THE DEFINITION OF FENG: A NEW MEASURE OF RESOURCE DISTRIBUTION(DRAFT)

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ABSTRACT

Feng is a new measure of resource distribution. It can be applied to one party or several parties. Both cases are illustrated in the paper. It can vary when the net resources remain unchanged. One can show the feng of a country can be increased by winning a war to obtain more resources or having new technologies to enhance the transmission rate of resources to the parties.

1 INTRODUCTION

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2 THE DEFINITION OF FENG

2.1 FENG OF ONE PARTY

The feng of one party is defined as

$$\alpha R + \frac{\beta}{R}\frac{\Delta R}{\Delta t} = F,$$

where
F is the feng of party p on resources R,
R is the set of resources of party p such that

$$R = \sum_{0}^{m} w_j r_j,$$

given that w is the weight of resource r,
ΔR is the net flow of resources R to party p within time Δt,
α and β are constants such that $\alpha > 0$. m is the total type of resources in R.

For example, considering the case of a villager where the number of apple is the only resource in R. Let $\alpha = 1$, $\beta = 1$ and $w = 1$. Initially, the villager has 10 apples. Everyday the villager goes to work in exchange of one apple.

At day 0,
the feng of the villager on number of apple is $1 \times 10 + 1 \div 10 \times 0$ which equals to 10.

At day 1,
The villager get one more apple. the feng of the villager on apple is $1 \times 11 + 1 \div 11 \times 1$ which equals to 11.0909.

The feng of the villager on number of apple increases.

2.2 FENG OF PARTIES

Feng applies to more than one party. The feng of parties is defined as

$$\sum_{0}^{n} \alpha_i R_i + \sum_{0}^{n} \frac{\beta_i}{R_i}\frac{\Delta R_i}{\Delta t} = F,$$

where
P is a set of parties such that

$$P = \sum_{0}^{i} p_i,$$

F is the feng of parties P on resources R,
ΔR_i is the net flow of resources R to party p_i within time Δt,
α and β are constants such that $\alpha_i > 0$ for all i.
n is the total number of parties in P.

For example, considering the case of a village where the number of apple is the only resource in R. Let $\alpha_i = 1$, $\beta_i = 1$ and $w_j = 1$ for all i and j. There are 9 villagers and one landlord in the village. Initially, each villager has 10 apples and landlord has 100 apples. Everyday each villager goes to work in exchange of one apple from the landlord.

At day 0,
the feng of the village on apple is $9 \times 10 + 9 \div 10 \times 0 + 100 + 1 \div 100 \times 0$ which equals to 190.

At day 1,
Each villager get one more apple. The landlord gives 9 apples. The feng of the village on apple is $9 \times 11 + 9 \div 11 \times 1 + 91 + 1 \div 91 \times -9$ which equals to 190.7193.

The feng of the village on number of apple increases given the number of apples remains unchanged.

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