Quadratic Voting Explained

Quadratic voting is adopted from the book Radical Markets by Weyl and Posner. It has two constitutionally defined uses. The first is to allocate the Earth Dividend. This is done annually. The second is to allocate VIP Treasury intellectual property funds at the top two levels annually, likely six months after the Earth Dividend allocations.

Voters are given a fixed number of Elsies to allocate between the categories. Earth Dividend allocation voters will likely be given the monthly $1,200 Ł to divvy. Intellectual property voters will be given an arbitrary Ł100,000.

Slots are allocated based on the current distribution. If 404 Elsies/month currently go to the housing distribution, then housing will have 404 “slots” on the ballot. Existing slots are more like a bucket. You can pour up to 404 Elsies into the bucket.

Next to the bucket are slots for individual Elsies. If you believe the housing distribution should be raised to 405 Elsies/per month, add an Elsie to one of the slots. Unless the Treasury has added additional Elsies to the Earth Dividend, that Elsie added to the housing slot must come from some other distribution, which will lose funding.

Suppose you want to add 2 Elsies to the housing distribution. Filling in a second slot with another Elsie will not do the trick. Here is where the “quadratic” comes in. The Elsies added to any distribution is equal to the square root of the number of extra slots filled in.

The square root of 1 is 1, so filling in a single slot is a vote to add 1 Elsie to the distribution. Four slots must be filled in to add 2 Elsies to the distribution because the square root of 4 is 2. If the voter fills in only two slots, they are voting to increase the size of the housing distribution by 1.414 Elsies per month. To vote for an increase in the distribution by 3 Elsies requires nine slots, and an increase by 4 Elsies requires 16 slots.

When the voting is complete, the total Elsies for each distribution are summed and divided by the number of voters. If the housing distribution were to average

404.50 Elsies, an additional 0.50 Elsies, the new housing distribution would be Ł404 + the square root of 0.50 (0.71) = Ł404.71. Remember that there is no inflation in land-based capitalism, so this is an actual increase in the housing distribution of 71 cents.

After all increases are computed, the decreases in distributions are equal to, opposite to, and proportional to Elsies lost/total Elsies lost. For instance, if a total of 17.5 Elsies were added to various distributions, and the food distribution (Ł240) lost 4.2 Elsies out of a total of 23 Elsies lost, then the new food distribution would be:
240 -17.5 x (4.2/23) = 240 – 3.2 = Ł236.80.

There are caveats from The Earth Dividend as a Synthesis and Allocated Distribution Theory. The personal distributions can never exceed twice the public goods and service distributions nor be less than those distributions.

Education is a public good for this calculation. Unearmarked cash distributions can only be increased with new Elsies added to the package by the Treasury. Public service distributions are allocated by category and tranche to different levels of dominion.

The more divided the public is on a given distribution, the slower it will change. Even if the public is unanimous on a distribution, the rate at which the distribution changes will be slow. This is further slowed using a multi-year moving average to determine the actual increase or decrease.

Why would we want such slow motion? People and businesses rely on these distributions. Voters could vote to shrink a distribution only to encounter unexpected consequences.

The original distribution is proposed in this text and modified by an ISO working group during Phase II based on real-life empirical data. Over any century, people can change these distributions to something completely different. Over a few years, not so much. This is how it should be.

Voters will look for departments running at maximum efficiency that still rely on a consumption tax or aristocratic handout from time to time. These are candidates for an increase in the distribution. Departments running a loose ship are candidates for belt-tightening.

Although this has described chiefly Earth Dividend allocation voting, the same principles apply to intellectual property (IP) allocation voting. Suppose folk music has 3 Elsies and robotic software 855 Elsies, and you believe folk musicians are getting short shrift while robotic software engineers are living too well. In that case, you might vote to increase the IP distribution for folk music.

If you had extreme opinions, you might vote all 100,000 Elsies to folk music, increasing the folk music distribution to 316 (square root of 100,000) + 3 = 319 Elsies and taking those Elsies from other distributions equally. If this was a broad enough campaign, the IP distribution for folk music might increase by more than a few cents in the following year.

New categories are proposed by any cellular council and must be ratified by 30% of the dominion. If approved, the category moves to the next higher level of dominion, where it must be ratified by 30% again.

This continues to the federation level, where, if ratified by 30% of the Federation, it finds itself on the next IP or Earth Dividend ballot with zero Elsies. It is up to the voters to fund this category or not. New IP categories must be associated with a new or existing VSG.

Quadratic voting should produce the most equitable and efficient Earth Dividend and intellectual property distributions over time.