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THE PARADOXES OF THE WAR ON POVERTY

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Abstract

The essential, moral and universal public good of helping the poor is provided jointly by free private and forced public transfers. Explaining them and choosing the right policies meet a number of puzzling socio-logical impossibilities, contradictions and paradoxes. The dozen of relevant types of motives concerning giving, contributing, and implicit cooperation are analyzed, formalized, and their consequences in the presence of a democratic efficient fiscal policy are derived. This includes altruisms, direct interests in one's and others' contribution (gift plus tax) one pays or gift alone one is responsible for, the logical and epistemic contradictions of seeking praise and praiseworthiness, the effects of others' comparative preferences, those of policies that do not respect immoral preferences, putative reciprocities, the variety of Kantian conducts and possible efficient ones, the puzzles of "lateral reciprocity", the powerlessness or effects of rebates and matching grants, with efficient public policies caring for the poor through others' altruism or also directly.

Keywords: poverty, redistribution, taxes, giving, altruism, "warm-glow," public goods, Kantian economics.

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1. INTRODUCTION

1.1 Fighting poverty

Poverty, the main source of suffering and of indignity, the ugly face of society, is not something to be studied but something to be fought, not a topic but a shame, a stigma and a foe. Waging this war is the first virtue of society and its foremost duty. Winning it is more difficult, however. It requires more than will goodwill and benevolence: it demands understanding these motives and their unexpected consequences. Even a society of saints will end up in defeat and failure – even more than others – if it does not perceive the many pitfalls of the surprising intricate logic of collective giving. This field, indeed, is replete with puzzles, paradoxes, contradictions and impossibilities (a few have been noted in the context of the provision of public goods, but there are a number of others). They account for vast waste in these most valuable money and sentiments. They will not be overcome if they are not detected and sufficiently understood.

For a long time, the main worry has been aid crowding out self-help. But the joint supply of aid is much richer in such perverse effects, such as the following 13 main ones. One aid crowds out others: the most laudable act of charitable giving should be crowded out by bureaucratic forced fiscal transfers for provisioning the universal and moral public good of the relief of poverty. There remains some giving however, and indeed much of it, even though not enough. As we will see, this cannot be explained by people valuing, or being praised for, the sacrifice of their own contribution to the poor's means (gift plus tax). It cannot result from their caring for their gift alone – for which they are responsible and which may be visible – given the large number of givers, because this implies a vanishing of altruism which undermines praising a gift. At any rate, you cannot give in order to be praised or praiseworthy ("warm glow") as a compassionate person since this motive if not compassion. If other people wish your contribution (not your gift) to be lower – because of envy, sentiments of inferiority or superiority, or inequality aversion – this can explain your gift in the presence of efficient taxes, but hardly so in the large society unless altruism vanishes, which undermines the interest about contributions. Moral Pareto efficiency, laundering immoral sentiments of vainglory, vanity, envy or superiority away from individuals' preferences, permits that liking your own contribution prevents the crowding out of your gift, but again not in the large society. Quite bluntly, tax deductibilities or rebates, and matching grants, have no effect on

giving if their cost is not forgotten. Kantian givers do not choose the same universal rule with their different utility functions, and their resulting behaviour is incoherent and inefficient. The reasoning of "putative reciprocity" (I give because I would have been given to if I needed it) induces either altruism (if its cause is liking reciprocity) or valuing one's gift (if its cause is balance reciprocity) with the foregoing consequences respectively. Giving given that the others give can be secured by forcing people to give, but these transfers are no longer gifts but taxes (although they are not resisted). Pure norms of giving are not autonomous motives and are alienated psychology. Finally, the public good in question is not a good but the welfare of people who may deserve a place in the social welfare function and in the definition of Pareto efficiency, or may win one by political means or the threat of social unrest.

The problem results from the motives for judging gifts and for giving. The solution cannot come from the proposition of some particular type of motive from a flash of intuition and the study its effect: it demands the consideration and modeling all the types of motives. This is now possible thanks to the recent *Handbook of the Economics of Giving, Altruism and Reciprocity* (2006). Its introduction shows that there are 30 types of motives for giving, half of which are altruistic, and about half of which (altruistic and not) are common in motivating giving to the poor (see the tables in appendix A). Moreover, the results presented here will be obtained very easily thanks to the comparison of the marginal conditions for giving and for Pareto-efficient fiscal transfers.

A dollar that relieves hunger, secures decent shelter, supports basic education, or permits dignity and relationship, is more important than others. This is the most valuable use of society's income. Although much poverty remains, transfers to the poor, both public and private, are by no means negligible and challenge explanation. Private giving respects liberty and often manifests altruism or an appreciation of it. In spite of widespread selfishness, crowding out of altruistic charity by efficient public transfers, the powerlessness and contradictions of "warm-glow" giving, the contradictions and limitations of implicit coordination, and the rational impotence of tax rebates or matching grants, 9 Americans in 10 report having given in the year, private charity amounts to several per cent of GNP (up to 5% in some countries), and it concerns "millions of people and billions of dollars."[1] Public transfers are usually larger. European countries' public finance often transfer 1/3 of GNP

[1] Andreoni (2006).

from richer to poorer, but this includes the actuarial or prudential part of social insurance and equalizing transfers whose beneficiaries are not all poor.

The public good property of the general distribution of utilities, welfare, incomes or goods is the topic of Kolm (1966), with the derivation of the optimality conditions, the consideration of transfers, and in general economic equilibrium. However, the structure used in the present study is much older since it is a particular case of Pareto's (1913) model: a social "welfare" function is a function of individuals' *utilities*, each of which is a function of a priori all individuals' *ophelimity* – that is, their welfare. Olson (1965) notes the concerns for giving per se, and Arrow (1972) and Becker (1974) propose to include a person's gift in her utility function. Most motives for giving are discussed in Kolm (1984). Preference for one's gift is used to explain joint giving – along with a similar proposal for public goods in general by Cornes and Sandler (1984) – by Kolm (1984), Steinberg (1987), and, most extensively, Andreoni (1988, 1990) and Harbaugh (1998a, 1998b). The crowding out of altruistic gifts by public transfers is presented by Warr (1982) for two individuals, Roberts (1984), and generally for public goods by Bergstrom, Blume and Varian (1986). These studies have been followed or accompanied by a very abundant and important literature: I can only refer to the noted *Handbook* where it is exhaustively referred to, discussed and analyzed in several chapters.

Most of the phenomena and results noted here apply also to other public goods, directly or with some straightforward simplification (the exception is putative reciprocity), although with different relative importance due to the characteristics of the relief of poverty as a public good. This public good is, indeed: universal (who does not want the poor to be better off, no matter how little she is ready to pay for it? – note that some people give to some poor with the understanding that others give to other poor); moral (the most moral of moral public goods, which is crucial for motives of all kinds); particularly important by its nature (few goods match it in this respect) and its volume; non-excludable (the poor's situation may be hidden, but people do not give the know but to help of for a related reason); consisting itself of the welfare of some people (which is or is not added in itself in society's objectives); and with joint private and public provision.

The objective of this study is to provide keys to the understanding of these transfers for answering a number of questions. What explains these transfers, their importance, and the

relative importance of private and public aid? Why are these levels and their proportions so widely different across countries not so different otherwise (the USA and Europe, for instance)? What should be the mode and amount of public policy in this respect? How does one explain the particularities and working of charitable organizations? What are the effects of the various social changes on poverty and aid (standard of living, relative incomes, changes in the various communities due to migration and integration, etc.)? What is the best organization of further studies, including empirical analyses of motives for helping by inquiries and experiments? What is the role of moral and civic education?

A summary of the main results is provided in section 1.2. The effects of motives for helping that can be described by variables and structures of utility functions only are analyzed in section 2. The nature and effects of rational altruisms, here Kantian conducts and putative reciprocities, are presented in section 3. Section 4 introduces other reasons for cooperative behaviour and other games, and the issue of rebates, deductions and matching grants. The main lessons are drawn in a concluding section.

1.2 Overview of results

Non-poor individual *i gives* an amount $g_i \geq 0$ and pays a distributive *tax* (or a distributed part of her taxes) $t_i \geq 0$, hence *contributes* $c_i = g_i + t_i \geq 0$ to the poor's income which receives Σc_i. Except in specific sections, the givers and the government act non-cooperatively. The government may seek Pareto efficiency, possibly for a moral reason (non-waste), but, more deeply, because democracy tends to imply that no possible state is found better than the actual one by everybody (with the possible indifference of some) – for instance, in an electoral democracy, another party could choose such a state as its program and win the elections with the unanimity of votes. There are, however, two regimes of Pareto efficiency, due to a theorem that implies that Pareto efficiency for the set of the givers alone generally implies Pareto efficiency for them and the receivers as well. In the *basically giving* regime, there is Pareto efficiency for the givers alone, and the taxes t_i are essentially, in fact, globally desired by the givers: they replace gifts or part of them, notably to remedy non-cooperation among givers. In the *redistributive regime*, Pareto efficiency is general (including directly for the receivers) and the non-poor pay a priori more than they would by giving alone even with coordination. This may be due to a political influence of the poor or to some social ethics beyond what is expressed by individuals' ordinary utilities. The following results will be obtained very

simply by comparing the marginal conditions for givers' choices and for a Pareto-efficient tax policy.

Compassion or sense of solidarity or of justice may lead people to give. However, these gifts are not coordinated overall, and, as a consequence, there tends to be free riding, and an efficient tax policy turns out to imply that there is no such gift in the redistributive regime and at most one in the basically giving regime. Actually, however, there are many more. This can a priori result from a number of possible reasons. First of all, the actual fiscal policy may not be Pareto efficient. This would not be surprising at first sight, and issues of information (for instance about people's preferences) are bound to add their difficulties to shortcomings in democracy or in government benevolence. However, in the long run and with groping and adjustments, one may think that the democratic tendency to Pareto efficiency is bound to have some effect, and we are also interested in Pareto-efficient policies per se (non-waste, or a preference-respecting or generally benevolent optimum principle).

Another natural reason may be that givers care for the help they provide to the poor in itself, because it makes them feel praiseworthy ("warm glow"), it attracts approval, praise, esteem, admiration, acclaim or gratitude, it saves them from reproach, blame, scorn, blameworthiness, guilt or shame, or because they seek respectability, honour, pride, prestige, glory (or vainglory) or want to display or show-off wealth or virtue. However, individual *i*'s sacrifice that helps the poor is her contribution c_i, and her direct concern for this amount turns out *not* to explain her giving ($g_i>0$). Nevertheless, issues of responsibility and visibility or information may tend to focus attention on the gift g_i. A direct preference about it can explain it ($g_i>0$). This, however, raises a series of difficulties of various types. Lack of visibility or information about the distributive tax t_i may not be a good reason, and this tax may be observed or estimated. The individual may have a collective or political co-responsibility in this tax (e.g. through the chosen policy or by voting or accepting the political system). At any rate and more deeply, one cannot give in order to be praiseworthy as a compassionate, good and moral person since this motive is not compassion, pity, solidarity or justice-seeking, but rather the morally dubious vanity or vainglory. This is an intrinsic contradiction. One may benefit from some mild kind of esteem or self-esteem for one's sacrifice that benefits the needy, but this is one's contribution c_i and this cannot explain giving. In a large society, moreover, it turns out that direct preferences for giving can explain giving only if average marginal altruism vanishes. This result is not the case and, if it were, this would prevent

morally valuing giving, another contradiction (precisely, individuals would not be encouraged to give by general opinion, and self-praise could affect only few of them). With a large number of givers *N*, the marginal gift should be given on average *N* times more for the glory of the giver than for the relief of poverty – where *N* can be several or many millions. Finally, norms of giving, and praise or blame – by oneself or others – for following them or not, irrespective of any altruistic sentiment, are the only possible explanation of giving along these lines. However, this is not morally free, autonomous behaviour.

Giving to the poor in the presence of efficient public transfers to them may also result – it turns out – from other people's desire that this person's contribution be lower. This can result from comparative sentiments about contributions, such as envy, jealousy, sentiments of inferiority or superiority, desire for conformity or for distinction, or inequality aversion. Other people's sentiments about the giver's gift alone have no effect. These roles contrast with the previous case of preferences about one's own items: favouring one's own gift and others preferring one's contribution to be lower can explain this gift giving, whereas concerns about one's own contribution and others' concerns about one's gift have no effect. However, preferences for a lower contribution of someone can explain this person's gift in efficiency only if their value exceeds general altruism (at the margin); this is unlikely, especially in a large population in which comparative effects are essentially within limited groups (or average altruism should vanish, which would undermine the reasons to be interested in people's contributions in the first place).

Moreover, relevant Pareto efficiency may discard the immoral features of preferences such as vanity, vainglory, envy or sentiment of superiority. Then, it turns out that preferring one's own contribution in itself to be higher acquires the same power as such a preference about one's own gift (i.e. one's intrinsic preference for one's gift has the same effect when it is direct or through one's contribution). Discarded preferences about others' gifts or contribution no longer have an effect.

Another important motive for giving is *putative reciprocity*, that is: I help them because they (or someone else) would help me if the situations were reversed (or they would help other people).[2] The two types of genuine reciprocity can be applied putatively in this

[2] See *Handbook*, chap. 6, or Kolm (2008).

way. Balance or matching reciprocity – balancing the two gifts – leads one to value directly one's own gift with the above noted effects –, whereas liking reciprocity – giving because one likes the benevolent giver – reinforces the public good effect.

Reasons of the Kantian family ("what if nobody gave?") are important. If all individuals, acting morally by following the rule that would be the best if everybody followed it (Kant's principle), also evaluate morally by choosing the rule that maximizes the same social welfare function, the outcome maximizes this function (as a Cournot-Nash equilibrium of each individual choosing her own gift that maximizes this function). Gifts and taxes are, then, perfect substitutes. If, however, the individuals evaluate the rule with their own preferences, the outcome is Pareto efficient only with particular applications of the Kantian notion ("negative deviational Kantianism", "linear Kantianism", "Kantian rules" – presented in appendix B).

The many possible reasons for freely contributing to non-excludable public goods apply to helping the needy, but their motives interfere strongly with those for giving which either obliterate or enhance them. In particular, the "lateral reciprocity" of giving or contributing given that others do, or doing one's fair share, with its particular logic, can play a notable role. This is also the case for keeping up with others, conforming or – on the contrary – distinguishing oneself, competitive giving or contributing, or imitation. These motives can induce preferences for lower others' gifts or contributions in themselves.

Tax deductibility or rebates for gifts, and matching grants, have a priori no effect on gifts if their cost is correctly taken into account because this erases the difference between the cost for the giver and the possible final benefit for the receivers. Practically, however, this cost may not be considered, and then people may be directly concerned about both the cost (sacrifice) for the giver or contributor and the corresponding benefit for the poor, which are now different.

Giving or its public transfer substitutes tend to be higher when the givers feel more that the receivers belong to the same community as themselves. Moreover, public transfers depend much on the specific national histories concerning them (but history both results from psychologies and forms or transforms them).

These results imply various types of motives and of cooperation or absence of it, that imply various structures of the problem. The individuals may maximize utility functions depending on their wealth, the poor's wealth or welfare, and their and others' contributions and gifts in various possible ways. They may also be "rational altruists" giving as the result of a reasoning, as with the Kantian-like hypothetical universalization, or the putative reciprocities. They may follow or be influenced by norms or duties of various kinds. They may act non-cooperatively, or more or less cooperatively explicitly or implicitly, in various possible ways. The crowding out of uncoordinated altruistic joint gifts is due to the Pareto inefficiency of non-cooperation. The Kantian-like reasoning aims at some implicit coordination between givers. Cooperation or coordination between givers or their absence are an issue for the "basically giving" regime but not for the redistributive one, but explaining gifts is a question for both.

2. PREFERENCES ABOUT CONTRIBUTION OR GIVING

2.1 The framework

2.1.1 Variables and preferences

The population is divided into the poor and other people. These others are n individuals indexed by an integer i from 1 to n. Individual i has initial income (or wealth) $X_i>0$, she gives the amount $g_i\geq 0$, pays the distributive tax $t_i\geq 0$, hence contributes to the poor's relief with her (total) contribution $c_i=g_i+t_i$, and has the remaining disposable income of $x_i=X_i-c_i$. The poor are sufficiently considered aggregatively (some people may give to particular poor with the understanding that other people help other needy). Their initial income (or wealth) is X, they receive gifts and subsidies $c=\Sigma c_i$, and hence have the final income (or wealth) $x=X+c$. They have a utility function $u(x)$. All utility functions are assumed to be increasing in own income, and differentiable. In particular, $u'(x)>0$.

Individual i has a utility function u^i, and the crucial issue consists in the arguments of this function. In the most general form considered here,

$$u^i = u^i(x_i, x, c_i, g_i, c_{-i}, g_{-i}) \qquad (1)$$

where $c_{-i}=\{c_j\}_{j\neq i}$ and $g_{-i}=\{g_j\}_{j\neq i}$ are the sets of c_j and g_j for $j\neq i$, respectively. Individual i's income x_i expresses individual i's direct self-interest, and $u_1^i=\partial u^i/\partial x_i>0$. Writing a derivative will imply the assumption of its existence.

The presence of the poor's income x in the utility function u^i will be generally taken to express individual i's "altruism" (sense of solidarity, benevolence, generosity, compassion, pity) if $u_2^i=\partial u^i/\partial x>0$, and we assume $u_2^i\geq 0$ (malevolence or malice towards the poor, on preference for superiority in income over them, are not considered). The presence of x in function u^i can a priori stand for the presence of arguments x, $u(x)$, or both. Individual i may, indeed, be concerned about x through its effect on the poor's pain from poverty represented by a low $u(x)$, or directly because it represents the poor's means (or both). If both were explicitly present, u_2^i would stand for $\partial u^i/\partial x+u'\cdot\partial u^i/\partial u$. Individual i is said to be altruistic if $u_2^i>0$. This implies that the term altruism is used to describe a sentiment, as it should be, and not giving (which can have other motives). Moreover, when this term is used in discussions of marginal conditions at specific states, altruism stands for the more precise "marginal altruism at this state." However, another possible reason for the presence of variable x or $u(x)$ in function u^i with a positive effect is that individual i prefers it to be higher in order to avoid the poor's protest which disturbs the established order – social unrest or political means such as voting.

An individual i is *consequentialist* when she cares for the direct economic consequences of transfers only, hence when her utility function u^i depends on variables x_i and x only.[3]

An intrinsic preference for one's contribution or for one's gift in themselves (and not only because of their effects on the poor's income x), because it elicits self-esteem, enhanced self-image, pride or vainglory, avoidance of guilt or shame, the praise, approval, esteem or admiration of other people whose opinion one values, the avoidance of blame or reproof from

[3] Another but standard use of the term consequentialism opposes it to "deontology" referring to duty or norms, and hence would include preferences for gifts or contributions induced other motives (this only shows an omission in this other common use, that of these latter motives which include most of those studied here).

them, or the gratitude of the beneficiaries or of altruists, leads to $u_3^i=\partial u^i/\partial c_i>0$ or $u_4^i=\partial u^i/\partial g_i>0$, and we assume $u_3^i\geq 0$ and $u_4^i\geq 0$ (modesty could make them be negative). These preferences of individual i about her contribution c_i or gift g_i may be by comparison with other people's contributions or gifts, c_j or g_j for $j\neq i$. Then, this implies that individuals have preferences about other people's contributions or gifts.

Indeed, individual i may have preferences about c_j or g_j for $j\neq i$ for reasons other than their effects on $x=\Sigma c_j+X$. Denote $u_{c_j}^i=\partial u^i/\partial c_j$ and $u_{g_j}^i=\partial u^i/\partial g_j$. Individual i may directly approve c_j or g_j manifesting individual j's virtue, but the property that will be interesting for explaining gifts will be $u_{c_j}^i<0$. The possible reasons for individual i to prefer lower c_j or g_j for $j\neq i$ result, a priori, from comparisons with c_k or g_k for $k\neq j$, and in particular c_i or g_i, respectively. Denote c_k or g_k as a_k. All the noted inequalities can, moreover, be qualified by being relative to income or wealth, or to some situation or status. Then, with these a_k and possibly adding or including these qualifications, individual i may prefer a lower a_j because $a_i<a_j$ and she feels envious, jealous, or inferior as a result, or she is judged inferior by observers whose opinions she cares for; or because $a_i>a_j$ which she enjoys because it gives her a sentiment of superiority or of being different (distinction) or elicits such judgments by people whose opinion she cares for. Individual i may also prefer a_j to be closer to her a_i from a sentiment of equality or fairness entailing an aversion for inequality, or from a sentiment of propriety of conforming, and a preference for one's distinction can have the reverse effect. Individual i may also derive preferences about a_j from comparisons with a_k for $k\neq i, j$, for reasons of fairness or inequality aversion, from a preference for lowering sentiments of envy, jealousy, superiority or inferiority in the society, or from preferences for conformity. All this may give particular signs to $u_{c_j}^i$ or $u_{g_j}^i$ (for simplicity in writing, we will disregard here the cases in which the comparisons depend on incomes x_k or X_k, which would not change the general conclusions).[4]

2.1.2 Optimality and efficiency

[4] Possible reasons for u^i depending directly on taxes t_i or t_j for $j\neq i$ can be imagined, but they do not seem to have the importance or frequency of the other effects noted.

2.1.2.1 A social maximand

Distributive taxes and subsidies t_i are classically chosen so as to maximize, under the constraints of the problem (including the types of behaviour), a preference-respecting social welfare function

$$U(\{u^i\}, u). \qquad (2)$$

This function is assumed to be differentiable and we denote $\lambda_i=\partial U/\partial u^i$ and $\lambda=\partial U/\partial u$.

2.1.2.2 The two regimes

However, distributive taxes and transfers have two possible reasons.

On the one hand, they can replace individuals' gifts because these gifts are provided non-cooperatively, which induces Pareto inefficiency. Then, their aim is to finance the *public good for the non-poor* constituted by the poor's welfare or wealth. This defines the *basically giving regime* of these taxes and transfers. The corresponding taxes and transfers maximize a function U of form (2) that does not depend on u (hence $\lambda=0$).

On the other hand, these taxes and transfers may have in themselves a redistributive objective towards the poor, independently of the individuals' propensities to give manifested by their utility functions in question (notably because of $u_2^i>0$). This is the *redistributive regime* manifested by the fact that function U is an increasing function of the poor's welfare u, hence $\lambda>0$. This can result from a political influence of the poor (for instance in voting). It can also be due to a moral position of the government in favour of the poor, perhaps in the name of justice –whereas individual giving or intended giving from $u_2^i>0$ may manifest pity or charity. This government stance may itself result from the citizens (e.g. voters) judging at this collective level (with public debates, the role of parties, etc.). Then, the poor's welfare or wealth appears as a public good for both the altruistic non-poor and the poor themselves (through $\lambda>0$). A government's policy to alleviate poverty in order to avoid social unrest, may also have to be represented by $\lambda>0$.

Moreover, function U has to be an increasing function of u^i ($\lambda_i>0$) for all i. If this were not the case (and apart from some preferences of individuals j about others' contributions c_i), the solution would be to transfer all the wealth of an individual whose u^i does not influence U ($\lambda_i=0$), because this satisfies the poor (in the redistributive regime with $\lambda>0$) or other individuals j whose u^j influences positively U ($\lambda_j>0$) and who are altruistic ($u_2^j>0$) (in both regimes). Then this individual would no longer be a non-poor. Of course, public malevolence ($\lambda_i<0$) is a priori discarded and would practically lead to the same result (since starving would normally be the greatest harm).

The distinction between the two regimes is fundamental from the philosophical and ethical standpoint (although the redistributive regime with $u_2^i>0$ for some i tends to the basically giving one when λ becomes small). Indeed, the *basically altruistic* rationale is the only justification for public transfers for "classical liberalism": their only objective is to implement the charitable giving impaired by the absence of individual cooperation, given the public good nature of the poor's welfare for the givers (e.g. Milton Friedman (1962) says practically this).

This basically giving regime is the case which is formally analogous to that of ordinary public goods: the poor's wealth or welfare plays this role. The gifts are the individuals' free "contributions" and the public action is concerned by the good only through its evaluation by these individuals. In the redistributive regime, by contrast, the public evaluation also values the "good" in itself in addition ($\lambda>0$). In the basically giving case, the function $U(\{u^i\})$ can represent the outcome of any kind of cooperation between the givers.

An individual i a priori prefers not to pay her tax t_i. However, she may prefer that all individuals pay their taxes t_j to the case in which no one pays. This is a basically giving situation. Yet she may have to pay more in order to implement a redistributive policy in the other regime.

Many of the results obtained below will hold for both regimes. The differences will be noted. Functions U also implies distribution between the non-poor individuals i, but this will not be our concern and the results will hold for all cases in this respect.

2.1.2.3 Pareto efficiency

Pareto efficiency is favoured for its classical property of non-waste, particularly valuable concerning funds for the poor and the outcome of altruism. It is also a condition of a well-functioning democracy (absence of a possible state preferred by everybody – with possibly some indifferences –; for instance, in an electoral democracy, Pareto-inefficiency implies that a contending party can choose a program that will win by a unanimous vote – with possibly some abstentions).

The increasingness of the maximized function *U* for all u^i and *u* in the redistributive regime implies that the outcome is Pareto efficient. For the basically giving regime, the increasingness of function *U* for all the u^i implies that the result is Pareto efficient for the population of the non-poor. It is also Pareto efficient for the whole population, including the poor, if we add the following condition which is naturally satisfied:

A variation of the tax t_i entails a variation of individual i's utility u^i.

This condition even needs to hold only at states that are Pareto efficient for the non-poor. From such a state, indeed, change the set of taxes $\{t_j\}$. Then a number of levels u^i change (at least one), since this includes at least those that correspond to a tax t_i that actually changes. All these changing u^i cannot all increase, from the definition of Pareto efficiency (for the non-poor). Hence, at least one decreases. But this decreasing u^i is also a decreasing member of the larger set encompassing all u^i and *u*. Hence, any possible change in the set of taxes t_i from the state in question makes one member of this larger set of the u^i and *u* decrease. Therefore, no possible change in the set of taxes t_i from this state makes all the u^i and *u* increase or not change with at least one increasing. Hence, by definition, the state in question is Pareto efficient for the whole population of the non-poor and of the poor.[5]

[5] These properties are applications of general theorems. Let *z* denote a state, *Z* the set of possible states, $U^i(z)$ the utility function of *any* individual *i,* and *I,* I' and I'' sets of individuals *i*. Say that $z=z^*$ is *strictly Pareto efficient* for the set *I* of individuals *i* if $z^* \in Z$ and, for any $z' \in Z/\{z^*\}$, $U^i(z) < U^i(z^*)$ for at least one $i \in I$. Strict Pareto efficiency implies ordinary Pareto efficiency. Then, if z^* is strictly Pareto efficient for the population I', it is also strictly Pareto efficient for any population $I'' \supset I'$, and therefore it is Pareto efficient for this population. Note that if $W(\{U^i\}_{i \in I'})$ is a strictly increasing function which has a unique maximum on *Z* at z^*, then z^* is strictly Pareto efficient for

Moreover, if the increasing function $U(\{u^i\})$ has a unique maximum for a set of taxes, then for any other possible set of taxes one u^i (at least) is lower and hence this state is Pareto efficient both for the population of the non-poor and for the whole population including the poor. Note that we exclude the cases of complete spoliation of some individuals, who then cease to be non-poor (and whose suffering may exclude that *U* is maximum at such a state) although they may be Pareto efficient.

2.1.3 Domains and social interactions

We have to exclude the cases in which $x_i=0$ for any *i* since, then, individual *i* would a priori not survive and would at any rate be among the poor. The necessity of some consumption can be described by $u_1^i \to \infty$ when x_i becomes sufficiently small by decreasing from possible values. The solutions will then a priori be in the domains $x_i \in]0, X_i]$, $c_i=X_i-x_i \in [0, X_i[$, $g_i \in [0, X_i-t_i[$, $t_i \in [0, X_i-g_i[$.

The type of social interactions between the actors, the *n* individual givers and the public sector, is important. A priori, non-cooperation is the most important situation (the public sector can also be considered as the cooperative sector, a priori between the givers for $\lambda=0$, but also, with $\lambda=0$, between all people if the poor produce a threat inducing transfers). However, we will also consider behaviours that have a cooperative aspect (giving if others give, morality of the Kantian family, repeated situations, and tax rebates and matching grants). We will fully draw the conclusions for general Cournot-Nash behaviour. The important qualitative consequences will remain valid for most other types of non-cooperative behaviour. In particular, some type of aid is sometimes considered as the standard way, and the others are residual help when the former is not sufficient. For instance, depending on societies, the public sector and private charity play these two roles in reverse positions. These actors can in particular have any position in a relation of the Stackelberg type.

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population I', and therefore for any larger population $I'' \supset I'$, and it is also Pareto efficient for these populations. In particular, if $|I'|=1$ and I' is made of a single individual *i*, both strict Pareto efficiency for I' and this unique maximum mean a unique maximum of function U^i. This implies strict and usual Pareto efficiency for any population including individual *i*. This can result from individual *i*'s choice of z^* in the set *Z*.

2.2 Efficient giving

2.2.1 The basic condition

Individual i chooses her gift $g_i \in [0, X_i - t_i[$ that maximizes u^i given by (1). If she chooses $g_i > 0$, then

$$du^i/dg_i = -u_1^i + u_2^i + u_3^i + u_4^i = 0. \quad (3)$$

or

$$u_1^i = u_2^i + u_3^i + u_4^i > 0. \quad (3')$$

Efficient tax $t_i \in [0, X_i - g_i[$ maximizes a function U of form (2) and hence satisfies

$$dU/dt_i = \lambda_i \cdot (-u_1^i + u_2^i + u_3^i) + \Sigma_{j \neq i} \lambda_j \cdot (u_2^j + u_{c_i}^j) + \lambda u' \leq 0 \quad (4)$$

with sign = if $t_i > 0$.

If both properties hold,

$$\lambda_i u_4^i \geq \Sigma_{j \neq i} \lambda_j \cdot (u_2^j + u_{c_i}^j) + \lambda u', \quad (5)$$

with sign = if $t_i > 0$.

2.2.2 Consequentialism and the efficient single free giver

2.2.2.1 Partial consequentialism

Individual i is said to be in a consequentialist situation, denoted as $i \in C$, if $u_4^i = 0$ and $u_{c_i}^j = 0$ for all $j \neq i$. For $i \in C$, condition (5) becomes

$$\Sigma_{j \neq i} \lambda_j u_2^j + \lambda u' \leq 0. \quad (6)$$

This implies $\lambda = 0$ and $u_2^j = 0$ for all $j \neq i$. If $u_2^i > 0$, which is in particular implied by $u_3^i = 0$ from condition (3'), then there cannot be another giver in C. If there is more than one giver in C, $u_2^i = 0$ for all i, x is no longer valued by the social evaluation U either directly ($\lambda > 0$) or through people's opinion ($u_2^j > 0$), and these givers $j \in C$ are motivated by $u_3^j > 0$ only. However, $u_2^i = 0$ for all i implies that nobody praises anybody (others or oneself) for contributing to increasing

x (hence $u_3^j>0$ or, for other individuals, $u_4^k>0$, can only result from pure norms of contributing or giving in themselves).

Proposition 1. Partial consequentialism

With an efficient policy, giving by individuals in a consequentialist situation is impossible in a redistributive regime. In a basically giving regime, it can be done by at most one individual if she is an altruist, and notably if she does not value intrinsically her own contribution. If it is done by several individuals, society does not value the poor's income, and this prevents praising gifts or contributions because they augment it.

2.2.2.2 Consequentialism

In a *consequentialist* society, everybody judges the situation by its end-state only, i.e., *x* and the x_i, hence $u_3^i=u_4^i=u_{c_i}^j=u_{g_i}^j$ for all *i, j*. Then, for any *i*, $g_i>0$ implies $u_2^i>0$ from condition (3'), that is, any giver is altruistic, and condition (6). Condition (6) implies $\lambda=0$ and $u_2^j=0$ for all $j\neq i$. Therefore, there can be only one giver who is also the only altruist.

Proposition 2. Full consequentialism

In a consequentialist society with efficient distributive taxes,

– A redistributive regime precludes giving.

– A basically giving regime permits at most one giver who is also the only altruist. It precludes all giving if there are more than one altruist.

That is, efficient distributive taxes crowd out all gifts if they are redistributive, and, in the basically giving regime, all gifts except – possibly – one from a giver who is also the only altruist. Note that if there is one altruist only, the poor's welfare is no longer a public good for the non-poor, at least at the margin.

With such a single giver, her gift and the distributive tax she pays are perfect substitutes. Other individuals may pay distributive taxes whose only function is to transfer welfare towards the giver via the poor's income (and an induced lowering of the giver's

contribution). The poor's receipt is determined by this distribution between the giver and other non-poor and the giver's altruism.

Moreover, with $\lambda=0$ and $u_2^j=0$ for all $j\neq i$, condition (5) becomes

$$\lambda_i u_4^i \geq \Sigma_{j\neq i}\, \lambda_j u_{c_i}^j \qquad (7)$$

and hence the single altruistic free giver *i* can, in addition, have any intrinsic preferences about her contribution (u_3^i) or for her gift ($u_4^i \geq 0$ satisfying (7), hence any if $\Sigma_{j\neq i}\ u_{c_i}^j \leq 0$), or arouse any preference of others ($j\neq i$) about her gift ($u_{g_i}^j$) of for her contribution to be lower ($u_{c_i}^j \leq 0$) for any of the reasons indicated.

2.2.3 Impossible and a priori possible explanations

However, actually there are more than one giver and more than one altruist. A priori, individual *i* might give because she is altruistic, hence $u_2^i>0$, but condition (5) for $g_i>0$ does not contain u_2^i and is not influenced by it. Individual *i* might also give because she values her sacrifice that benefits the needy, that is, her contribution $c_i=t_i+g_i$, because this gives her sentiments of "warm glow," pride, self-righteousness, praiseworthiness, a favourable self-image, or others' approval, praise, esteem, admiration, gratitude, or absence of reproach, reproof or blame. Then, $u_3^i>0$. However, condition (5) for $g_i>0$ does not include u_3^i which does not influence it. Individual *i* is not induced to give because others would value her contribution in itself either, since $u_{c_i}^j>0$ for $j\neq i$ worsens condition (5) for $g_i>0$. Finally, individual *i* is not induced to give because others have any preference about her gift g_i in itself, since no $u_{g_i}^j$ for $j\neq i$ figures in condition (5) for $g_i>0$. Therefore, there remains only two possible types of reason for satisfying condition (5) and hence permitting $g_i>0$: a sufficient preference for one's own gift, $u_4^i>0$, and sufficient others' preferences for a lower contribution c_i, $u_{c_i}^j<0$ for some $j\neq i$.

Proposition 3. Impossible and possible explanations

Neither altruism, nor a preference about one's contribution to the poor's welfare, nor others' preferences about one's gift or for one's contribution being higher, can rescue giving from being crowded out by efficient distributive taxation; but both a preference for one's gift and others' preference for one's contribution being lower can.

Note the *inversion*. One's contribution does not help but one's gift may as objects of one's own preferences, and one's gift does not help but one's contribution may as objects of others' preferences. And one's own preferences should favour higher values whereas others' should favour lower ones.

2.2.4 Contribution and giving

Individual *i*'s *contribution* $c_i=g_i+t_i$ is *both the total cost for her, her sacrifice, and the poor benefit* from it. Therefore, this should a priori be the *relevant object of direct preferences* about transfers from person *i* to the poor for the reasons previously noted. Preferences about person *i*'s gift g_i for these reasons pass, then, through these preferences about her contribution $c_i=g_i+t_i$. We have just seen that this direct preference of person *i* for her contribution c_i *cannot explain* her giving in the presence of efficient taxation.

However, two effects may lead direct preferences about transfers from person *i* to bear directly on her gift g_i: *responsibility* and *visibility*. Then, individual *i*'s such *preferences about her own gift* ($u_4^i>0$) *could explain this gift with efficient taxation*. However, this explanation meets four obstacles:

(1) The arguments of responsibility and visibility are often more or less objectionable.

(2) Justifying a direct preference for one's gift in itself by a "warm glow" is a priori contradictory.

(3) With a large number of givers, the explanation by the giver's direct preferences for her gift requires a counterfactual vanishing of average altruism.

(4) This prevents attributing an intrinsic value to giving or contributing (more precisely, it prevents such a general opinion, and that a non-vanishing proportion of people have this opinion about themselves), hence another contradiction for the explanation based on giving in itself.

2.2.5 Responsibility and visibility

Responsibility and visibility are two very different reasons, and the second is based on mistaken information. Individual *i* seems responsible for her gift g_i but not for her tax t_i. This is a reason for basing judgments about individual *i* on her gift g_i. Moreover, gift g_i may be observed and known, while individuals other than *i* may not know the tax she pays (their opinion may matter both through the efficiency conditions and when person *i* cares about it). In addition, the distributive tax t_i may be included in more general taxes the product of which is also used for other expenditures; this impairs information about tax t_i and hence contribution c_i for both individual *i* and other people.

However, social pressure for giving may limit the giver's responsibility. If tax t_i results from a collective agreement among givers, individual *i* is responsible for having accepted it. The determination of t_i by the tax authority may choose the values that would have resulted from such a collective agreement.[6] At any rate, individuals may vote for the tax or accept this mode of decision. Concerning information, the individual usually knows the taxes she directly pays (she can estimate what she pays in indirect taxation). Other people may estimate individual *i*'s taxes from observing her lifestyle. Then, t_i may be estimated from the share of public expenditures used for helping the needy.

2.2.6 Liking one's gift and large societies

Consider the effects of valuing one's own gift. Condition (5) is

$$\lambda_i u_4^i \geq \Sigma_{j\neq i}\lambda_j \, u_2^j + \lambda u' \qquad (8)$$

if $u_{c_i}^j = 0$ for all j.[7]

Condition (8) requires a priori a high level of u_4^i, by its comparison with the u_2^j, u' and the number of altruists. Moreover, fiscal redistribution is usually in large populations, most often at the national level. Then, if *n* is large (such as several or many millions),

[6] This ethical principle is a "liberal social contract" (Kolm 1985, 1987a, 1987b, 1996, 2004). Note that each participant to a collective agreement is fully responsible for it since she could have vetoed it.

[7] More generally, condition (8) is implied by condition (5) or implies it according as $\Sigma_{j\neq i} \, u_{c_i}^j \gtrless 0$.

condition (8) implies that *average (marginal) altruism* u_2^j *vanishes*.[8] However, first this vanishing is not the case actually. Second, if it were the case, this would undermine the very reasons for $u_4^i>0$, at least for a non-vanishing proportion of individuals. Indeed, an individual *j* tends to praise extra giving and the givers for a moral reason the more she values the increase in the poor's income, hence the larger u_2^j. She applies this to both others and herself. However, a vanishing average u_2^j implies a vanishing of all u_2^j except perhaps for a vanishing proportion of them. Hence it prevents that general opinion or a non-vanishing fraction of people praise a giver. It also makes the fraction of givers who can be motivated by self-praise vanish. Hence the large number tends to prevent conditions (8) to hold, at least for a non-vanishing proportion of people. And there actually tends to be, on the whole, a large number of givers.

Denote as

$$v=dU/dx=\Sigma\lambda_i u_2^i+\lambda u' \qquad (9)$$

the marginal social utility of the poor's income, and as $G=\{i:\cdot g_i>0\}$ the set of actual givers. Form (9) implies

$$v\geq\Sigma_{i\in G}\lambda_i u_2^i+\lambda u' \qquad (10)$$

For $i\in G$, condition (8) also writes (with condition (3)),

$$\lambda_i\cdot(u_2^i+u_4^i)=\lambda_i\cdot(u_1^i-u_3^i)\geq v. \qquad (11)$$

Let us assume that the poor's income is considered socially valuable, that is $v>0$, which implies $\lambda=0$ or $u_2^i>0$ for at least one *i*. Condition (11) then implies, for $i\in G$, $u_2^i+u_4^i>0$, and $\lambda_i\geq v/(u_2^i+u_4^i)$. Then, with condition (10),

$$\Sigma_{i\in G}[u_2^i/(u_2^i+u_4^i)]+\lambda u'/v\leq 1.[9] \qquad (12)$$

Condition (12) shows that altruistic givers ($u_2^i>0$) with $u_4^i=0$ cannot exist if $\lambda>0$, and are at most one if $\lambda=0$ (the results of section 2.2.2).

However condition (12) shows also a new and much more important result. Denote as $N=|G|$ the number of givers. In the large redistributive society,[10] *N* is large (for instance, 9

[8] See also Ribar and Wilhelm (2002).
[9] With sign = if $t_i g_i>0$ for all *i* (everybody pays the tax and gives).

Americans out of 10 report having given in the year). Since $\lambda u'/v \geq 0$, condition (12) implies that, on the average, u_4^i/u_2^i for $i \in G$ has the order of magnitude of N. That is: on the average, *the last gifts are given N times more for the glory of the giver than for the relief of poverty, where N is several or many millions*. This does not seem to fit the facts.

Proposition 4. Liking one's gift in large societies

Intrinsic preference for one's gift can explain giving with efficient public transfers, but only if it is quite large, or, in a large society, only if average altruism vanishes. This vanishing is counterfactual. It also prevents valuing one's gift because of average praise, and valuing it because of self-praise except possibly for a vanishing fraction of people. Hence the large number of givers cannot be so explained. On the average, valuing one's gift should exceed one's altruism by an order of magnitude not lower than the large number of givers.

2.2.7 An intrinsically contradictory hypothesis, or an irrational motivation.

At any rate, the hypothesis about motivation that underlies liking one's gift in itself ($u_4^i>0$) is psychologically self-contradictory to begin with. Indeed, this hypothesis is that the individual likes her own gift in itself because it makes a good image of her, in her own eyes or in the judgment of other people whose opinion she cares for. However, this image cannot be one of a benevolent, compassionate, generous, altruistic person caring about others' poverty and suffering and who makes a sacrifice for this reason, because this is not her actual motivation (only deceiving others about one's motives could have this effect, the pure self-image cannot a priori be so fooled). The only thing that can be granted to this person is that, de facto, some wealth of hers goes to the poor's benefit. Then, however, what can be appreciated for this reason is her full contribution $c_i=g_i+t_i$, and we have seen that a direct preference for it cannot explain giving. The fact that this individual freely provides a part of this can play no role because she does not provide it for a moral reason.

A proper feeling of warm glow for giving requires that one considers this act costly for oneself to be good. The strongest (and the autonomous) reason for this is that one values its result by being altruistic ($u_2^i>0$). Then, however, this altruism is not the cause of this giving but a condition for it. These two sentiments of warm glow and altruism commonly have some

[10] Whether $\lambda=0$ or $\lambda>0$.

difficulty to coexist and rather come alternately. The individual may also give in part because of altruism and in part because of warm glow, and the noted irrationality affects the second motive only, whereas the effect of the first on the gift should be crowded out by fiscal transfers.

However, there may also be lower rationalities, in the form of shorter or absent justifications of behaviour, or of contradictory, fluctuating or unconscious preferences. This can take many forms. A number of them can lead the agent to give without either altruism or the desire to be an altruist or to look like one. At a primitive level, agent *i* may know, believe or think that giving is simply something to do; or that a higher x, c_i or g_i, or some level of them, is a good or proper thing. This may come from hearing others or observing their acts, or from education. Giving may be a habit or a tradition. It may just be imitation. It may also be a personal norm in itself. Then, however, it is most often a social norm, which may be supported by praise or by blame for failing to follow it, from others' or in one's own judgment. It may be following a moral injunction, with, possibly, similar judgments. This individual may be devoid of any altruistic sentiment, but, then, it is certainly not the case of the judging others or of the moral leaders or institutions (which may also have other motives, however). Such norm-following is no so virtuous as being an altruist. It can provide second-best warm glows only, but ones that are immune from self-contradiction.[11]

Moreover, an individual may not always be fully aware or self-conscious of all her motives and preferences. These motives and preferences may also fluctuate, be formed and transformed. This may be particularly true for the type of motives in question. Deceiving others about one's motives is classical (and this hypocrisy may not help self-esteem), but self-deception also seems to abound. Irrationality and contradiction in motives are not rare and do not prevent life (the important Kantian motives, shortly considered, purportedly the most rational ones, also have their problem with rationality).

Finally, there are several types of motives and in particular of warm glows from judging oneself, with very different effects and rationalities. Each has a base and a marginal utility. There is self-interest (x_i, u_1^i), and altruism (x, u_2^i). Then, there are two types of

[11] Kaplow (2006) considers a norm of giving (but the main issue is that such a norm does not require altruism).

altruistic warm glows which requires the person to be altruistic ($u_2^i>0$). One is the *sacrifice warm glow* (c_i, u_3^i) valuing one's costly contribution to the poor's wealth or welfare. The other is the *responsibility warm glow* (g_i, u_4^i) valuing the part of this contribution the giver is responsible for (this responsibility implies a sacrifice, and issues of information are set aside). Moreover, there can be *normative warm glows* which satisfy norms, may be concerned with g_i or c_i, and may not be altruistic ($u_2^i=0$).

Neuroeconomic experiments such as that made by Harbough, Mayr and Burghart (2007) permit the estimate of relative magnitudes of the four values u_1^i, u_2^i, u_3^i, and u_4^i by comparison of the neural activity of subjects during four types of events (there was no norm of giving in the situation). The case of giving to the poor provides $u_4^i+u_3^i+u_2^i-u_1^i$. The case of a forced transfer to the poor provides $u_3^i+u_2^i-u_1^i$. Watching an external gift to the poor provides u_2^i, and being given money without the possibility to give provides u_1^i.[12]

2.2.8 Intrinsic preference for others' lower contribution

The other possibility to satisfy condition (5) is with $\Sigma_{j\neq i}\,\lambda_j u_{c_i}^j<0$ and sufficiently negative. If $u_4^i=0$, condition (5) becomes

$$\Sigma_{j\neq i}\,\lambda_j\cdot(u_2^j+u_{c_i}^j)+\lambda u'\leq 0. \qquad (13)$$

The condition $u_{c_i}^j<0$ can result from the noted comparative sentiments of envy, jealousy, inferiority, superiority, distinction, conforming, fairness and inequality-aversion, in comparing contributions. Individual *j* can in particular be envious, jealous, or feel inferior if $c_i>c_j$ or feel superior if $c_j>c_i$. This can be her own intrinsic judgment, but it can also, commonly, be motivated by the comparisons of other people when she cares about their opinions concerning her. Individual *j* can also compare c_i with c_k for $k\neq i, j$. All these comparisons may be qualified for income or wealth, status, or aspects of social situation. A priori, some of the most important of these sentiments disappear or decrease when c_i is lower.

[12] The authors do not have this last stage precisely. They show particular interest in u_4^i derived from the first two experiments (but they do not consider u_3^i and they should obtain $u_1^i>u_2^i$).

Hence, a priori, these effects are rather likely to induce more gifts $g_i>0$ from individuals with higher contributions c_i, with efficient distributive taxes.

However, condition (13) requires

$$-\Sigma_{j\neq i}\,\lambda_j u^j_{c_i} \geq \Sigma_{j\neq i}\,\lambda_j u^j_2\,, \qquad (14)$$

that is, a "envy effect" (for short) higher than altruism (at the margin). On the average, other individuals should prefer individual i's contribution to be lower more than they prefer the poor's income to be higher. Although one should not underestimate the importance of these comparative sentiments, this relative average importance seems unlikely. In addition, individuals $j\neq i$ tend not to be well informed about $c_i=g_i+t_i$, notably because of t_i.

Moreover, the people who have such comparative sentiments towards a person's contribution often belong to some kind of community to which this person belongs too. This, indeed, provides, between them, some sort of proximity which makes the comparison appear relevant, and also often provides the information about the person's contribution. When the redistributive society becomes large, these communities a priori remain more limited, and the ratio $-\Sigma_{j\neq i}\,\lambda_j u^j_{c_i} / \Sigma_{j\neq i}\,\lambda_j u^j_2$ tends to vanish, thus preventing condition (14) and this explanation of $g_i>0$ with efficient taxes. Specifically, in this case condition (13) and the explanation could hold only if average altruism (u^j_2) vanishes. This is not the case. Moreover, the reason for valuing individuals' contributions c_i in themselves depends a priori on their utility for the poor, and hence on the appreciation of this fact, altruism. This view tends to vanish for practically everybody when average u^j_2 vanishes. This is another contradiction. Valuing the c_i simply from non-altruistic norms of contributing does not seem to be able to play a notable role.

Proposition 5. Others' preferences for lower contribution.
If sufficiently many other people sufficiently prefer the person's contribution to be lower, this person may give with efficient transfers. If this is the only cause, however, this happens only if this value exceeds others' altruism towards the poor, which is unlikely, especially in a large society, and undermines average altruism and hence the reasons for judging contributions.

2.2.9 Moral efficiency

Finally, sentiments of envy, jealousy or superiority (entailing $u^j_{c_i}<0$), and vainglory or vanity (entailing $u^i_4>0$), are considered immoral sentiments. Hence, one may consider that they should not influence the determination of the optimum (should one take something away from someone because other people feel envious about it?). That is, the criterion of optimality should, then, not "respect" these features of individuals' preferences, which should be so "laundered," "ironed" or "cleaned" for these sentiments.[13] If these sentiments are the cause of $u^j_{c_i}<0$ and $u^i_3>0$, these derivatives should be erased in condition (4) which becomes

$$\lambda_i\cdot(-u^i_1+u^i_2)+\Sigma_{j\neq i}\,\lambda_j u^j_2+\lambda u'\leq 0, \qquad (15)$$

with sign = if $t_i>0$. However, condition (3) resulting from individual i's free choice of her gift g_i is not changed (moral education is not the present issue, and the choice of g_i is by definition free since this is a gift). Gifts and taxes are then determined by the $2n$ conditions (3) and (15) for all i. The "laundering" amounts to the g_i and c_i having the values so determined. Conditions (15) and (3) imply

$$\lambda_i\cdot(u^i_3+u^i_4)\geq\Sigma_{j\neq i}\,\lambda_j u^j_2+\lambda u' \qquad (16)$$

with sign = if $t_i>0$. This amounts to replacing u^i_4 by $u^i_4+u^i_3$ in condition (8).

Proposition 6. Moral policy

Moral optimality or efficiency, discarding the effects of immoral sentiments from individual preferences used for the social or moral evaluation determining the fiscal policy, leads to conditions that drop the effects of envy, jealousy or superiority, and, as a result of laundering vainglory away, add the persons' sensitivity to their own contribution to that to their own gift (hence, consider the effects of a person's gift both directly and through her contribution).

This result is important and paradoxical. It provides an extra cause of giving ($g_i>0$) with an efficient fiscal policy: sufficiently valuing one's contribution in itself ($u^i_3>0$). This can lead to inducing giving that would have been crowded out otherwise. This is particularly

[13] If individuals determine the policy, they may impose the consideration of all aspects of their preferences. However, it is also not uncommon that they want the policy to discard the effects of their immoral preferences that they are unable to prevent themselves. Moreover, when the policy results from some kind of collective agreement, possibly manifested and realized by the political process, it is rather natural that people do not put forward and reveal their "immoral" reasons, and agree explicitly or implicitly to discard them.

important since, when it is for a reason of the "warm-glow" type, valuing one's contribution has some rationale (one's contribution is one's sacrifice that helps the needy) whereas valuing one's gift in itself is wanting in this respect (a selfish desire to be praiseworthy for one's non-existent unselfishness – see the foregoing discussion). However, this effect of erasing the sentiment of vainglory or vanity from the moral/social evaluation consists in finally reinforcing the effect of this immoral sentiment, by introducing the effect of this sentiment concerning the person's contribution c_i, while leaving its effect concerning her gift g_i.

2.2.10 Other remarks

When $u^j_{c_i}=0$ for all *i, j*, condition (12) holds. It also writes, with conditions (3),

$$\Sigma_{i\in G}\,[u^i_2/(u^i_1-u^i_3)]+\lambda u'/v\leq 1. \qquad (17)$$

It becomes

$$\Sigma(u^i_2/u^i_1)+\lambda u'/v=1 \qquad (18)$$

if , for all *i*, $u^i_3=0$, $g_i>0$ and $t_i>0$: this is the classical efficiency condition for the public good *x*, which is public between both the altruistic givers and the receivers, or between the former alone if $\lambda=0$, with a marginal cost of 1 ($t_i>0$ for all *i* entails that the t_i achieve unconstrained general optimum distribution). However, the classical public good case is with $g_i=u^i_4=0$ for all *i*, whereas this case with $g_i>0$ for all *i* implies $u^i_4>0$ for all *i* (which – we have seen – has a problematic intrinsic logic). This can hold with the two regimes of $\lambda=0$ (transfers collectively wanted by the payers) or $\lambda>0$ (a priori higher transfers).

2.2.11 Ordinary public goods and the comparison of motivations.

All the results obtained also apply to ordinary public goods for the contributors, when there can be "voluntary contributions" analogous to the "gifts" g_i and public financing from taxes on the beneficiaries. This corresponds to the case $\lambda=0$ (however, the case $\lambda>0$ is not uninteresting: it corresponds to the cases in which the government attaches a direct value to the good, apart from citizens' preferences, which can describe not unfrequent motives such as prestige or personal interest of rulers, intrinsic social or moral value of items such as aspects of the environment, culture, or national defense or glory, or Musgrave's "merit goods" that are public). The whole set of motives, and the relative importance of various types of motives,

can be quite different, but some motives can be the same, and the structural results are the same and are not repeated here. Other public goods can concern populations of all sizes. Conversely, all the reasons for free contributions to ordinary public goods also apply, a priori, to the particular public good of helping the needy (see section 3.6).

The basic common issues and differences concern the motives. For instance, for an ordinary public good which is just joint consumption without intrinsic moral value, praising someone for her own voluntary contribution in itself can only be because this proves her to be a good cooperator (even this person's altruism towards her co-consumers would pass through the total amount of the good). This can be both self-praise and others' praise appreciated by the contributor, or the corresponding absence of blame. This motive can raise the question of motivational consistency discussed above (you may contribute for being praised as a good cooperator, but then, not as a morally motivated good cooperator, with the possible role of the various norms). Being a good cooperator can also be a motive for contributing to helping the poor, but, then, it is bound to be quite less intense than the quest for the virtue of being a good, compassionate person, although the importance and morality of the end may enhance the value of cooperating. As a general rule, indeed, the moral value of helping the poor tends to reinforce the motives for cooperation. For instance, among the motives shortly considered, this is the case for the motives of the Kantian family, or of doing one's fair share given that the others do theirs. Other public goods with a possible moral dimension (e.g. culture, the arts, medical research, the environment, education) are in the same case, but helping the poor provides sentiments and motives among the most intense. Finally, some motives are restricted to the cases of giving to other people, such as the putative reciprocities shortly discussed.

3. RATIONAL ALTRUISMS

Rational altruism is altruism based on a reasoning of some sort. It includes, for instance, the effect of empathy by imagining oneself in the poor's place, or the desire to diminish unjustified inequalities. We focus here on two common and non-simplistic reasonings backing help to the poor, universalization or rule morality ("Kantianisms") and putative reciprocity.

3.1 Universalization and Kantianisms

Your gift may acquire a particular importance if other people imitate you. For most people, this is not the case, or it is to a very limited extent only. However, a most common justification of acts in society amounts to assuming a similar effect. This reason is expressed as: "I do this because imagine that nobody dit it." This is the most common answer when people are asked why they care to vote in large elections in which their own vote has no chance to make a difference (hence this reason is a condition of democracy), why they refrain from polluting public places, etc. People usually stick strongly to this illogical (it has been called magical) reasoning. This common reasoning has been hypostatiated by Kant into the moral law of his "categorical imperative" expressed as: "Do as if you could want the principle (maxim, rule) of your action to be the universal rule" (to be followed by everybody). Since these folk or philosophical ethical reasons aim at promoting desirable states and overcoming lack or coordination, it certainly can apply, and more or less applies, to helping the poor. All the analyses and results of this section applies to ordinary public goods, by setting $\lambda=0$ when needed.

These conducts and reasons can a priori mean several things. The notion that "people do the same" may a priori refer to actions relative to various aspects of actors' characteristics or situations in various possible ways. Each such set of actions defines a particular "rule." Kant's formulation assumes that the Kantian agent chooses a rule (maxim, principle) by assuming it to be universally followed. However, if each Kantian agent evaluates the consequence of the fact that everybody follows the same rule by a criterion that is proper to her and a priori differs from those of others – notably her utility function, or a specific moral criterion – then each a priori selects a different rule – depending on the set of available rules.[14] Then, different Kantian agents act according to their own best universal rule, which differs a priori from one to the other. Such a situation would seem somewhat puzzling. One aspect is that the Kantian meta-rule would not apply to itself: an individual could not apply it while assuming that everybody applies it, since she would assume both that they all follow the same rule and that they follow the different rules that each finds to be the best one when universalized. This can be seen as a self-referential inconsistency. Moreover, as we will see, the result is not in general Pareto efficient.

[14] In the case of voting, if the only two available rules are voting or abstaining, Kantian people with different evaluation criteria may well make the same choice. But if the rule can make precise how to vote, Kantian conduct simply leads one to ban strategic voting.

However, since Kantian agents act morally/socially, it seems consistent that they also evaluate with a moral/social criterion, rather than with their own individualistic preferences.[15]

Notably, individuals may all evaluate with the same social evaluation function U. The relevant aspects of a rule are its consequences, i.e. the resulting choice of gift g_i for each individual i here. Then, the best rule, as judged by all such Kantian individuals, is the (or a) set of g_i that maximizes U. Each individual chooses her own g_i, but the g_i of the set that maximizes U are determined jointly. However, the g_i are independent variables, and the solution can be obtained as the (relevant) equilibrium of a Cournot-Nash game in which each individual chooses her g_i that maximizes U for given values of the g_j for $j \neq i$. Given the structure of function U, this satisfies Pareto efficiency.

However, distributive taxes t_i can also be chosen. Noting $U_{g_i} = dU/dg_i$ and $U_{t_i} = dU/t_i$, the forms (1) and (2) of u^i and U entail, with $c_i = g_i + t_i$:

$$U_{g_i} = U_{t_i} + \alpha_i \tag{19}$$

with

$$\alpha_i = \lambda_i u_4^i + \Sigma_{j \neq i} \lambda_j u_{g_i}^j = \partial U / \partial g_i. \tag{20}$$

For the g_i and t_i that maximize U, with the foregoing assumptions,

$U_{g_i} \leq 0$ with sign = if $g_i > 0$,

$U_{t_i} \leq 0$ with sign = if $t_i > 0$.

If the u_4^i and $u_{g_i}^j$ are not assumed all zero, for the set of g_j and t_j that maximize U, $\alpha_i \neq 0$ except fortuitously. Then U_{g_i} and U_{t_i} cannot both be zero. Hence of the gift g_i and the tax t_i, *if one exists it crowds the other out* at the highest U. Specifically, $t_i = 0$ if $\alpha_i > 0$ and $g_i = 0$ if $\alpha_i < 0$. The case $\alpha_i > 0$ occurs in particular if $u_4^i > 0$ and $u_{g_i}^j = 0$ for all $j \neq i$; this is another aspect of $u_4^i > 0$ permitting $g_i > 0$. If $\alpha_i = 0$, which can be seen as non-fortuitous only under the

[15] Even if these preferences are in part moral because they are altruistic : this morality is only in part, and one may also remark that, for Kant, altruism is not "moral" – hence rational – but only one aspect of tastes – "inclinations" – among others (this implies that this altruism is not of the "rational" type – see Kolm (2006)).

"classical" assumptions implying $u_4^i = u_{g_i}^j = 0$ for all j, g_i and t_i may both be positive; in fact, they are substitutable in all respects (only $c_i = g_i + t_i$ intervenes); this amounts to individual i freely paying her distributive tax. In all these conditions, u_3^i and $u_{c_i}^j$ play no role.

Proposition 7. Kantian teams[16]

With Kantian individuals evaluating according to the same social welfare function, an individual cannot non-fortuitously both give and pay an efficient distributive tax if there are direct preferences about gifts. She cannot pay a tax but may give if the only such preferences are her own intrinsic valuation of her gift. Taxes and gifts are perfect substitutes in a consequentialist society.

When Kantian individuals evaluate with their own utility functions, Pareto efficiency can obtain in various ways when individuals' choices of rules are somehow induced to have some kind of similarity, and with particular structures and similarities in utilities. The concepts and results are presented in appendix B.[17]

3.2 Putative reciprocities

A classical reasoning behind helping is that of "putative reciprocity." This is: "I help her because she would have helped me if our situations were reversed." One imagines not only being in the other's place, but also the other being in one's place. Reciprocity is giving because one has been or is given to. In putative reciprocity, the received gift is counterfactual, it is purely imagined. The various characteristics, types or extensions of reciprocity apply to putative reciprocity also.[18] The reason is *extended* or *reverse* putative reciprocity when it is, respectively, "I help her because I would have been helped (by anybody) if I needed it," or "because she would have helped someone in need (possibly not myself) if she could."

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[16] A set of individuals with the same objective function has been called a "team" by R. Radner.

[17] Among modellings of voluntary contributions to public goods inspired by Kant, Laffont (1975), Bilodeau and Gravel (2004) and Bordignon (1993) consider individuals' evaluations by their utility function. Bordignon also considers evaluations by particular higher moral functions specific to the individuals. Laffont considers individuals identical in utilities and incomes. Laffont and Bilodeau and Gravel consider Pareto efficient solutions. Bilodeau and Gravel consider individual rules that are a priori required to be largely similar. Bordignon considers Pareto-inefficient results, and compares this public good production to the efficient one and to that resulting from a political (voting) choice.

[18] See Kolm (2008).

Reciprocity is concerned with gifts but, in the present question, it can be either g_i or the full contribution $c_i=g_i+t_i$ (then the actual gift g_i adjusts to the taxes).

There are two types of genuine or proper reciprocity – that is, barring self-interested sequential exchange –, and their distinction for putative reciprocity is crucial for our present concern. In *balance (or matching) reciprocity*, the return gift aims at establishing some balance with the initial gift. In *liking reciprocity*, a benevolent initial gift makes the receiver like the giver, and this liking elicits the receiver to make a gift to the initial giver. Hence, putative liking reciprocity is only a reason that induces or reinforces altruism and giving for improving the other's welfare or situation ($u(x)$ or x). By contrast, in putative balance reciprocity, the focus is on the gift g_i in itself (possibly in relation with the participants' needs or means). These motives can be described by the structure of utility functions.

In putative balance reciprocity, gift g_i is determined as a return-gift to the gift γ_i received in the imaginary reversed situation, and γ_i is considered to be symmetrically chosen (or similarly for contributions c_i). The solutions of this "reciprocity game" can be "dominations" in which one of the parties is a Stackelberg leader. Yet, the spirit of "balance" may prefer the "equilibrium" solution in which it makes no difference whether one giver or the other is the first or the second to give, which implies a solution of the Cournot-Nash form. The sentiment of this reciprocity can be represented in the agent's utility function, and the choice described by its maximization. This is done by writing the putatively received gift γ_i as a parameter of this function, alongside the variable of the chosen gift g_i, and this function can also have all the other arguments previously considered (x_i, x, c_i, g_j, c_j). In the "equilibrium" solution, individual i chooses g_i while assuming γ_i to be fixed. Therefore, all the consequences of individual i having a direct preference about her gift g_i previously discussed apply to this case. Putative balance reciprocity reinforces the various motives for caring directly about one's gift by adding praise or praiseworthiness for providing a matching gift, with possible aspects of fairness, norm following or gratitude, and aversion to blame, blameworthiness, guilt or shame for failing in this respect (this can also concern contribution c_i, but we have seen that this is less interesting for explaining giving).

Hence, putative liking reciprocity creates or reinforces the public good problem, whereas putative balance reciprocity is based on an interpersonal relation that a priori does

not raise this problem. However, the assistances that are balanced may be relative to the parties' needs, and the poor's needs depend on aid received from other people or fiscal transfers, which reintroduces the public good problem. Gratitude has aspects of both types of reciprocity: it induces a sentiment of the liking kind, but a return-gift that it may induce has also an aspect of balance or matching. It can also have some place in the putative relationship.

4. NORMS AND SOLIDARITY

4.1 Norms of giving or contributing

As we have noted, giving or contributing is importantly the object of norms of various types. Formally, this is incorporated in the previous analysis by considering a preference for obeying a norm. Whether the norm favours – or imposes – a fixed amount, or only favours a larger amount, all can be expressed in the structure of utilities (extended, possibly, to lexical orderings for representing requirements that cannot be transgressed). One can often choose to satisfy a norm more or less, notably by comparing with the cost it induces. An effect of norms with important possible consequences on the foregoing conclusions is that they permit the propensity to give or contribute to be more independent from genuine altruism (variable x in utility functions). There is an important scope for norms of helping, giving or contributing by non-altruistic people. This permits $u_4^i>0$ or $u_3^i>0$ with $u_2^i=0$ or quite small, which can have important consequences for explaining $g_i>0$ with efficiency in the foregoing conclusions. This contrasts with an autonomous judgment praising giving or contributing because they help the needy (for judging one's own or other people's acts). The point is that a norm is not a reason, although obeying a norm may be a reason for acting. There are also norms for feeling compassionate or for liking, but norms about sentiments (and hence about structures of preferences) are something else, and the notable fact is that there can be a norm about the act of helping or giving without a norm about sentiments that could induce it (compassion, pity, or altruism or benevolence in sentiments).

Since giving for the relief of need is considered a moral act, the classical distinction between moral and non-moral social norms (whose violation elicits judgments and sentiments of guilt and shame, respectively) is somewhat blurred. There are purely social phenomena about what is proper to do (you may have to give on Sunday as you have to wear a tie), often

with a particular importance of other people's judgments – although the individual may internalize the norm. There are also deeper norms of giving or helping demanded by religions or by social ideals of solidarity, which make this act a duty. These are moral motives in a sociological sense of the term "moral," but not intrinsically insofar as they are not derived from actual individual altruism or compassion ($u_2^i>0$) which can well be absent.

4.2 Sense of community and solidarity

Propensity to help, in particular durably, is strongly fostered by a sentiment of solidarity with the beneficiary. This sentiment is closely related to the sentiment of belonging to a same community of one kind or another as the beneficiary of the gift and to the corresponding "social distance." There is in fact a spectrum of more or less close communities of various sizes, which induce more or less helping, from intra-family support to assistance in local, professional or cultural communities, fiscal redistribution mostly in national communities, and helping a fellow human member of the community of mankind. This has major consequences. Alesina and Glaeser (2004) attribute the lower level of transfers in the US than in Europe to a lower sense of belonging to the same community as the bulk of the poor. A main obstacle to the European integration is that the sense of community, and the common history that have build it, are at national levels, and hence transfers of fiscal responsibility to European institutions will induce lower redistribution, which is strongly resisted. A sense of community enhances people's sensitivity to all the items related to others: the poor's welfare u or wealth x, one' own gifts g_i or contributions c_i, others' gifts or contributions (g_j or c_j for individual i), others' judgments about oneself, and hence all the corresponding derivatives of the u^i compared to u_1^i.

5. REBATE AND MATCHING GRANT NEUTRALITY OR DUAL EFFECTS (COST OR BENEFIT)

In many places and cases, philanthropy is subsidized by tax exemptions or rebates, or encouraged by matching grants. The basic thing about these policies is that, a priori, they have no effect, if all is considered. Notably, the financing of the cost of these policies should not be forgotten. Other things equal, they are financed by taxes. This product could have been directly provided to the poor, that is, what the poor receive from taxes is diminished by this

amount. Their income is in this way diminished by the matching grant they receive. Or it is diminished by the rebate or subsidy received by the giver, and the gift minus the rebate is both the cost for the giver and the final receipt of the poor for which the giver's choice is responsible. Hence, in all cases, when the giver chooses her gift by balancing the cost for her and the benefit for the poor, both are equal, and this amount is also what the giver or other people may directly value as her gift or as a part of her contribution.

In the foregoing models, if the gift g_i of giver i is augmented by the matching grant $m_i(g_i)$ (with $m_i(0)=0$), the poor receive $g_i+m_i(g_i)$, but the taxes Σt_i finance $m_i(g_i)$ and are diminished by this amount when they are transferred to the poor. Hence, the poor receive $\Sigma[g_i+m_i(g_i)]+\Sigma t_i-\Sigma m_i(g_i)=\Sigma g_i+\Sigma t_i$. For rebates or subsidies, if the giver i, giving g_i, receives a rebate or subsidy of $r_i(g_i)$ (with $r_i(0)=0$), this is financed from the taxes Σt_i (perhaps, for tax rebates, by a transfer to the income tax fund for leaving other things equal), this amount Σt_i is diminished by the amount $r_i(g_i)$ when it is transferred to the poor, and the poor receive from the gift g_i only $g_i-r_i(g_i)$, which is the cost to giver i. The poor receive, on the whole, $\Sigma g_i+\Sigma t_i-\Sigma r_i(g_i)=\Sigma[g_i-r_i(g_i)]+\Sigma t_i$. All is identical to giver i deciding to give $g'_i=g_i-r_i(g_i)$. Since the taxes do not change, the same result holds if they are not lump-sum.[19]

Of course, if grants, rebates or subsidies are financed, in total or in part, from outside this system, and one forgets about their cost, or if the givers suffer from "gift illusion" and forget about this financing and its effects, other results obtain, with generally increases in the gifts. Then, such a given amount generally enriches the receivers more when it is used for financing matching grants, rebates or subsidies increasing with the gift. In these cases, the cost for the giver differs from the corresponding benefit for the receivers. This raises, for concerns about gifts or contributions in themselves, the problem of whether what matters is the giver's actual sacrifice, or the increase in the poor's benefit due to the giver's action, or

[19] This is the reason of the result of Bernheim (1996) for the consequentialist case ("pure altruism"). Andreoni (for lump-sum taxes and proportional subsidies) sees well the general logic for the consequentialist case ("pure altruism") in 1988, but obtains in 1990 a different result for the general "impure altruism" case because he writes (p. 469) that the warm glow is concerned with the individual gift g_i rather than with the individual's cost of his gift or net gift $g_i\cdot(1-s_i)$ where s_i is the subsidy rate. This assumption probably results from the three hypotheses that the individual thinks that: the poor will receive g_i, the subsidy $s_i\, g_i$ is given from outside as manna from heaven, and the relevant base for warm glow is the poor's benefit g_i and not the sacrifice the individual incurs for it $(1-s_i)\cdot g_i$ – for the items the individual is responsible for. This is at odds with the assumptions of both the article of 1988 for pure altruism (concerning the financing of the subsidy), and a note mentioning a warm glow for total sacrifice $g_i\cdot(1-s_i)+t_i$, with the resulting neutrality.

both, or some combination of both. This choice may more or less differ according as whether the issue is the gift g_i or the contribution c_i.[20] It may also depend on who evaluates (the giver herself or someone else). The results then may also depend on the hypotheses about the origin of the funds (possibly part exogenous and part endogenous, etc.).They include the determination of the optimal subsidy or matching-grant schedules. The same remarks hold for moral efficiency (along the lines of section 2.2.9).[21]

Proposition 8. Rebate and grant neutrality

Rebates, tax exemptions, subsidies or matching grants have no effect on gifts when their cost is taken into account. If this is not the case, the direct concerns may refer to the giver's payment or to the receivers' benefit.

6. GENERAL COOPERATION AND GAMES

6.1 General reasons for free contributions or cooperation to public goods

The general reasons for free contributions or cooperation to the production of non-excludable public goods can apply more or less to joint giving to the poor, in addition to reasons more specific to this question. This is a case of the "basically giving" regime. Being a good cooperator, or intending to be one, may be valued in itself by oneself or by others whose opinion one values.[22] It may be a social norm. Lack of it may be sanctioned by reproof and blame, as well as by guilt or shame. However, these judgments are generally bound to be less strong than the evaluations of helping the poor or being altruistic or generous. Altruism towards other consumers of the public good does not seem to play much of a role when it means pleasing concerned observers of poverty. Imitation plays a role in a number of cases of giving. "Lateral reciprocity," i.e., voluntarily contributing given that other people contribute, hence freely doing one's part or paying one's share, is also often present,[23] and conforming or

[20] For instance, more weight may be put on the cost for the giver for the contribution $c_i=g_i+t_i$ than for the gift g_i by itself, because this cost is emphasized when the relevance of the full contribution is justified by the argument that the tax paid should be included.

[21] The effects of all these questions are shown in Kolm (2008).

[22] Holländer (1990) models contributions to an ordinary public good under the influence of the opinion of the relevant other people. This should particularly apply when the intrinsic value of helping the needy is added, but the foregoing discussion about motives should intervene.

[23] See Sugden (1984), Kolm (1984), Sweeny (1990), and neighbouring analyses of "matching" by Guttman (1978) and Cornes and Sandler (1984) and of "fair shares" by Young (1989). See also Bernheim (1984), Sandler (1982) and Binmore (1994).

keeping up with others can lead to the same result. However, this kind of reciprocity raises known difficulties:[24] givers should be sufficiently sure that the others give; one way is to force people to contribute, but these contributions would no longer be gifts but would a priori be distributive taxes; however, this constraint is not actually binding if all people freely give given that others contribute; givers' requirement may be either that others contribute one way or the other, or that they freely give, and the non-binding constraint may be sufficient in this later case. There may also be a heterogeneous population with both pure altruists and conditional ones requiring a priori that only some part of the other people sufficiently contribute in any way or freely give. Structures of successive giving elicit a wealth of motives: a previous gift may reduce the need to give, but it may also favour giving because of lateral reciprocity, imitation, conforming, or desire to keep up with previous givers. Other possibilities appear when giving by all is sequentially repeated. This can classically lead to cooperation – for altruistic giving here, rather than for self-interest –, with a number of problems (horizon, strategies) multiplied by the a priori large number of givers (e.g. abstaining for punishing an abstainer also affects other players and has in fact no perceptible effect).

6.2 Other games

The consequences of non-cooperation have been obtained for the simplest Cournot-Nash behaviour. However, this both lacks full theoretical justification (except in the noted case of reciprocity) and often is clearly not the case. Nevertheless, the qualitative results hold with other fully non-cooperative relations. In particular, a Stackelberg structure is sometimes relevant. However, social norms, the result of historical evolution, may yield different results. In particular, either public aid or private charity are sometimes understood to be the normal way of helping, the other being more or less a residual palliative when the former is insufficient. This depends on societies (countries), sometimes on the type of aid, and on the historical period. For instance, this plays a role in the different relative importance of private and public aid in the US and in Europe. We have also noted a number of structures of cooperation.

[24] Kolm (2008).

Finally, the distributive fiscal policy meets the usual questions of information and administration concerning taxation and the recipients' situation.[25] On the giving side, the important role of charitable organizations and their influences on people's concern for the poor and giving are also notable.[26] These issues and their consequences will be introduced in further studies which, at any rate, rest on the analyses of individuals' motivations and reasons and of their effects presented here.

7. CONCLUSION

The analysis of the logic and of the effects of all the types of motives involved in the alleviation of poverty is indispensable for understanding its challenging facts and for choosing efficient policies. The issue appears as being full of contradictions. Moral sentiments (altruism) provide immoral results (poverty). Immoral sentiments (vainglory, envy) induce moral actions and results (charity), but only if they crowd out moral sentiments, which undermines their own reason. These sentiments are, in fact, intrinsically contradictory. You end up giving more if other people want you to contribute less. Discarding people's vainglory for the policy choice ends up extending its influence. Rebates, subsidies and matching grants tend to have no effect on rational givers. The paragon of social and moral rationality, Kantianism, tends to be incoherent and inefficient by itself. Giving if others give leads to taxing everybody. And so on. The striking overall conclusion, however, is the impossibility or difficulty of most motives to provide a sufficient explanation, given the coexistence of both private and public transfers, the large number of givers, and the other features of the case. Extensions of rationality from selfishness to consequentialism including altruism, and then to moral and immoral social motives about acts, do not seem to suffice. Very likely, a further step in understanding and describing the minds and hearts of givers and voters is necessary. This would include, notably, less rationality – whatever the aim – rather than more of it, as with non-altruistic norms of giving, self-deception, magical thought (as that of folk Kantianism), voluntary ignorance or illusion, wishful thinking, super-ego rationality, confused thinking, or the influence of counterfactuals (putative reciprocity is based on such a case). Any progress in the understanding of the workings of social rationality through individuals is bound to have applications to this issue (concerning altruism, norms, sense of justice, Kantian reasons, etc).

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[25] See Buchanan (1975) and Lindbeck and Weibull (1988).
[26] A survey of this question with extensive references is provided by Bilodeau and Steinberg (2006).

Certainly, all the motives analyzed play a role, by themselves or with these kinds of extension. Simultaneously, tests of the motivational hypotheses by psychological inquiries and experiments should be pursued.[27] Applications such as the analysis of charitable organizations and distributive and social policies are important both in themselves and for a better understanding of motives and of their effects. Sociological viewpoints and lessons from history are often telling, but have to face the noted psychological and logical problems.[28] In the end, fighting poverty, the most necessary social action, remains also a main challenge to scientific explanation; and understanding it may be a necessary step for remedying its failures.

[27] Inquiries concerning this topic for a number of motives are surveyed by Batson (1998) and Schokkaert (2006). See also Clotfelter (1980), Woodward (1985), Schokkaert and Ootegem (2000), and Spash (2000).

[28] The role of history in the explanation of public transfers is paramount and related to motives. Transfers in Europe were essentially built up in two times, after the two world wars, by transferring military budgets to social aid, because the receipts were available, the needs were huge, and the sense of solidarity had been augmented by the national ordeal and defence to which all classes participated ("socialisms" – of various types – only plaid a role in Northern and Eastern Europe). In the US, the Great Depression and the New Deal triggered the bulk of the increase in public transfers.

APPENDIX A. MOTIVES FOR GIVING

Table 1. Reasons for altruism and types of altruism

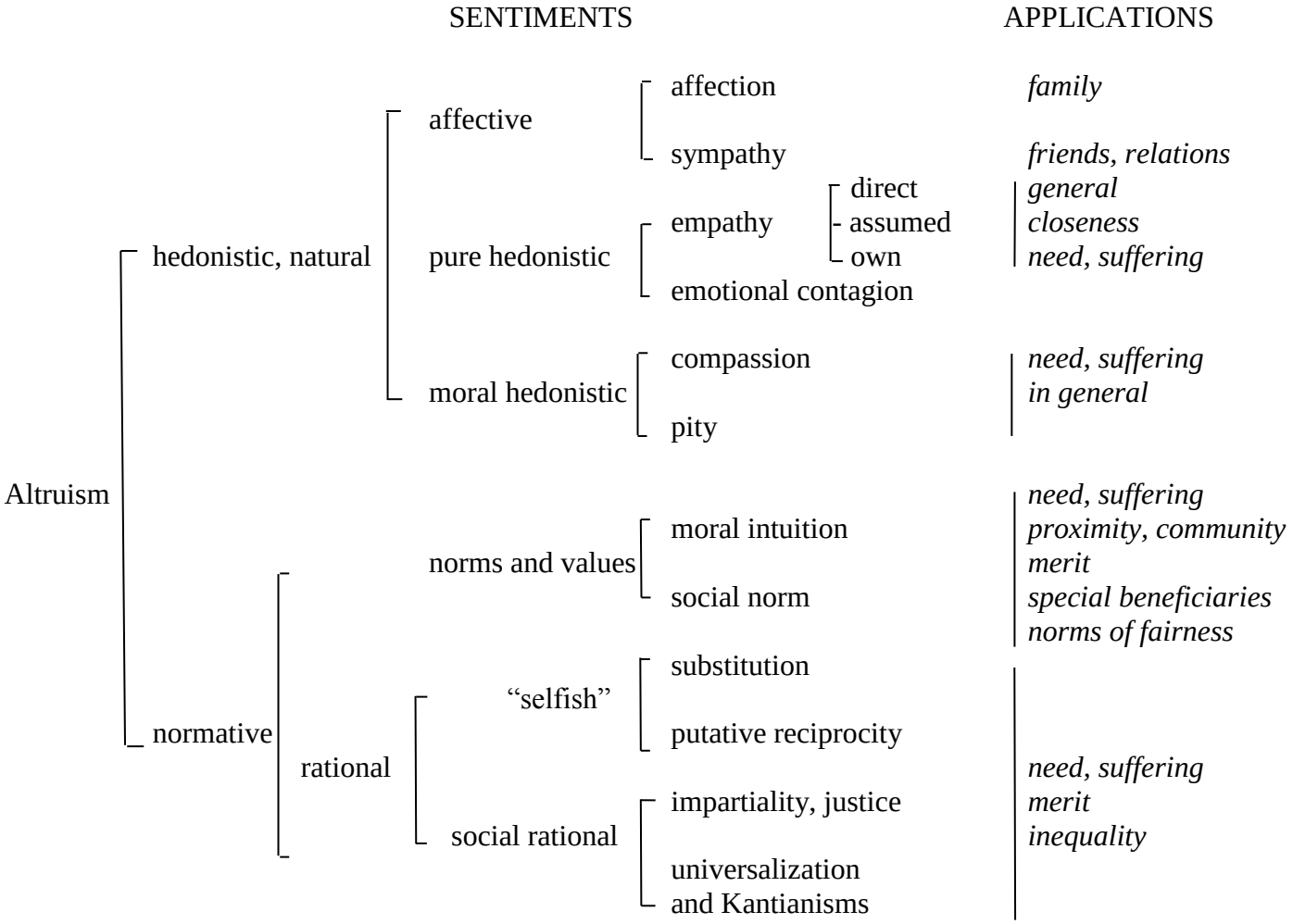
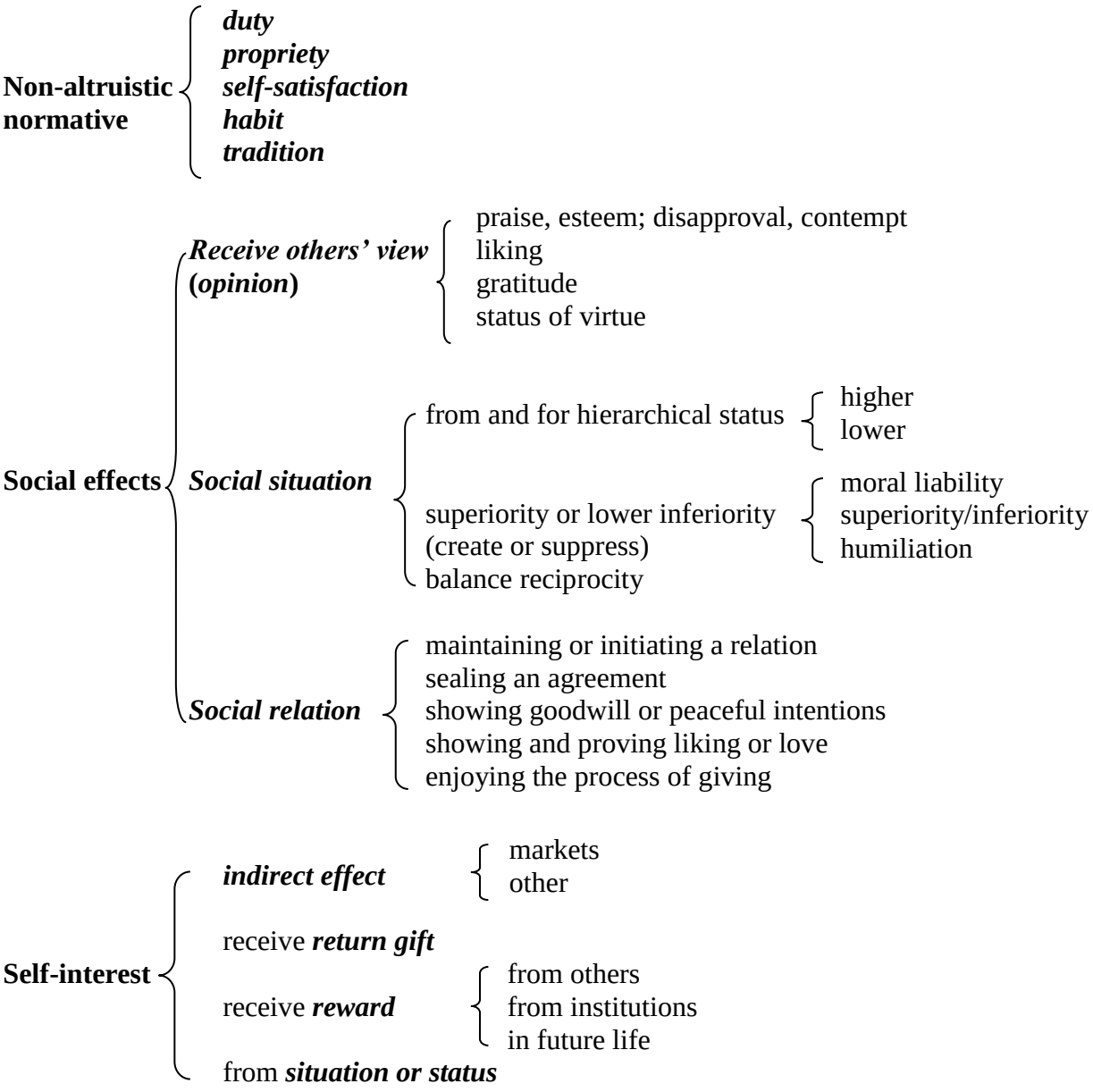


Table 2. Motives for non-altruistic giving



APPENDIX B. EFFICIENT KANTIANISMS WITH INDIVIDUAL EVALUATIONS

1. The setting

If the individuals evaluate a universalized behaviour with their own preferences (utility functions), can the result be Pareto efficient? We will see a few senses and cases in which it can. The game has the standard Kantian structure. Each individual chooses assuming others have a similar behaviour in some sense, and maximizing her utility function. She is unconcerned about others' actual behaviour, or, in some cases, she takes their choice as given in a Cournot-Nash fashion. Then, if all act this way, is a resulting equilibrium Pareto efficient? Each individual i is assumed to have a utility function $u(x_i, x)$ differentiable, increasing ($u_1^i>0,\ u_2^i>0$), strictly quasi-concave, with $x_i=y_i-g_i$ and $x=y+\Sigma g_i$. We denote $v_i=u_2^i/u_1^i$. The distributive taxes t_i are taken as given and may be zero. The rule is considered to be applied directly to gifts g_i, but it can also be to contributions $c_i=g_i+t_i$, which determines the choice of g_i (then, $x_i=X_i-c_i$ and $x=X+\Sigma c_i$). We consider the Pareto efficiency of the basically giving regime ($\lambda=0$). The analysis applies to free contributions to ordinary public goods, in which g_i denotes this "contribution" and Σg_i the cost of the public good, while setting $y=0$. For focusing on the voluntary provision of the public good by individuals i, the distribution between these individuals is assumed to be optimal (by distribution of the y_i), and therefore the optimality condition for the public good (Dupuit-Samuelson) is $\Sigma v_i=1$.

A fully specified rule yields gifts g_i for all individuals i. The one preferred by individual i is $g_j=y_j$ (if the constraint on x_j is $x_j\geq 0$) for all $j\neq i$, and

$$g_i=\arg\max\ u^i(y_i-g_i,\ y+\Sigma_{j\neq i}\, y_j+g_i).$$

It corresponds to high free riding, and, if all individuals behave this way, the solution is a priori not Pareto efficient. Moreover, this rule implies a priori $g_i\neq g_j=y_j$ even if individuals i and j are identical in all respects (in particular, they have the same utility functions and $y_i=y_j$): in this sense, it is not objective, impartial, and fair in this respect. Therefore, restrictions on individuals' choices of rules are considered. This leads one to distinguish (fully specified) rules from "general rules." In a general rule, for each g_i there corresponds g_j for $j\neq i$ that follows the same rule, with the following properties for all i, j, k.[29] *Symmetry or reciprocity*: if

[29] See also Bilodeau and Gravel (2004).

g_j corresponds to g_i, then g_i corresponds to g_j. *Transitivity*: if g_j corresponds to g_i and g_k corresponds to g_j, then g_i corresponds to g_k. The next properties correspond to the standard case, retained here for simplicity. *Univocity*: to each g_i there corresponds only one g_j. *Increasingness*: if g_i increases, the corresponding g_j increases. *Differentiability*: the functional relation between g_i and g_j is differentiable. These properties imply that the g_i that follow this rule can be written as $g_i=g_i(\rho)$, an increasing differentiable function of a parameter $\rho\in\mathbb{R}$ (for instance, ρ may be one g_i). Finally, for any general rule $g_i(\rho)$ and $\rho=\rho_o$,

$$\gamma_i(\rho')=g_i(\rho)-g_i(\rho_o) \tag{21}$$

with $\rho'=\rho-\rho_o$ defines a *deviational rule*. We have $\gamma_i(0)=0$ and $\gamma_i'>0$.

2. "Negative deviational Kantianism"

2.1 Definition

This principle is:
Choose a gift such that nobody wants to deviate from this situation if everybody also deviates according to the same given deviational rule, whatever this rule.

That is, individual *i* chooses gift $g_i=g_i^*$ that she prefers to all $g_i=g_i^*+\gamma_i(\rho)$ by choosing $\rho=0$ given that $g_j=g_j^*+\gamma_j(\rho)$ for all $j\neq i$, for any given deviational rule $\gamma_k(\rho)$ and given $g_j^*>0$ for all $j\neq i$.

For instance, the deviations may be all equal (deviational duplication, $\gamma_i(\rho)$ is the same function for all *i*); or more generally the deviations may be proportional, with $\gamma_k=\alpha_k\,\rho$ where the α_k are positive constants which may for instance be equal or be g_k^* (including the chosen g_i^*), y_k, X_k, t_k or $c_k^*=t_k+g_k^*$.

2.2 Efficiency

Proposition 9: Negative deviational Kantianism

If all individuals give by following the negative deviational Kantian metarule with the same deviational rule whatever it is, the result is Pareto efficient.

Indeed, with deviational rule $\gamma_i(\rho)$, such an individual *i* chooses $g_i = g_i^*$ such that $\rho=\gamma_j=0$ for all *j* maximizes

$$u^i [y_i - g_i^* - \gamma_i(\rho), y + \Sigma g_j^* + \Sigma\gamma_j(\rho)] \tag{22}$$

for parameter ρ. For an interior solution ($g_i^* > 0$), this implies

$$-u_1^i \gamma_i'(0) + u_2^i \Sigma \gamma_j'(0) = 0 \tag{23}$$

for $x_i = y_i - g_i^*$ and $x = y + \Sigma g_j^*$, or

$$v_i = \gamma_i'(0) / \Sigma \gamma_j'(0). \tag{23'}$$

Relation (23) or (23') determines g_i^* for given g_j^* for $j \neq i$. All individuals choose their gift g_i^* in this way, this is a Cournot-Nash game, and an equilibrium of this game consists of g_i^* for all *i* that satisfy *n* equations (23) or (23'), one for each *i*. If they all so behave with the same deviation rule $\gamma_j(\rho)$, whatever it is, summing up relations (23') for all *i* gives

$$\Sigma v_i(x_i, x) = 1, \tag{24}$$

which is the condition for Pareto efficiency of the set of gifts g_i^*.

2.3 Proportional deviation and Lindahl solutions

The deviation rule is *proportional to the gifts* when $\gamma_i(\rho) = g_i^* \rho$ for all *i*. Then, $\gamma_i' = g_i^*$ and condition (23') becomes $v_i = g_i^* / \Sigma g_i^*$ or

$$g_i^* = v_i \Sigma g_i^* \tag{25}$$

with $x_i = y_i - g_i^*$ and $x = y + \Sigma g_i^*$. This is a Lindahl solution.

Proposition 10. Deviational Lindahl solution.
Negative deviational Kantianism with deviations proportional to gifts leads to a Lindahl solution.

Note also that *deviational duplication*, in which all the functions $\gamma_i(\rho)$ are the same (and can be taken as ρ), leads to a condition (23')

$$v_i=1/n,$$

the same for all i.

3. Direct "Kantian" conduct

For a given general rule defined by the n increasing functions $g_i=g_i(\rho)$ for $\rho\in\mathbb{R}$, individual i chooses its specification by the principle of universalization by choosing the value ρ_i of the parameter ρ that maximizes

$$u^i[y_i-g_i(\rho), y+\Sigma g_j(\rho)] \quad (26)$$

With the diffenciabilities, this implies, for an interior solution,

$$-u_1^i\, g_i'(\rho_i)+ u_2^i \Sigma_j g'_j(\rho_i)=0 \quad (27)$$

or

$$v_i= g_i'(\rho_i)/ \Sigma_j g'_j(\rho_i) \quad (27')$$

with

$$v_i=v_i[y_i-g_i(\rho_i), y+\Sigma_j g_j(\rho_i)] \quad (28)$$

If all individuals are in this case, the sum of conditions (27') is the condition for Pareto efficiency non-fortuitously if either $g_i'(\rho_j)$ is independent of ρ_j for all i and j and $v_i(x_i, x)$ does not depend on x for all i, or ρ_i is the same for all i. These are the following results.

4. "Linear Kantianism"

In this case, the following conditions hold, for all i.

1) *Linear rule*: the rule $g_i(\rho)$ is of the form

$$g_i(\rho) = a_i\rho+b_i,\ a_i \text{ and } b_i \text{ are constant, } a_i>0. \quad (29)$$

This amounts to any two equivalent g_i and g_j being in a linear (affine) relation. This includes two notable particular cases:

– *Proportionality*: $b_i=0$, and $g_i=a_i\rho$ with $a_i>0$, for all i, amounting to any two g_i and g_j that follow the rule being proportional to one another. For example, g_i can be proportionality to income y_i, $g_i=\rho y_i$, or to X_i or t_i, for all i.

– *Duplication*: all a_i and all b_i, respectively, are equal for all i, $a_i=a$ and $b_i=b$, and hence all corresponding g_i are equal (this can be written as $g_i=\rho$ for all i).

2) *Quasi-linear utilities* in the sense that ordinal utility function $u^i(x_i, x)$ has a specification of the form

$$u^i=f_i(x_i)+x, \text{ with } f_i'>0. \tag{30}$$

Proposition 11. Linear Kantianism

If all individuals give in assuming that all others follow the same general rule, in a situation of linear Kantianism, the outcome is Pareto efficient.

Indeed, conditions (29) and (30) imply respectively $g_i'(\rho)=a_i$ whatever ρ, and $v_i(x_i, x)=1/f_i'(x_i)$ which does not depend of $x=y+\Sigma g_j(\rho_j)$ and hence has the same value as in expression (28). Hence, relation (27') writes

$$v_i(x_i, x)=a_i/\Sigma a_j. \tag{31}$$

If this holds for all i,

$$\Sigma v_i(x_i, x)=1, \tag{32}$$

the condition for Pareto efficiency.

However, the individuals a priori chose different ρ_i and hence follow *different specific rules* $g_i(\rho_i)=a_i\rho_i+b_i$.

5. "Kantian rules"

5.1Kantian rules and efficiency

If, on the contrary, all the individuals i, giving according to such direct Kantian conduct with the same general rule $g_j(\rho)$ for all j, happen to choose the same $\rho_i=\rho^*$, and hence the same specific rule $g_j(\rho^*)$ for all j, therefore giving $g_i(\rho^*)$, then relation (27') becomes

$$v_i=g_i'(\rho^*)/\Sigma g_j'(\rho^*), \tag{33}$$

and in expression (28) one has

$$y+\Sigma_j g_j(\rho_i)=y+\Sigma g_j(\rho^*) = x. \quad (34)$$

Then, adding relations (33) for all i yields

$$\Sigma v_i(x_i, x)=1, \quad (35)$$

the condition for Pareto efficiency.

Such a general rule $g_i(\rho)$ that leads all individuals, when they have such "Kantian" conduct, to choose the same $\rho_i = \rho^*$, and hence the same specific rule, is called a *Kantian rule* by Bilodeau and Gravel (2004).

Proposition12. Kantian rules (Bilodeau and Gravel, 2004)
If all individuals give in assuming the same universal Kantian rule, the result is Pareto efficient.

The characterization of Kantian rules results from the fact that they have to satisfy the n equations (33) with (34), that is, the n equations

$$v_i[y_i-g_i(\rho^*), y+\Sigma g_i(\rho^*)]= g'_i(\rho^*)/\Sigma g'_j(\rho^*). \quad (36)$$

In general, these n equations determine n parameters (numbers). By symmetry, this will a priori be one parameter $a_i \in \mathbb{R}$ by individual i. This is for each and any value of ρ^* arbitrarily given. These Kantian rules are therefore of the form $g_i(\rho)=f(a_i, \rho)$ for some function of two variables f.

Proposition 13. The structure of Kantian rules
A Kantian rule is a function of two variables, the parameter chosen by the individuals, and a parameter specific to each individual.

Equations (36) then write

$$v_i[y_i-f(a_i, \rho^*), y+\Sigma f(a_j, \rho^*)]=f_\rho(a_i, \rho^*)/\Sigma f_\rho(a_j, \rho^*), \quad (37)$$

where $f_\rho=\partial f/\partial\rho$. The variable ρ^* can a priori be chosen arbitrarily. The n equations (37) give in general n numbers $a_i(\rho^*)$.

If the number of a priori parameters is smaller, there is no general solution, that is no Kantian rule except for particular utility functions and incomes. For instance, in the

duplication rule all gifts are equal, that is, all functions $g_i(\rho)$ are the same, and they can be taken as the parameter (w.l.g.) which can be $g=g_i(\rho)$. Then, equation (36) writes

$$v_i(y_i-g, y+ng)=1/n,$$

which has no general solution in g for general functions v_i and incomes y_i (since $n>1$). There is a solution if all the functions u^i are (ordinally) identical, hence yielding the same function v_i, and the incomes y_i are the same. This is the case considered by Laffont (1975).

In another notable case, the equality is not in the gifts but in the disposable incomes remaining after the gift to the common good. Then, if $x_i=\eta$ is this income, $g_i=y_i-\eta$ for all i, and

$$u^i = u^i(\eta, Y-n\eta)$$

Where $Y=y+\Sigma y_i$ is total income. Individual i prefers an η that maximizes u^i and hence satisfies

$$v_i(\eta, Y-n\eta)=1/n.$$

There is a priori no solution for any functions u_i. There is one when these functions are identical with, then, $\Sigma v_i=1$, the Pareto-efficiency condition.

However, proposition 13 implies a few of notable cases with linear functions f of the form either $a_i\rho$, or $a_i+\rho$ with identical preferences.

5.2 Lindahl solutions and proportional Kantian rules

An outcome is a Lindahl solution for individuals' "contributions" g_i to the public good Σg_i when

$$g_i=v_i\Sigma g_j. \qquad (38)$$

for all i.

Proposition 14. Proportional Kantian rules and Lindahl solutions
An outcome is a Lindahl solution if and only if it can be obtained with a proportional Kantian rule.

If $g_i=a_i\rho$ with constant $a_i>0$ for all i, conditions (36) imply, for all i, $a_i=v_i\Sigma a_j$, hence $a_i\rho^*=v_i\Sigma a_j\rho^*$, hence form (38) at the outcome obtained.

Conversely, if a set of gifts $g_i = g_i^*$, one for each i, satisfies the Lindahl condition (38), this writes

$$v_i(y_i - g_i^*, y + \Sigma g_j^*) = g_i^* / \Sigma g_j^* \qquad (38')$$

for all i. Consider the proportional general rule $g_i = g_i^* \rho$. Then, Kantian individual i chooses $g_i = g_i^* \rho_i$ with ρ_i that satisfies

$$v_i(y_i - g_i^* \rho_i, y + \rho_i \Sigma g_j^*) = g_i^* / \Sigma g_j^* . \qquad (39)$$

Comparison with (38') shows that this is satisfied by $\rho_i = 1$, the same for each i. Hence this rule is Kantian.

5.3 Additive Kantian rules and identical preferences

With additive rules $g_i = a_i + b\rho$ with constant a_i and $b > 0$ (b can equivalently be taken as 1), the right-hand sides of conditions (36) become $1/n$, the same for all i. The left-hand sides take the same value in particular when functions u^i are the same (ordinally) and either the $x_i = y_i - g_i(\rho)$ are the same or the v_i do not depend on them. Assume identical functions u^i denoted as u, and denote the identical functions v_i as v.

The x_i are the same when $a_i = y_i - c$ for a constant c. Then, conditions (36) reduce to the same

$$v[\xi, y + \Sigma y_i - n\xi) = 1/n \qquad (40)$$

with $\xi = c - b\rho$. A solution $\xi = \xi^*$ of equation (40) is unique since it is a solution of the maximization of the strictly quasi-concave increasing function $u(\xi, x)$ under the linear constraint $n\xi + x = y + \Sigma y_i$. This ξ^* defines a $\rho^* = (c - \xi^*)/b$ which is chosen by all the individuals. Hence the rule $g_i = y_i - c + b\rho$ is Kantian.

In particular, if all y_i are the same, $y_i = \eta$ for all i, all g_i are equal, that is, the rule is a *duplication* ($b\rho + \eta - c$ can be taken as ρ and the rule can write $g_i = \rho$ for all i). This case of identical u^i and incomes y_i is considered by Laffont (1975). A duplication is a particular proportional rule and hence the outcome is a Lindahl solution.

Finally, $v(y_i-g_i, y+\Sigma g_i)$ does not depend on y_i when function u is quasi-linear of the form

$$v(x_i, x)=x_i+w(x). \quad (41)$$

Then, $v= w'(x)$ and a general additive rule $g_i=a_i+b\rho$ leads individual i to choose a ρ that satisfies

$$w'(y+\Sigma a_i+nb\rho)=1/n. \quad (42)$$

The unique solution ρ (since function u is increasing and strictly quasi-concave) is chosen by all individuals and hence the rule is Kantian.

Proposition 15. Additive Kantian rules and identical preferences

With identical preferences, additive rules $g_i=a_i+b\rho$ are Kantian in either of these three cases:

1) $a_i=y_i-c$ *for all i,*

2) *all y_i are equal and the rule is a duplication (all a_i are equal) – this rule is also proportional and the solution is Lindahl – (Laffont, 1975),*

3) *the common utility function u is quasi-linear $u=x_i+w(x)$.*

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