Global Fairness and Aid
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Global Fairness 1

- Equality has been seen a long time as an important goal to promote to increase social welfare.
- Equality of what?
- Responsibility vs luck $\implies$ (circumstances for which agents cannot be held responsible for).
- Fairness as equality of opportunity (Roemer 1998, Roemer and Trannøy forthcoming, Fleurbaey and Maniquet 2011a, 2011b, etc.).
- Application to aid allocation: Roemer et. al. 2001.

Global Fairness 2

- ▶ Two principles: Principle of compensation (agents should be compensated for bad luck, similar compensation for similar luck), natural reward (outcome inequalities due to differential fulfillment of responsibilities should be allowed).

- ▶ These principles are in conflict, in general, both can be justified through acceptable ethical premises.

- ▶ "No Envy" (nobody would like to stand in anybody's else's boots) satisfies both principles, but in general No Envy allocations exist.

- ▶ Two classes of solutions: conditional equality (natural reward respected everywhere, compensation is satisfied for a reference (social standard) level of attainment of responsibility (e.g. effort or working time), egalitarian equivalence (circumstances fully compensated, natural reward satisfied for a reference level of circumstances).

Global Fairness 3

- Usual assumption in economics: People are responsible for their utility function. Assume people differ in their skills (luck) and in their diligence (choice of working hours for which they are responsible).
- The two solutions can be understood in terms of lump sum transfers/taxes and implicit budgets (e.g. Fleurbaey and Maniquet 2007, Fleurbaey 2008):
    - Each agent has a budget set from which the optimal choice is made, given the existing tax/transfer systems etc. These choices lead to outcomes.
    - One can calculate for each agent what minimal lump sum transfer would give the agent a budget set which would allow the agent a choice leading to at least as high welfare as in the realized outcome.
    - Define the budgets with these lump sum transfers as implicit budgets.

Global Fairness 4

- ► Conditional equality: fix the reference preferences and aim at equalizing the welfare levels at these preferences that agents can derive from their implicit budgets.

- ► Egalitarian equivalence: Fix the reference skill and then aim at equalization of the lump sum transfers associated with the implicit budgets when the skills are at their reference level.

- ► Social choice rule for egalitarian equivalence is thus *maximin* over the vector of implicit transfers agents receive, for conditional equality *maximin* over the vector of maximum utilities which can be derived from the implicit budgets with reference preferences.

Global Fairness 5

- These choice rules can be derived from underlying ethical principles, especially for the egalitarian equivalence case. Some of the rules are ***leximin*** rules instead of just maximin rules.
- Assume now that for each country in the world one can form social preferences as just described.
- In particular, assume that the choice rule is based on ethical principles leading to egalitarian equivalent choices.
- How do we get from these national preferences to global preferences?
- Analogy to social choice problems with a given group of individuals.
- If countries have well-defined social choice rules, what kind of global choice rules respecting the national choice rules can be derived?

Global Fairness 6

- One difficulty: If preferences are of leximin-types many of the ways to derive social choice rules from individual preferences cannot be applied as leximin rules are not continuous (though maximin rules are).

- Let now the consumption bundle of an individual be (l, c)) with $0 \leq l \leq \bar{l} < \infty =$ labor time, c = consumption bundle.

- Individual has skill level $s \geq 0$.

- We will be studying a simple case where each country is completely specialized in production. Thus, without any international transfers a country's budget constraint is

$$p \sum c_i \leq q \sum s_i l_i \qquad (1)$$

- Here i is an index for consumers, p = consumer price vector, q = producer price of the good produced in the country.

Global Fairness 7

- In the first best case the redistribution within a country can be accomplished through lump-sum transfers.
- But we study also the simplest case where redistribution is constrained by incentive problems, the authorities do not observe people's skills nor their diligence (willingness to work) but can observe total income they earn.
- In this case fairness of redistribution in terms of Egalitarian Equivalence can be assessed by the basic income (implicit transfers), the transfer that gives the budget without any other taxes that allows agents to reach an allocation to which they are indifferent with their actual consumption bundle.
- Social welfare is at least as high as it was when the new bundle leximin dominates the old bundle, i.e. the focus is on the worst-off agent(s).

Global Fairness 8

- The implicit transfer is evaluated at some reference level of wage (skill). One important case is the reference skill $s = 0$.
- The Egalitarian Equivalence Rule can be rationalized using several ethical principles which put emphasis on equity (Hammond and Pigou-Dalton equality principles).
- In the end we then have a collection of social preferences for all countries c

$$(R^1, ..., R^c, ..., R^C) \qquad (2)$$

- where C = number of countries. Assuming that all countries adopt similar type of Egalitarian Equivalent social rule the outcome is

$$(\tau^1, ..., \tau^C) \qquad (3)$$

- where τ^c = implicit lump sum transfer to the worst off individual in country c. Note that, assuming the transfers to be in terms of same numeraire, the welfare levels are internationally comparable.

Global Fairness 9

- How do we get from these individual country welfare indicators to an indicator of global welfare?
- Fleurbaey and Tadenuma (2014) have tackled the problem of how to make international country by country comparisons of welfare, here the issue is how to evaluate the world distribution of welfare, if the welfare measure is based on the national welfare levels.
- Obviously Fleurbaey and Tadenuma approach can be used as a basis of justifying bilateral aid, here the issue is the justification of global aid flows.
- If the evaluation global social welfare order is to be based on the national social preferences the difficulty here is that the national social preferences are not continuous.

Global Fairness 10

- One way out is to adjust the concept of generalized social welfare function introduced in Hammond (1976) to the present context.
- In this case one can start by assuming each country has preferences defined not only over the allocations of consumption and labor to its own worst-off (denote the set of these potential allocations X) but also allocations in all C countries, thus over $X^C \times C$, assuming that in all countries the set of potential allocations is the same. Also preferences must be assumed the same in all countries.
- The allocations of concern are now global allocations of consumption and labor.
- Thus, with global social preferences $R\ (x, c) R_i(x, d)$ can be interpreted as saying that in country c citizens (or rather the worst-off citizen) has privileges at least as large as the citizens in country d when the global allocation is x.

Global Fairness 11

- ▶ The country preference can arise e.g. from international differences in health or other social conditions.

- ▶ These international differences could be made explicit by defining some key social indicators with countries then identified by the combination of these indicators. The combination would substitute for the country index.

- ▶ Applying Hammond's approach requires one to assume that all national generalized social preferences over global allocations are identical and also identical to global social preferences.

- ▶ Hard, but we have Millennium Development Goals and are now one search is for Sustainable Development Goals which are aimed to create.

- ▶ In addition one must accept that the key ethical assumptions behind Hammond's main result are also relevant to global ethics, to be stated soon.

Global Fairness 12

- But there is also some mileage to be gained.
- Much of the discussion on global justice has focused on the distinction between national responsibility and international responsibility to help (e.g. Brock 2010, Kok-Chor Tan 2012, Miller 2008, Singer 1972). This is analogous to the more general discussion on individual responsibility vs redistribution (Fleurbaey 2008).
- Country characteristics could also be divided to those for which the national governments, and citizens in the end, are responsible, and to those for which they are entitled to help.
- e.g. given that all countries have well-defined social preferences one can try to evaluate how well the government actions have contributed to improving it relative to what it could have done to establish the responsibility cut.

Global Fairness 13

- An alternative would be to continue along the lines of Fleurbaey and Tadenuma (2014) and to start from the individual's preferences and then use some rules of global ethics to build a global social welfare order. This requires specifying axioms for international individual-to-individual transfers and would bypass the role of national decision makers. The best alternative obviously would be to have both.
- Hammond's construction is based on two ethical principles, the first is the Hammond Equity axiom:
- If $(x, c)P(x, d)$, $(y, c)P(x, d)$, $(x, d)P(y, d)$, $(y, c)P(x, c)$ and for all other countries f $(x, f)I(y, f)$ then $x\tilde{R}y$ where $\tilde{R}$ denotes global social preferences over global allocations (P is strict preference, I indifference): If the less advantaged country prefers some allocation over some other and a more advantaged country's preferences go the other way with all other countries indifferent then global social preferences favor the same allocation as the less advantaged country.

Global Fairness 14

- The second principle is the so called Suppes's grading principle. It requires there are two global allocations such that all countries are indifferent between them after permuting countries (for all countries c, if $(x, c)I(y, \pi(i))$, where π is a permutation) then $x\tilde{I}y$.

- These two principles together with other more standard principles (like Pareto efficiency) lead to the result, mainly driven by the Equity axiom, that the global order over allocations is leximin.

- Given that national preferences were leximin orders over the domestic implicit lump-sum transfers the global preferences thus give preference to the globally worst of person in terms of the implicit transfer.

A Simple Model 1

- The previous discussion has (hopefully) given some justification for international aid transfers to the worst-off countries. But as such it does not take an issue on the mode of transfers, some of which may be achieved through international trade.

- The rest of the paper will employ a simple Ricardian model (a mixture of the standard textbook and Ruffin's (1988) model) to study the role of international transfers and domestic transfers.

- The model is adopted to make it as close to the model in Fleurbaey and Maniquet (2007) used for the analysis of income redistribution in a closed economy.

A Simple Model 2

- There are two countries, H and F, and two goods, 1 and 2 to be produced.
- Both countries are inhabited by four types of persons, skilled and unskilled (S, US), diligent (low marginal disutility to increase hours worked), and less diligent (D, LD). S can be D or LD, the same applies to US.
- Countries have comparative advantage, both the skilled and unskilled in H are relatively more skilled in producing good 1, in F producing good 2. Skills show up in productivity, so

$$max\left\{\frac{s_2^{HS}}{s_1^{HS}}, \frac{s_2^{HUS}}{s_1^{HUS}}\right\} < min\left\{\frac{s_2^{FS}}{s_1^{FS}}, \frac{s_2^{FUS}}{s_1^{FUS}}\right\} \qquad (4)$$

A Simple Model 3

- Here s_1^{HS} is the productivity per hour worked of a high-skilled worker at H in production of good 1, other expressions are analogous.
- Obviously

$$s_1^{cS} > s_1^{cUS}, s_2^{cS} > s_2^{cUS}, c = F, H \tag{5}$$

- To make the two countries to have different income levels it is assumed that F is always less productive than H:

$$s_i^{Hs} > s_i^{Fs}, s = S, US, i = 1, 2 \tag{6}$$

A Simple Model 4

- ▶ Let us first study the first best solution (by assuming first that the tax authority has perfect information about the characteristics of all agents).
- ▶ Let us also assume that there do not exist any trade barriers.
- ▶ For given world market prices and for a given reference wage rate, the implicit lump-sum transfers to all types of agents in both countries (without any international transfers) will be equalized.
- ▶ The implicit transfer level depends on the reference wage chosen, with lower reference wages.
- ▶ The level of transfers is differ between countries, depending on the difference in productivity levels and on the choice of the reference wage.

A Simple Model 5

- ▶ Income redistribution has an effect on labor supplies. This affects relative production levels and also the world market prices.
- ▶ The identity of the worst-off agent depends on the reference wage.
- ▶ Changes in the world market relative price have effects similar to changes in personal productivity.
- ▶ This implies that the identity of the worst-off agent may change due to changes in the world market prices.

A Simple Model 6

- In general, the more productive country has larger implicit transfer, but not necessarily, the choice of the reference wage matters, different countries can have different reference wages.
- International transfer will increase the first best implicit transfer (which is the same for all agents). Thus, all agents benefit from it.
- In a similar fashion all agents in the donor country, for given relative prices, will participate in funding the transfer, as implicit transfers are equalized also there.

- ▶ To be completed with the detailed formal presentation of the model and the analysis of the second best case.