [Accessed 13 Oct 2022].
- 15 Economy E. Xi Jinping’s new world order. *Foreign Affairs* 2022;101:52–67.
- 16 Williams CR, Kestenbaum JG, Meier BM. Populist nationalism threatens health and human rights in the COVID-19 response. *Am J Public Health* 2020;110:1766–8.
- 17 Reidpath DD, Gruskin S, Khosla R, et al. Equity in decline: fair distribution in a worse-off world. *Lancet* 2023;402:943–5.
- 18 Froehle C. The evolution of an accidental meme. *Medium*; 2021. Available: <https://medium.com/@CRA1G/the-evolution-of-an-accidental-meme-ddc4e139e0e4> [Accessed 1 Oct 2022].
- 19 Mbow C, Rosenzweig C, Barioni LG, et al. *Food Security*. In: Shukla PR, Skea J, Calvo Buendia E, et al, eds. *Climate Change and Land: an IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems*. Cambridge: Cambridge University Press, 2019.
- 20 When China worries about food, the world pays. *The Economist*. Available: <https://www.economist.com/china/2022/04/09/when-china-worries-about-food-the-world-pays> [Accessed 20 Sep 2023].
- 21 Glauber J, Mamun A. India’s new ban on rice exports: potential threats to global supply, prices, and food security | IFPRI: International food policy research Institute. *International Food Policy Research Institute Blog*; 2023. Available: <https://www.ifpri.org/blog/indias-new-ban-rice-exports-potential-threats-global-supply-prices-and-food-security> [Accessed 20 Sep 2023].
- 22 Clark S. *Hobbes’s Werewolves: Against a Climate Change Lycanthropy*. *Tocqueville21: Student Contributions*, 2020. Available: <https://tocqueville21.com/student-contributions/hobbes-werewolves-against-a-climate-change-lycanthropy/> [accessed 27 Apr 2023].
- 23 Hobbes T. *Leviathan or the Matter, Forme, & Power of a Commonwealth Ecclesiasticall and Civill*. London: Andrew Crooke, 1651.
- 24 Ghebreyesus TA. WHO Director-General’s opening remarks at 148th session of the Executive Board, . 2021 Available: <https://www.who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-148th-session-of-the-executive-board> [Accessed 23 Sep 2023].
- 25 O’Connell M. Why Silicon valley Billionaires are Prepping for the apocalypse in New Zealand. *The Guardian*; 2018. Available: <https://www.theguardian.com/world/2018/oct/01/silicon-valley-billionaires-prepping-apocalypse-new-zealand>

- www.theguardian.com/news/2018/feb/15/why-silicon-valley-billionaires-are-prepping-for-the-apocalypse-in-new-zealand [Accessed 18 May 2023].
- 26 WHO Commission on Social Determinants of Health, World Health Organization. *Closing the gap in a generation: health equity through action on the social determinants of health: Commission on Social Determinants of Health final report*. Geneva, Switzerland: World Health Organization, Commission on Social Determinants of Health, 2008.
- 27 Asada Y. *Health Inequality: Morality and Measurement*. Toronto: University of Toronto Press, 2007.
- 28 Evans T, Whitehead M, Diderichsen F. Oxford University Press; Challenging inequities in health: From Ethics to Action, . 2001 Available: <https://www.oxfordscholarship.com/view/10.1093/acprof:oso/9780195137408.001.0001/acprof-9780195137408> [Accessed 5 Jan 2020].
- 29 Eyal N, Hurst SA, Norheim OF, et al, eds. *Inequalities in Health: Concepts, Measures, and Ethics*. Oxford, New York: Oxford University Press, 2013.
- 30 World Health Organization. WHO operational framework for monitoring social determinants of health equity (draft for member state consultation). 2023. Available: [https://cdn.who.int/media/docs/default-source/documents/social-determinants-of-health/who\\_operational-framework-for-monitoring-social-determinants-of-health-equity\\_draft-for-member-state-consultation.pdf?sfvrsn=50669597\\_3](https://cdn.who.int/media/docs/default-source/documents/social-determinants-of-health/who_operational-framework-for-monitoring-social-determinants-of-health-equity_draft-for-member-state-consultation.pdf?sfvrsn=50669597_3) [Accessed 4 May 2023].