There have been a lot of ways to measure the economic conditions of a country. One really well known one is GDP:

$$GDP = C + I + G + (X - M)$$

(Gross Domestic Product = Consumption + Investment + Government Spending + (Exports – Imports). Basically, GDP is the sum of all the money being spent in an economy (eg by you and the government) as well as money coming into minus the money going out of a country via trade.)

What GDP isn't, however, is necessarily a reflection of the economic living conditions of all or most people in a society or economy. This is because it doesn't take into account large wealth disparities or inequalities.

When you have a group of data, a few outliers can massively change the mean. For example, take this set of numbers:

1, 2, 2, 1, 0, -1, -3, 2, -2, 3, 1, 1, 0

The mean of this set of numbers is 7/13 - aka 0.53846153846 to 11 s.f.

Now let's include a massive outlier:

1, 2, 2, 1, 0, -1, -3, 2, -2, 3, 1, 1, 0, 53400

Now, the mean of this set of numbers is 53407 / 13 = 4108.2307692 to 11 s.f.

That mean tells us that the set of data has, on average, numbers that are over 5000 times larger. But in reality, there is a very large outlier skewing the data, and this mean isn't representative of the majority of the population.

It's outliers like this that can skew the GDP of a country, making this value a rather obscure representation of a country's actual economic state.

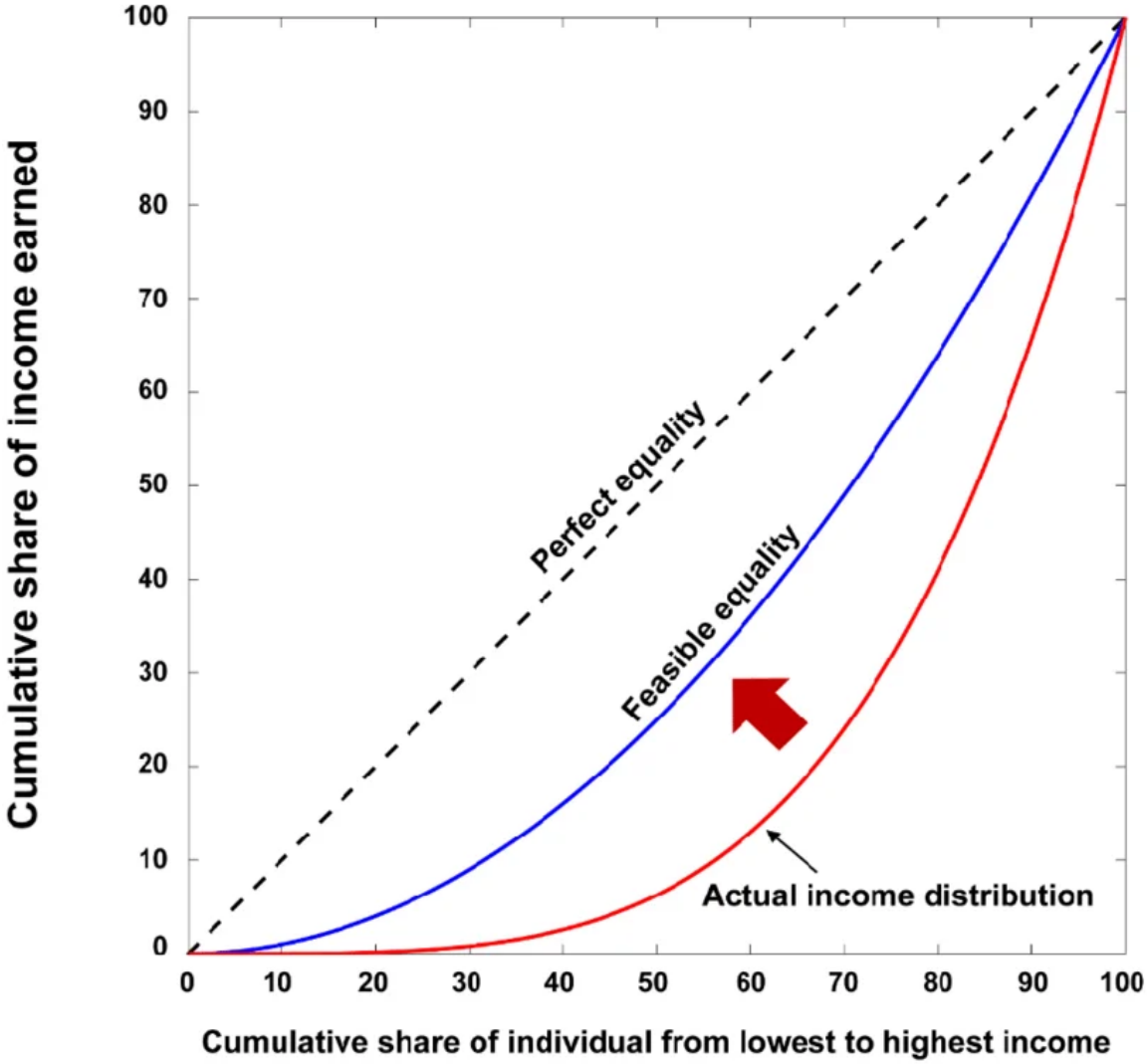
Another economic measure that can be used in conjunction with GDP to represent global economies is the Gini Coefficient.

The Gini coefficient was developed by a guy who was, pretty clearly, quite awful - Corrado Gini was a key proponent of Italian fascism during World War II, and close friends with Mussolini. These bled out into much of his scientific work and scientific theories.

Yet the Gini coefficient is still actively in use nowadays, and over a dozen variants currently exist. The Gini coefficient is an index for the degree of inequality in the distribution of income/ wealth, used to estimate how far a country's wealth or income distribution deviates from an equal distribution.

The Gini coefficient is defined based on the Lorenz curve.

(A diagram of a Lorenz curve below: it is the positive quadrant of a x-y graph, with a dotted diagonal line correlating to y=x across the curve, labelled “Perfect equality”. A shallow blue curve seems to hang from this line, labelled “Feasible equality”. A deeper red curve is below this blue curve too, and is labelled “Actual income distribution”. A red arrow points from this line to the blue “Feasible equality” line. Image Source: https://www.researchgate.net/figure/The-Lorenz-curve-of-a-typical-country-The-hypothetical-feasible-equality-line-blue-can_fig1_346014059)



The Lorenz curve is a graphical representation of the distribution of income. On the x-axis is the percentage of people in the economy (the percentage with the lowest amount of wealth, assuming wealth isn't completely evenly distributed) - aka the cumulative share of people from lowest to highest incomes. On the y-axis is the cumulative share of income earned of the population. Therefore, a straight line at 45 degrees (the dotted diagonal 'Perfect Inequality' line in the image above) is one where all members of the population have equal incomes.

(A perfectly unequal society would be one where all resources go to one member, and none to the other members.)

The Gini coefficient is based on the area under the perfect inequality line as compared to the curve of the actual inequality distribution. This ratio is known as the Gini coefficient. The curve ranges from 0 (most equal) to 1

(most unequal), assuming no negative incomes or debt. But if you include the second aspect too, you can get a Gini coefficient greater than 1.

An alternate method is to define the Gini coefficient as half the relative mean absolute difference. The absolute difference is the absolute value of the difference between two values, so the mean absolute difference is the mean of all of these absolute differences.