Donating, risk taking, and development: An essay in memory of Michael Lipton

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Abstract

In this essay, I establish a link between interpersonal transfers motivated by altruism and economic development, where risk-taking behavior constitutes the intervening variable. Specifically, I configure a relationship between altruistic preferences as a cause, risk-taking behavior as a consequence, and economic development as an outcome. There are many good reasons to want to promote altruism: altruistic transfers can contribute to social welfare by compensating for a variety of inequalities and misallocations. A lower risk aversion of an altruistic person (compared to the risk aversion of a person who is not altruistic) encourages him to pursue risky ventures such as the adoption of progressive technologies and techniques in agricultural production that contribute to economic development. That altruism is a source of behavior that increases the willingness to resort to undertakings that bring about development is revealing and was not previously noted in the economic development literature.

Keywords: Donations; Altruistic transfers; Willingness to take risks; Economic development

JEL classification: D01; D63; D64; D81; G41; O12

This essay is inspired by Michael Lipton's profound interest in the effect of risk-taking behavior on economic development. In several of his writings, including the 1968 paper "The theory of the optimizing peasant," the 1982 chapter "Game against nature: Theories of peasant decision-making," and the 1985 working paper "Land assets and rural poverty," Lipton was concerned that in developing countries, the risk-taking attitudes of poor farmers were translating to binding constraints on the adoption of new technologies and the introduction of new crops that could alleviate poverty and spur economic growth. The dread of falling into deeper poverty, he notes, is a cause of "socially inefficient even if privately optimal [behavior]" (Lipton 1968, 332), the fear of risk induces "farmers [to] choose less risky (if ultimately less 'profitable') procedures" (Lipton 1968, 333), and "the risk of harvest failure, associated . . . with any uninsured risk, assumes immense proportions" (Lipton 1968, 334). Lipton mentions causes of uncertainty, sources of risk, and ways in which farmers can cope with particular risks (hire labor, buy land, purchase assets, resort to intercropping, engage in non-agricultural pursuits, migrate), but he does not systematically analyze a specific trait that could mitigate risk aversion. Thus, this essay is both motivated by and supplements Lipton's work.

1. Introduction

The process of economic development can be impacted significantly by altruism. Development is inherently a project of lifting people out of poverty. Imagine an economy in which there are equal numbers of rich people and poor people, where poor means falling below a poverty line defined by some level of wealth; in which every rich person has wealth that is at least double the poverty line; and in which all rich people act altruistically in that they transfer half of their wealth to poor people. In such an economy, poverty will be eradicated, and because it serves development, altruism will be deemed socially desirable. This is a direct channel from altruism to a measure of development.

The scarce literature on the relationship between altruism and economic development recognizes the merit of altruism: "[R]apid growth and successful development may . . . require . . . the ability of individuals to forego some personal advantages for reasons of societal benefit" (Basu, 2006, p. 2); "there are deep links between a society's . . . altruism . . . and economic development" (Basu, 2006, p. 10); "unselfishness and altruism . . . are valuable for development" (Basu, 2006, p. 21); and "development . . . needs human beings to be [altruistic]" (Basu, 2006, p. 32). The foregoing comments notwithstanding, that altruism

cultivates a preference for behavior that, in its turn, gestates into higher productivity and economic development had not been previously demonstrated. In this essay, I correct for this lacuna. I identify an intervening variable between the trait of altruism and undertakings that bring about economic development. Committing such acts is facilitated by a greater willingness to engage in productive pursuits that subjectively are deemed to be risk-laden.

It is far from obvious that there would be a systematic link between altruism and willingness to take risks and whether, if there is such a link, what the signifiers of the link might be. A lower risk aversion of an altruistic person (compared to the risk aversion of a person who is not altruistic) might encourage him to undertake projects that he considers to be fraught with risk, such as adopting progressive technologies and techniques in agricultural production. However, if the inclination to act altruistically is intertwined positively with risk aversion in that taking a risk puts in jeopardy not only a person's wealth but also a person's ability to engage in altruistic transfers, then altruism may have a development-related downside. The reason for this is that risk aversion discourages people from pursuing what is considered by them to be risky ventures (such as experimentation with new production technologies and the adoption of innovations) that are engines of economic development and growth. Quoting from India's Second Five Year Plan, Gunnar Myrdal (1968) writes in *Asian Drama*, p. 1931: "a policy of 'playing safe' is not always conducive to development. A measure of risk has to be undertaken."

Consider the era of the so-called Green Revolution - the discovery and spread of high-yielding varieties of rice and wheat - an example to which I refer throughout the present essay of a setting where willingness to take risks is vital. In that era, farmers were often reluctant to switch to improved seeds of rice and wheat because they perceived doing so as being too risky. Several of the traditional risk-reducing practices that farmers employed were staggered planting, whereby deviations from optimal planting time (reduction in expected yields) were traded for lowering the effect of randomly incurred periods of water stress, and interplanting of one crop with another (intercropping), which was advantageous when various crops differed substantially in their "environmental resistance" to drought, insects, local pests, and bird damage. (The mixture of staple grains with legumes and roots or with each other was a common practice, for example, sorghum with millet or maize in parts of Africa; barley, peas, gram, and oil seeds with wheat, and bean sprouts with millet in the Indian subcontinent.) However, in connection with the latter practice, under the new technology involving the

improved seed varieties, the same intercropping was useless or even harmful, for example, when directly or indirectly the mixed crops interacted negatively, or was simply impossible when considerations of future use required the preservation of seed purity. When renouncing traditional risk-reducing practices was considered too risky, farmers did not switch to the high-yielding varieties.

The receipt of altruistically motivated transfers can be conceived by the recipient as a form of insurance payment that helps mitigate adverse outcomes of risky undertakings. To the extent that willingness to take risks results in the adoption of a new technology that transforms production and brings about development, altruistic donations become inputs in economic progress. It is not very onerous to show how the receipt of an altruistic transfer results in greater willingness on the part of the recipient to take risks versus when he was not in possession of the transfer: under the condition that altruistic person *i* engages optimally in a wealth transfer to person *j,* person *j* is less risk averse than he would have been had he not been in receipt of a transfer. While it may not be difficult to conceive of the role of altruistic transfers as a form of insurance (an instrument that supports risk taking), a more demanding task than the characterization of the role of the receipt of altruistically motivated transfers on risk-taking behavior is to figure out the risk-taking preference of an altruistic person: in what way does the trait of altruism influence this person's willingness to take risks? Will a person's risk-taking behavior be different if the utility of another person does not enter his utility function? It is quite clear that abstract reasoning alone cannot determine the nature of the association between the traits of a person being altruistic and a person's risk taking: does being altruistic cause a person to become more reluctant to take risks because a risky undertaking turning sour will also damage his ability to make altruistic transfers? Or does altruism induce a person to resort to risky behavior because the reward for a successful outcome is amplified by the outcome facilitating a higher transfer to the beneficiary of the altruistic transfer? To reach a verdict, analysis is required.

My task, then, is to decipher the link between the propensity to engage in altruistic transfers and the willingness to take risks as a path to development. After all, if the propensity to engage in altruistic transfers increases a person's willingness to take risks, then there is no need to worry that altruism will interfere with a behavior that is socially desirable. Furthermore, if it is found that altruism causes people to be more willing to take risks, and if there is a social preference for people to become less reluctant to resort to risk-taking

behavior, then cultivating altruistic proclivities can become a policy tool for eliciting a socially warranted behavior.

Drawing on a specification of preferences that is as transparent as I could come up with, in the next section I will present a heuristic account of how an altruistic person who is an active donor is less risk averse than a comparable person who is not an active donor. A succinct outline of my account is as follows. I link risk preferences, as measured by the coefficient of relative risk aversion, to the prevalence of altruism, which I operationalize by the propensity of a person to voluntarily transfer part of his wealth to another person. To quantify the intensity of altruism, I incorporate a parameter in the utility function of an altruistic person. This parameter measures the extent to which an altruistic person derives utility from the wellbeing of another person. I calculate the optimal transfer that an altruistic person makes to another person. I then construct the risk aversion profile of an altruistic person who is an active donor and compare that profile with the risk aversion profile of a nonaltruistic person.

2. Characterizing the risk aversion of an altruistic person: A heuristic account

I proceed in four steps as follows.

(i) I construct the utility function of an altruistic person. The simplest way of demonstrating that an altruistic person is less risk averse than a comparable nonaltruistic person is to base the reasoning behind the following analysis on a utility function of an altruistic person that constitutes a weighted sum of two utilities, measured in logarithms, such that the two (positive) weights sum up to 1. The utility of the altruistic person, call him person *i*, depends, then, on the logarithm of the level of his wealth, which is reduced by the transfer, *t*, that he makes to the recipient, call him person *j*, and on the logarithm of the level of wealth of person *j*, which is increased by the transfer *t*. I also write the utility function of a person who is not altruistic.

(ii) By maximization with respect to *t* of the utility function of person *i*, I obtain the optimal level of the transfer, t^*. I rewrite the utility function of person *i* so as to incorporate t^*.

(iii) A natural way of gauging the intensity of the risk aversion of person *i* is to employ either the coefficient of relative risk aversion or the coefficient of absolute risk aversion of Pratt

(1964) and Arrow (1965). (I hasten to add that a treatment based on risk preferences that are expressed by the coefficient of absolute risk aversion is qualitatively identical to a treatment based on risk preferences that are expressed by the coefficient of relative risk aversion.) To construct the coefficient of relative risk aversion of person *i*, I need the first-order and second-order derivatives of the utility function of person *i*, which I obtain from the utility function of person *i* that incorporates t^*, as formed in the preceding step.

(iv) I write the coefficient of relative risk aversion of a comparable person who is not altruistic, and I then show that altruistic person *i* who engages in an optimal transfer is less risk averse / is more willing to resort to risk-taking behavior than the person who is not altruistic.

Readers wishing to review a formal counterpart of the preceding heuristic account of four steps can glance through the appendix. Readers who would like to study a more general proposition of the relationship between altruism and risk taking (by "more general" I mean a specification that is not based on a logarithmic function or, for that matter, on a constant relative risk aversion utility function) can refer to my work with Lukasz Balbus, "Altruistic giving and risk taking in human affairs" (Stark and Balbus, 2025).

3. The trait of altruism as an agricultural extension instrument, and a possible role of lotteries

Agricultural extension workers who have no means to persuade all the farmers in a village to adopt new agricultural technologies and practices, given that the farmers' reluctance arises from a fear of being exposed to risk, will presumably seek to identify farmers who are more likely to adopt than other farmers and then have these selected farmers serve as a demonstration (role models) for other farmers to emulate. (Many studies that demonstrate the prevalence and effectiveness of this approach of initiation and diffusion are listed in Horner et al., 2022.) How will these potential model farmers be identified? Specifically, and resorting once again to my example of the Green Revolution, which farmers will be more likely to expose themselves to the risk that farmers associate with replacing the traditional way of growing crops with a new technology of growing crops? Given the results obtained in the preceding section, approaching the altruistic, less risk-averse farmers could be an effective way. While conceptually this approach appears promising, it could encounter a difficulty: there is a difference between prevalence and visibility. How will altruistic farmers be

Once again, I need to guard against a possible confounding factor. A consequence of winning a lottery is a wealth effect, and it might then be argued that it is this effect that is the cause of making transfers, not altruism. There is room for the perception that people who enjoy a wealth gain that comes their way as a consequence of participating in a lottery experience a sense of elation and that it is this sensation that spurs them to donate to others. (Refer to Remark 1 below.) But this is not what emerges from my analysis. In view of that analysis, those who are altruistic are inclined to resort to risk-taking behavior more than those who are not altruistic. Then, when risk-taking behavior is followed by altruistic transfers, the *cause* or the *source* of a wealth transfer (donation) is not the wealth gain as such but, rather, the underlying altruistic inclination.

Remark 1. Kotsadam and Somville (2024) sought to identify the link between a wealth effect that arises from participation in a lottery and altruistic preferences that are exhibited by an inclination to donate. Kotsadam and Somville were particularly interested in comparing the altruistic behavior of winners of a lottery with the altruistic behavior of losers of the lottery and in assessing whether winners could be expected to respond to their wealth gain by donating more than they would have donated in the absence of the gain. The intriguing research questions, then, are what characterizes people who take risks, what characterizes people who act altruistically, and, of particular interest, whether the two types of behavior are linked and, if so, how. If, for example, people who are altruistic are inclined to resort to risk-taking behavior more than people who are not altruistic, then when risk-taking behavior is followed by altruistic transfers, the *cause* of a wealth transfer (donation) is not the wealth gain as such but, rather, an underlying altruistic inclination. In this essay, I conceptualize the link between any form of risk taking, including participation in a lottery, and altruistically motivated wealth transfers. In addition, and as already noted, the essay seeks to establish a clear relationship between altruistic preferences as a cause and risk-taking behavior as a consequence. In the setting studied by Kotsadam and Somville, causality flows from wealth to donation; transferring to others is a consequence, not a cause.

4. Concluding comments

There are many good reasons to want to promote altruism: as noted in the abstract of this essay, altruistic transfers can contribute to social welfare by compensating for a variety of inequalities and misallocations.[1] The lower risk aversion of an altruistic person (compared to the risk aversion of a person who is not altruistic) identified in this essay might encourage him to pursue risky ventures that could contribute to economic development and social welfare. That altruism confers this double benefit is revealing and was not previously noted in the development literature. The lower risk aversion of a beneficiary of an altruistic transfer (compared to a person who is not a beneficiary of an altruistic transfer) identified in our working paper "Altruistic giving and risk taking in human affairs" might also encourage the beneficiary of an altruistic transfer to pursue risky ventures that could contribute to economic growth. These risk aversion traits of the altruistic person and of the beneficiary of an altruistic transfer lead me to conclude that, in terms of risk-taking behavior, a "population" endowed with altruism is uniformly more willing to take risks than a comparable "population" devoid of altruism.

In Myrdal's (1968) *Asian Drama*, I read in volume II, specifically on p. 1277, how "development projects," "new ways of doing things," "willingness to experiment," and the adoption of "progressive techniques" in agricultural production in an Indian village were hindered by concerns that farmers raised about the associated replacement of wooden plows with iron plows. (Refer to Remark 2 below.) "Lack of enthusiasm for development plans" arose from "worry over risks." The key to an expected dramatic gain in agricultural yields was lower risk aversion (consult also Opler, 1954). The trait of altruism can ameliorate this worry.

Remark 2. "In this worry over risks, the objection is often not to the new introduction but to the repercussions that are expected from it. Here the whole picture must be seen as the receiving people conceive it. I was once told that Indian villagers of a certain region were unwisely determined to reject an iron plough, though the design was adapted to their soil conditions and a very modest price had been arranged. Actual investigation proved that the

[1] It is not the mission of this essay to account for the variety of ways in which altruism can contribute to the quality of life and raise social welfare. For example, Stark (1989) shows that altruism resembles trust, forgiveness, and patience, that a sufficiently high level of altruism eradicates the prisoner's dilemma problem and results in an efficient outcome in the game, and that altruism reinforces self-enforcing agreements.

negative attitude had far less to do with the plow, which constituted a modest investment and had merits that all admitted, than with the bullocks which draw the plows. Fodder was scarce and costly, the bullocks therefore could not be too well fed, and they were small and not especially strong. Yet they were very expensive and precious to their owners and absolutely indispensable for agricultural operations. The iron plow was heavier than the wooden plow then in use, and the agriculturists feared that the bullocks would be weakened and eventually destroyed if they were forced to draw the heavier piece of equipment. The appearance of the iron plow raised other problems for the agriculturalist too. He had a long-standing arrangement with the carpenter whereby the carpenter made and repaired his wooden plow. By the acceptance of the iron plow he risked the displeasure of his carpenter and reduced the work opportunities of another group. Moreover, those who sold the iron plow could guarantee no ready supply of parts and services. The carpenter stood ready to come into the fields and repair a broken instrument at short notice. The iron plow, though reasonably light, was still a heavy implement for a man to carry to his scattered fields. He feared the effects of the use of the iron plow on his own health as well as on that of the bullock. Without going any further I think it will be admitted that the caution in welcoming the iron plow was not entirely a matter of unthinking, ingrained conservatism. It is sometimes the person at the receiving end of development projects who senses the implications of action most completely and who foresees all the adjustments he will be called upon to make." (Opler, 1954, p. 277.)

Remark 3. There is another channel through which the altruism => risk taking => economic development progression operates. In my work with Robert Lucas of four decades ago (Lucas and Stark, 1985), we identified the role of altruism in motivating migrants to send development-triggering remittances. Migration can often be considered a risk-laden undertaking. For example, unless a good-paying job awaits a migrant's arrival, upon migration people have to bear the risk of ending up with low income or unemployment. When people are reluctant to expose themselves to such a risk, they will not migrate, and no remittances will be sent. When there is greater willingness to assume risk, migration will be more likely, as will the incidence of remittances. In that case, the progression is altruism => willingness to undertake risk-laden migration => altruism-motivated remittances. The intriguing new observation is that in the migration-remittances context, altruism plays a dual role: it facilitates migration and it motivates sending remittances.

Appendix: **Derivation of the attribute that an altruistic person is less risk averse than a comparable nonaltruistic person**

(i) Suppose that altruistic person *i* derives utility from his wealth $w_i > 0$ and from the wealth of person *j*. By $\alpha_i \in (0,1)$ I denote the intensity of person *i*'s altruism. The complementary weight, $(1-\alpha_i)$, is accorded to the utility that person *i* obtains from his own wealth. Person *i* can transfer t_i part of his wealth to person *j*, such that $0 \le t_i < w_i$. By $w_j > 0$ I denote the pre-transfer wealth of person *j*. (I can add - though for the calculations that follow this is not needed - that $w_j < w_i$.) Following Stark (1999, Chapter 1), I let the utility function of altruistic person *i* take the form

$$u_i(w_i, w_j, t_i, \alpha_i) = (1-\alpha_i)\ln(w_i - t_i) + \alpha_i \ln(w_j + t_i), \tag{1}$$

where $\ln(w_i - t_i)$ is the utility of person *i* from his net wealth, and $\ln(w_j + t_i)$ is the utility of person *j* from his net wealth. Altruistic person *i* will transfer part of his wealth to person *j* as long as doing so will increase person *i*'s utility.

The utility function of person *k* who is not altruistic (*na*), that is, of a person for whom $\alpha_k = 0$, is $u_k^{na}(w_k) \equiv u_k(w_k, w_j, 0, 0) = \ln w_k$.

(ii) The optimal level of person *i*'s utility if it exists (I add this remark because the domain of $[0, w_i)$ is not closed, so I cannot be sure of the existence of a global maximum of u_i in $[0, w_i)$) is given by

$$u_i^*(w_i, w_j, t_i, \alpha_i) \equiv \max_{t_i \in [0, w_i)} u_i(w_i, w_j, t_i, \alpha_i).$$

I determine the optimal level of the transfer t_i. The derivative of $u_i(w_i, w_j, t_i, \alpha_i)$ in (1) with respect to t_i is

$$\frac{\partial u_i(w_i, w_j, t_i, \alpha_i)}{\partial t_i} = -\frac{1-\alpha_i}{w_i - t_i} + \frac{\alpha_i}{w_j + t_i}.$$

From this derivative it follows that $\frac{\partial u_i(w_i, w_j, t_i, \alpha_i)}{\partial t_i} = 0$ for $t_i = \overline{t_i}$, where $\overline{t_i} = \alpha_i w_i - (1-\alpha_i) w_j$.

Additionally, $\frac{\partial u_i(w_i, w_j, t_i, \alpha_i)}{\partial t_i} > 0$ for $t_i < \overline{t}_i$, and $\frac{\partial u_i(w_i, w_j, t_i, \alpha_i)}{\partial t_i} < 0$ for $t_i > \overline{t}_i$, thus $\max_{t_i \in [0, w_i)} u_i(w_i, w_j, t_i, \alpha_i) = u_i(w_i, w_j, \overline{t}_i, \alpha_i)$ as long as $\overline{t}_i \geq 0$. Then, $\overline{t}_i > 0$ if $\alpha_i > \frac{w_j}{w_i + w_j} \equiv \overline{\alpha}_i$: for a transfer to be made, the intensity of altruism has to be higher than some critical level. Thus, t_i^*, the optimal transfer that person *i* chooses to make to person *j*, where this transfer is treated as a function of α_i, is

$$t_i^*(\alpha_i) = \begin{cases} \alpha_i w_i - (1-\alpha_i) w_j & \text{if } \alpha_i > \frac{w_j}{w_i + w_j} \\ 0 & \text{otherwise,} \end{cases} \tag{2}$$

meaning that a transfer is made when the intensity of the altruistic feelings of person *i* is higher than the share of the wealth of person *j* in the aggregate wealth.

As a result of inserting the first line of (2) into (1), I obtain

$$u_i(w_i, w_j, t_i^*(\alpha_i), \alpha_i) = (1-\alpha_i) \ln[(1-\alpha_i)(w_i + w_j)] + \alpha_i \ln[\alpha_i (w_i + w_j)]. \tag{3}$$

(iii) To ascertain the risk aversion of individual i, I temporarily fix w_j and α_i as constants, and I note that as long as $w_i > \frac{w_j(1-\alpha_i)}{\alpha_i}$ (that is, as long as $\alpha_i > \frac{w_j}{w_i + w_j}$), $t_i^*(\alpha_i)$ does not appear in (3). Therefore, for $w_i > \frac{w_j(1-\alpha_i)}{\alpha_i}$, I can reformulate the utility of individual i as a one-variable function:

$$U_i(w_i) = (1-\alpha_i) \ln[(1-\alpha_i)(w_i + w_j)] + \alpha_i \ln[\alpha_i (w_i + w_j)]. \tag{4}$$

Following Pratt (1964) and Arrow (1965), the coefficient of relative risk aversion (RRA) of person *i* is defined as

$$RRA_i \equiv -\frac{dU'(w_i)}{U_i'(w_i)} / \frac{dw_i}{w_i} = \frac{-w_i U''(w_i)}{U_i'(w_i)}.$$

In my setting, it follows from (4) that if $w_i > \frac{w_j(1-\alpha_i)}{\alpha_i}$, then

$$RRA_i = \frac{-w_i U''(w_i)}{U_i'(w_i)} = -w_i \frac{-\frac{1}{(w_i + w_j)^2}}{\frac{1}{w_i + w_j}} = \frac{w_i}{w_i + w_j} < 1. \quad (5)$$

(iv) Under the condition that altruistic person *i* engages optimally in a wealth transfer to person *j*, that is, under the condition that $\alpha_i > \bar{\alpha}_i$, person *i* is *less* risk averse than person *na* who is not altruistic. To prove this, I reason as follows. As noted in step (i), the utility function of non-altruistic person *k* is $u_k^{na}(w_k) = \ln w_k$. Denoting by RRA_k^{na} the relative risk aversion of person *k*, I obtain that $RRA_k^{na} = 1$. Because, in light of (5), $RRA_i < RRA_k^{na} = 1$, I conclude that altruistic person *i* who engages optimally in a wealth transfer to person *j* is less risk averse than a comparable person who is not altruistic.

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