

Measuring Social Fairness

Version 1.0

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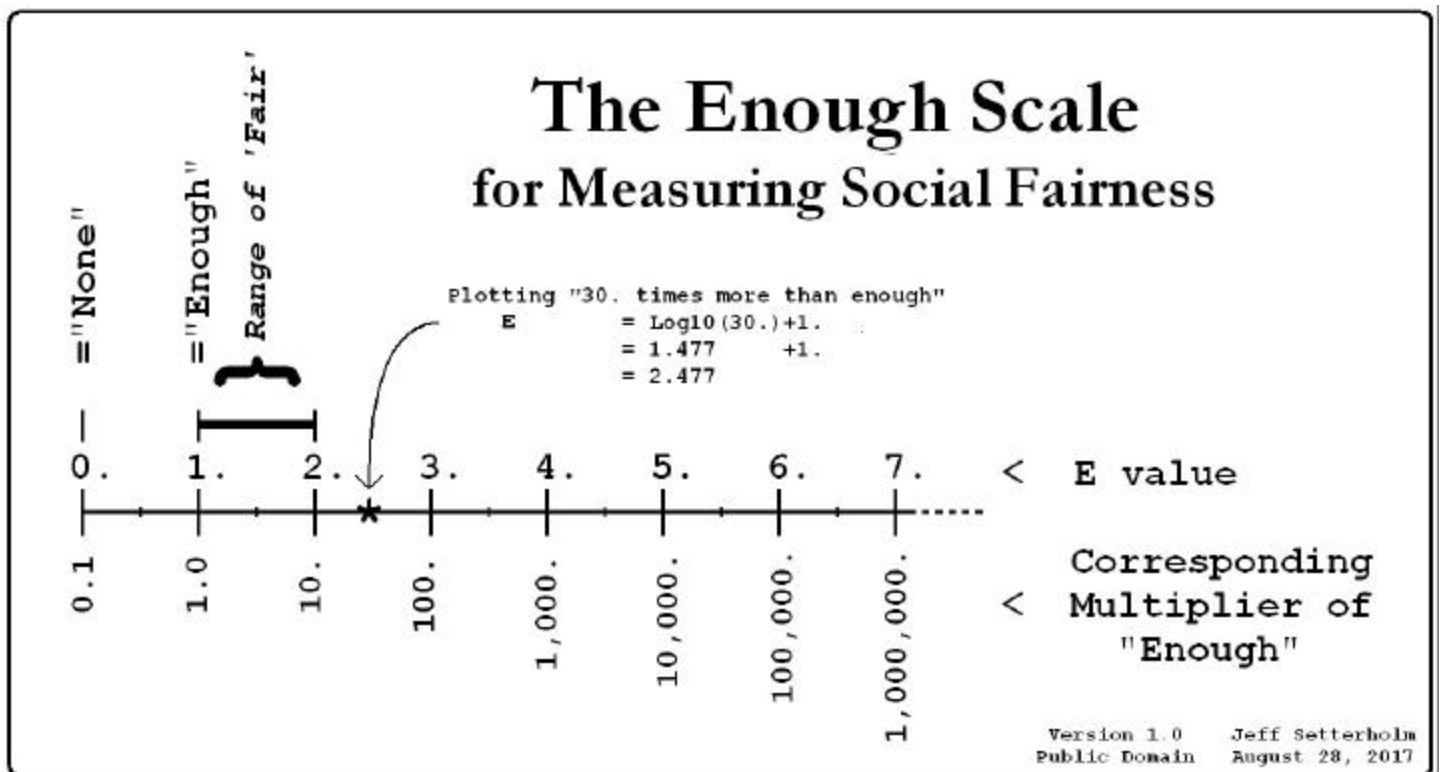
Introduction:

To continue in primitive survival, people need enough food to avoid starving to death. People desire to have more food than that. How much food should be 'enough' for other people? The personalized and generalized version of this enough question is:

"If the most _____ you will be allowed to have is only 'enough', how much is that?"
(fill in the blank)

As an unmeasured idea, enough can be excessively subjective. In the USA's 2017 Congressional healthcare debate: none was proposed as the revised enough for the millions of Americans who would be denied healthcare coverage. The publicly expressed opinions of individual legislators differed sharply about whether or not the proposed healthcare coverage change was fair. Meanwhile, compared to none, the legislators retained infinitely more than enough healthcare for themselves and their families. It's no wonder that the elusiveness of "social justice" yields violent strikes, riots, and revolts from time to time.

A simple continuous numerical scale can measure fairness with respect to enough:



Three mathematical rules and a suggestion create the scale:

1. E values correspond to *multiples of Enough* as defined by:

$$E = \log_{10}(\text{multiple of Enough}) + 1.0$$

$$E < 0. \text{ becomes } E = 0.0$$

2. None is assigned the scale value $E = 0.0$

3. Enough defines the scale value $E = 1.0$

The suggestion:

4. The nominal range of fair lies between $E = 1.0$ and $E = 2.0$

Useful aspects of the scale:

Right off the bat, using this scale raises the key question: “What *is* enough?”

E and the corresponding multiplier are equal at 1.0 : Enough = 1.0 times enough.

$E = 0.0$ is a tenth (= 0.1) as a multiplier. Having a tenth of ‘enough’ is in the neighborhood of ‘none’.

The $\log_{10}(\) + 1$ scale keeps the E numbers small.

$$E = 0.0 = \text{‘none’}$$

$$= +1.0 = \text{‘enough’}$$

$$= +2.0 = \text{“ten times more than enough”}$$

$$= +3.0 = \text{“a hundred times more than enough.”}$$

Non-linear scales aid comprehension of quantities that have a very wide range of possible values; the scales for measuring Tornadoes and Earthquakes are also non-linear for similar reasons.

While not obsessing about social equality, the ‘E’ scale favors everyone having at least enough. Excessive greed exposes itself. If greedy people define what they have as $E=1.$, then by definition people with a tenth or less of that amount have none; alternatively the greedy people can admit to having far more than enough, which is unfair to the people who have less than enough.

The idea of having ample rewards for competence and productivity makes sense. No one who has enough is likely to begrudge truly extraordinary individuals from having ten times more than enough. It’s easy to grasp that people with “nothing” begrudge people with ten times more than enough. Hence the nominal range: 1.0 to 2.0 is a comfortable fit.

Caution:

Refusing to measure fairness restricts insight into what is being favored, what is being opposed, and what is being ignored. Nonetheless, any approach to fairness measurement will favor some outcomes, oppose others, and be indifferent to everything else. Let’s find the fairest and most intuitive way to quantify social fairness.