

[Google Doc](#) | **Author:** Mati Roy | **Created:** 2018-09-29 | **Published:** 2019-04-29 | **Updated:** 2019-05-14 | **Version:** 2 | **Originality:** low; similar things are discussed on [reverse auction](#) and a [request for tender](#) | **Prerequisites:** none | **Confidence:** tested at the Macroscope

Related:

- [Weighted reverse auction - Template](#)
- [Notes on coordinating in intentional communities](#)

Weighted reverse auction

a fair way to assign shared tasks

Context

I have the impression this method can work well to split tasks among a group of 4-15 trustworthy people.

Reverse auction

Reference: [Wikipedia page](#)

- 1) **Bid.** Everyone writes a price for which they would be indifferent between doing the task or paying someone else to do it.
- 2) **Select person.** The person with the lowest bid does the task.
- 3) **Select price.** Take the lowest bid.

This method assumes everyone will accomplish the task equally well. See next section if this assumption is false or undetermined.

Weighted reverse auction

Assumption. Group of honest people (otherwise this breaks down in some ways).

- 1) **Bid.** Everyone writes a price for which they would be indifferent between doing the task or paying someone else as competent as them to do the task.

Extension: Someone from outside the group could also bid, but the money will be paid by the people inside the group in either case, and external bidder don't participate

2) **Evaluate capacity.** People attribute number to everyone representing the fraction of the price they would be ready to pay the best person to do the task according to them.

Details: One can be ready to pay more someone if they are: trustworthy, reliable, competent, or otherwise in a better position to accomplish the task, or have indirect reasons why they would be a valuable person to accomplish the task (ex.: train them).

Example: If you'd be ready to pay someone 50% less than the best person because you think they'll do a worse job, then you assign them a weight of 0.5. Assigning a value of 0 implies that you wouldn't want that person to do the job even for arbitrarily small cost.

Variable: The weight can also be anonymized.

Variable: If some people don't put their evaluation, you can either default to the average or to 1.

Extension: If someone opts out of the bidding, their bid is set at infinity, and their weight not counted.

3) **Aggregate competence evaluation.** Everyone averages out the number they received from everyone else.

Alternatives: multiply the numbers; take the logarithmic average; take the median

4) **Calculate competence-adjusted bid.** Everyone divides their price (1) by the average people valued them at (3).

5) **Select person.** The person with the lowest number at (4) does the task.

Details: If there's a tie, the person can randomly be selected.

6) **Select price.** Take the lowest bid

7) **Split the cost.** Split the cost equally between all housemates, including among the person that will do the task.

Alternatives / Extensions

Alternative: Everyone bids, then people vote for someone.

Extension: If someone in a group really doesn't benefit from a task, they can opt-out. Otherwise, we should try to reach consensus on task selection.

Extension: If two people want to work on a task, the two lowest bid can do the task at the second lowest bid.

Addendum

Edge case: There are some specific cases where some people might disagree with the split, but I think this would happen rarely, and when it does, a combination of people might need to do the task.

Example: Some people might need to pay someone more than they would have been ready to be paid, and personally disagree that the person is more competent.

Norm: Give the benefit of the doubt; put 1 to new housemates; (except for responsibility that are public facing, like finding new housemates, in which case it's better if a long term tenant aware with the house does it).

Norm: Fund should be kept in a separate account or the account of a trusted tenant; but the rest of the finance responsibility can be done by anyone.

Platform: We use [Splitwise](#) to track our finance.

Previous version: We first tried with the weight for oneself being 1 and adjusted other's weights accordingly, but this overweight some people's preferences.