Earning to Give: How Effective is Altruism in Occupational Choice?*

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Abstract

How can prosocial workers have the greatest impact on society? One way is to earn a high wage at a for-profit firm and then donate as much as possible to favored causes. Philosophers call this "earning to give," a concept associated with the effective altruism movement, which promotes a cost-benefit approach to philanthropy. An alternative option is to work directly for a nonprofit that contributes to the social good, giving less money but donating time and uncompensated productivity. In making these choices, people also need to worry about covering their own living costs. In this context, we develop a theoretical model and demonstrate that the "effectiveness" of altruistic choices hinges on the worker's budget constraint and the nature of their altruism. Misalignment between workers and nonprofits occurs for purely altruistic, cash-constrained workers. With impure altruism—where the motivation to work at the nonprofit stems partly from "warm glow" feelings—cash-constrained workers can reach the social optimum. Such impure altruism, though, is likely to misalign the choices of wealthier workers.

Keywords: Altruism; Occupational choice; Nonprofit; Warm glow; Charity; Effective altruism; Labor donation; Money donation.

JEL Classifications: D64, J24, L31, J31

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1. Introduction

Economists typically assume that workers choose jobs to maximize wages along with qualities like location and benefits. Then, with a budget in hand, workers spend their earnings, possibly giving some to charity (Andreoni 2006, Kolm and Ythier 2006). But if workers are highly motivated by altruism, they might instead follow an idea put forward by the "effective altruism" (EA) movement. The EA strategy of "earning to give" reverses the decision process: First, workers imagine how they can make an impact through charity, and they then consider jobs that pay enough to fund the commitment (MacAskill 2019). As Matthews (2013) writes: "Join Wall Street. Save the World." Although the idealism of "earning to give" has lost some sheen (Douthat 2022), the idea has opened territory for ethicists (Singer 2015) and broadened understandings of workers with extrinsic motivations (e.g., Besley and Ghatak 2005).

The case for earning to give is straightforward if high-earning workers want to help others by only donating money. Our model examines a wider range of contexts, however, where workers may not be particularly high earners and where their altruistic motivations extend beyond donating money. Specifically, we consider when an altruistic person would do the most good by working directly for a nonprofit (NP) whose mission they support (Preston 1989, Glazer 2004, Todd 2016, Pryor and Mitchell 2015). Or, alternatively, when they would help more by working on Wall Street (or in another high-wage sector) to maximize income and then donating as much as possible to the nonprofit (MacAskill 2015). In this way, we build from the philosophical notion of earning to give and show the assumptions on which it rests.

In practice, not every altruist is willing or able to work on Wall Street. Economists recognize two different motives for giving: pure altruism and warm-glow feelings (Francois and Vlassopoulos 2008). In pure altruism, the donor derives utility from the experiences of others (in our model, they get utility from the output of a charitable NP but they gain no extra utility from actually working for the NP). In contrast, warm glow is typically associated with the donors' positive feelings about their own actions, as a direct benefit from the *act* of giving rather than from the impact of giving ("impure altruism", Andreoni 1989 and 1990).[1] Both types of altruism apply to money and labor donations alike, and effective altruists advocate for a hard-headed

[1] The classification proposed by Benabou and Tirole (2006) has three types of motivation: extrinsic, intrinsic and reputational. In the (im)purity parlance, only the intrinsic motivation is pure. In the case of labor donation to the public sector, Francois and Vlassopoulos (2008) use the terminology of "action-oriented" and "output-oriented" for impure and pure altruism, respectively.

approach to maximizing impact on the people served by charities. That is, they argue for deliberately avoiding choices based on warm glow feelings and instead pursuing the logic of pure altruism and carefully selecting causes based on objective merits (MacAskill 2015). In this sense, the "earning to give" ethos is a call to sublimate one's personal feelings in deference to an abstract notion of the social good.

Whether or not such sublimation is possible, our analysis shows the limits to the effective altruism tenet that "the most good you can do" requires a hard-headed earning-to-give approach (Singer 2015). In fact, the analysis shows cases when making choices with "soft hearts" can be optimal for the NP. Recognizing that even idealistic workers need decent living conditions, our analysis highlights the significance of workers' budget constraints in determining occupational choices. First, we consider pure altruism. If purely altruistic workers are wealthy enough to fulfill decent consumption needs without exhausting their budget, they have a large opportunity set. For them, earning a high wage at a for-profit firm and donating money (but not time) to the NP can be an efficient way to support their favored cause. However, when money is scarce, purely altruistic workers can have a greater impact by working directly for the NP (donating time, but not money).

Our model shows that the more budget-constrained workers can be divided into two groups. First, middle-budget constrained workers can afford to make a time donation, but no money donation. On the other hand, the most disadvantaged workers need their entire for-profit wage for consumption and end up donating nothing. This nuanced theoretical outcome contradicts a key intuition of the effective altruism movement: that NPs are always better off with money donations. For these two groups, warm glow feelings can reinforce the workers' choice to work for the NP, which aids alignment between the interests of the NP and workers with stronger budget constraints (in the spirit of Andreoni 1990 and Besley and Ghatak 2005).

Getting warm-glow feelings from working at the NP, however, is not always beneficial for the NP since it can create misalignments with other, typically wealthier, workers. Warm glow can induce these wealthier workers to take jobs directly with the NP, which means that they end up donating time (to enjoy the warm glow) but less money in a way that is suboptimal to the NP.[2] In this case, the NP would prefer them to work on Wall Street and donate generously.

[2] Misalignments can also have perverse effects for workers, such as the "mixed feelings" generosity described by Konow (2010).

Thus, the social value of pure and impure altruism depends largely on how workers' budgets shape their occupational choices and their ability to donate. In this way, we demonstrate a labor market analogue to findings of inefficiencies due to warm glow in experiments on charitable giving (Null 2011, Karlan and Wood 2017).

The analysis builds on previous work that describes ways that altruism affects labor-related choices (e.g., Ottoni-Wilhelm et al., 2017; Karlan and Wood 2017; Kolm 2014). Akerlof and Kranton (2000) develop a theory of identity that provides foundations for worker motivation, and Habyarimana and Kakkar (2025) connect altruistic attitudes to early-life psychological experiences. We also build on work showing that, for NPs, hiring prosocial workers can be particularly valuable (Dixit 2002, Brock et al. 2016). Workers motivated by their employers' missions may increase their effort and productivity by donating uncompensated productivity and reducing agency problems in firms that provide "more than a job" (Fehrler and Kosfeld 2014, Englmaier et al 2014, Kampkötter et al. 2021, Perry and Wise 1990, Francois 2000, Dal Bó et al 2013, Cassar and Meier 2018, Dur and van Lent 2018 and 2019). Besley and Ghatak (2005, 2017, 2018) emphasize that mission-oriented organizations typically rely on a workforce motivated by the organizations' work, where prosocial workers can reduce principal-agent problems. Prosocial motivation also explains why, despite low-powered incentives, the public sector often supplies services of good quality (Ma 2007).

These studies describe the benefit that a mission-oriented organization can get from hiring a prosocial worker. Our contribution is to describe how the worker then chooses their occupation, knowing that their prosocial preferences are potentially valuable to their favored nonprofit employer—but also knowing that their ability to donate money is also valuable to the favored nonprofit.

Closer to our model, Dur and van Lent (2018) develop a model where agents choose 1) whether to take a public-sector versus private-sector job, 2) how much effort to exert, and 3) how much of their income to donate to charity. The public sector pays a flat wage while the private sector provides performance-based compensation. When the labor market is perfectly competitive, labor donation (i.e. taking a public-sector job) and money donation are perfect substitutes, creating a trade-off for prosocial workers. A higher level of altruism then increases the likelihood of preferring a public job and, for a given job, increases the cash donation. We focus instead on a context in which labor donation and money donation are not perfect

substitutes. Altruists choose between working at a non-profit organization (and donating labor) or a for-profit business (and donating money), facing a trade-off that depends on the production technology used by the NP and the budget constraint of the worker. We then determine if the prosocial worker's optimal choice aligns with the NP's optimum, i.e., if their altruistic choice is most "effective" from the nonprofit's view.

The model presented in the next section formalizes the tension between budget constraints and altruistic feelings, with separately parametrized degrees of pure and impure altruism and conventional assumptions about market conditions and individual decision-making. The model allows us to show how the worker's choice of occupation depends on the nature of their altruism and their budget—in ways that do not always align with the nonprofit's best outcome.

2. Model Setup: Occupational Choice for a Prosocial Worker

Which occupation should a prosocial worker choose to have the biggest social impact? To capture their choice explicitly, we begin with a nonprofit (NP) that the worker particularly wants to help. The worker can work for the NP directly or can help them by donating money. The prosocial worker cares about the NP's output Q, which might, for example, involve improving healthcare, promoting the arts, fighting global hunger, or combating discrimination.[3]

If the worker is a pure altruist, their utility depends only on the NP's output Q and their own personal consumption C. In contrast, an impure altruist also gains utility from warm glow derived from directly working with the NP (Pryor and Mitchell 2015). We focus on warm glow from *doing,* not from *giving*. Specifically, we restrict the impure component of altruism to utility derived from working for the NP (Perry and Wise 1990; Francois 2000; Dal Bó et al 2013; Cassar and Meier 2018; Dur and van Lent 2018), rather than the act of donating to it (as in, e.g., Warr 1982; Null 2011; Ottoni-Wilhelm et al. 2017).[4]

Assuming a separable logarithmic utility function U, which is the log-equivalent to Cobb-Douglas utility, yields:[5]

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[3] The choice to work directly for a NP is common, especially in the United States where, in 2022, NPs accounted for 9.9% of all private sector employment (BLS 2024). The wide diversity among mission-oriented organizations (Cozarenco and Szafarz, 2026) is likely related to the diversity of prosocial workers' preferences.

[4] For example, working for an anti-malaria charity is assumed to have a stronger impact on one's psyche than solely donating money to the charity. Adding warm glow from giving would keep the results qualitatively similar provided that warm glow from doing is greater than that from giving, as in Brown et al. (2018).

[5] A more general, but ultimately equivalent, formulation is:
$U_i(C, Q, I_{NP}) = \ln C + b_i \ln Q + c_i\, I_{NP}, \quad b_p > b_r = 0, c_p \geq c_r,$

$$U_M(C, Q, I_{NP}) = U(C, Q) + c\, I_{NP} = \ln C + b \ln Q + c\, I_{NP},\ b > 0, c \geq 0 \qquad (1)$$

where I_{NP} is a binary variable taking value one when the prosocial worker works with the NP, and zero otherwise. The coefficient *b* captures the degree of pure altruism derived from the NP output. Eq. (1) allows for both pure ($c = 0$) and impure altruism ($c > 0$). Experimental evidence shows the importance of impure altruism, finding that participants in laboratory-based choices consistently prefer giving through time rather than money, even though giving money is more efficient (Lilley and Slonim 2014). In a series of lab experiments, Tonin and Vlassopoulos (2010, 2015) similarly find a strong role for impure altruism relative to pure altruism.[6]

The prosocial worker weighs an occupational choice influenced by their altruistic goals: they could seek a FP job that pays well and permits charitable donations to the NP, or they could work for the NP directly (Todd 2016). The prosocial worker is joined in the labor market by "regular" workers, who do not derive utility from the output of the NP. We assume that when working for the NP, the prosocial worker is more productive than regular workers (who lack social motivation), so their labor donation is valuable. This is consistent, for example, with evidence from Grant (2008) who reports on a field experiment where subjects were tasked with making fundraising calls. Their productivity rose when the social purpose of the fundraising was emphasized, driving a 152 percent increase in the volume of donations. In another field experiment, Hedblom et al. (2016) report that when a job collecting data is described as benefiting poor children, it attracts workers who are relatively more productive and hard-working than a plain vanilla data-collection job. We assume that the regular workers are as productive and hard-working as the prosocial worker when working in the FP sector.

We assume that prosocial workers are scarce. If the prosocial worker in our model takes the FP job, the NP has no choice but to hire a regular worker, even though the NP might prefer to hire prosocial workers. In addition, since cash donations are an option, the NP may ultimately find it more productive to receive cash than labor from the scarce prosocial workers. Section 5

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where index *i* refers to the type of worker (*r* for regular and *p* for prosocial), which shows how altruism affects the utility of both kinds of workers. Along this presentation, we assume that the equilibrium market wage δ is determined with the U_r utility function only. In contrast, the altruistic *p* worker makes their occupational choice taking the market conditions as given. Thus, they request no monetary compensation for either $b_p > b_r = 0$ (pure altruism) or $c_p - c_r \geq 0$ (impure altruism), which justifies the terminology of "labor donation" in excess to the regular labor effort that corresponds to the equilibrium wage.

[6] This type of warm glow should not be confused with the wage gap for regular workers at the NP in our model. The distinction may have been overlooked in the informal use of the term "warm glow" to refer to sentiments that can have multiple origins, some of which are typically altruistic, while others are much less so.

discusses the alignment between the worker's optimum and the NP's interests once the model is solved.

Firms and the Market Wage Gap. All firms but the NP are standard FP firms. The NP distributes its output for free to those in need and is able to produce thanks to an exogenous subsidy *S* and endogenous labor and cash donations. To keep the model simple, we assume that the NP hires a single worker. Its production function is:

$$Q = f(K) = K^a \quad a \geq 0. \tag{2}$$

where Q is output and K is capital.

The FP firms pay the market FP wage w_{FP} to all their workers, while the NP pays the market NP wage w_{NP}, where $w_{NP} \leq w_{FP}$. Regular workers are indifferent between the two types of employers because they enjoy non-pecuniary benefits from NP employment that compensates for the market wage differential (Benz 2005).[7] We denote by δ the market wage gap:[8]

$$\delta = w_{FP} - w_{NP} \geq 0 \tag{3}$$

Since pure altruists only care about their consumption and NP output, they put aside any warm glow feelings (Muyskens, 2017), so that we can safely assume that there is no special link between the wage differential, δ, and sensitivity to warm glow, c. Since the prosocial worker cares about the NP's output, they might choose to work with the FP firm rather than the NP firm, if the FP firm pays them substantially more money which can then be donated to the NP.

Labor and Cash Donations. Workers often take a relative pay cut when working for NPs (Hirsch et al. 2018). Johnston and Johnston (2021), for example, use tax records in Florida, USA to compare workers who move between jobs with for-profit (FP) and NP firms; overall, the job transition is associated with a 5.5 percent drop in earnings, much of which is a labor donation.

[7] This assumption is less restrictive than imposing the same wage for regular workers in the two sectors. The compensating wage differential aligns with empirical observation, and it still makes the regular worker indifferent between working in the nonprofit or for-profit sectors. In terms of the model, the feature puts the emphasis on the NP sector and the prosocial worker's decision making, allowing us to abstract from the FP sector and the regular worker's occupational choice (Özgür and Minardi 2017).

[8] This specification addresses the limitations of the standard representation of the private provision of public goods underlined by Glazer (2016), which is characterized by perfect crowding-out of public subsidies and only wealthy donors contributing significantly. Glazer (2016) addresses these limitations by introducing a profit-maximization component into the NP model. In contrast, we reframe both the NP's production function and the worker's utility function and link the implicit monetary value of labor donation to the corresponding market wage gap. As in the model of Glazer (2016), the threshold on labor donation—here dictated by the market wage gap—may enhance altruistic contributions. But in our workers-donors setting, the threshold can also have the opposite effect because the worker's budget is too tight to allow for any labor donation.

Similarly, in a lab experiment with 1,700 students in Indonesia, Banuri and Keefer (2016) observe that greater prosocial motivation was associated with greater effort, greater interest in public occupations, and lower attraction to high-paying jobs.

The prosocial worker thus has two—combinable—ways of expressing their motivation toward the NP: by giving time (labor donation) and by giving money (cash donation). The labor donation stems from the fact that the prosocial worker employed by the NP is paid a wage $\widetilde{w_{NP}} \leq w_{NP}$, so that the positive spread $(w_{NP} - \widetilde{w_{NP}})$ captures the prosocial worker's donation of uncompensated time to the NP. This donation can take the form of either partial volunteering, or increased productivity without compensation. Besley and Ghatak (2005, 2017, 2018), for example, emphasize that mission-oriented organizations typically rely on a workforce motivated by the organizations' work, where prosocial workers can reduce principal-agent problems. See also Perry and Wise 1990, Francois 2000, Dixit 2002, Grant 2008, Carpenter and Seki 2011, Gregg et al. 2011, Dal Bó et al. 2013, Fehrler and Kosfeld 2014, Englmaier et al 2014, Brock et al. 2016, Cassar and Meier 2018, Dur and van Lent 2018 and 2019, Hedblom et al. 2019, and Kampkötter et al. 2021.

We call the "total wage gap", denoted *V*, the wage difference for the prosocial employee when working with the NP (at the NP market wage minus labor donation) vs. when working with the FP firm (at the FP market wage):

$$V = w_{FP} - \widetilde{w_{NP}}. \quad (4)$$

From Eq. (3), $(V - \delta)$ quantifies the labor donation of the prosocial worker.[9]

The NP's Problem. According to its social mission, the NP maximizes output $Q = K^a$, where the budget *K* depends indirectly on the type of worker hired by the NP. Indeed, the NP firm collects both a cash donation, *D,* and a labor donation $(V - \delta)$ if it hires the prosocial worker. Alternatively, if the prosocial worker selects a job with a FP firm and thus earns a higher wage, they can make a larger cash donation to the NP, but no labor donation. In sum, when the prosocial worker takes the job with the NP, the regular workers are irrelevant. In contrast, when

[9] Our model includes three different wage differentials. First, the market wage gap between FP and NP firms $(\delta = w_{FP} - w_{NP})$, which applies to regular workers (see equation 3). Second, the labor donation component $(w_{NP} - \widetilde{w_{NP}})$, is the difference between the wages of a regular worker and the prosocial worker in the NP. Third, the total wage differential for the prosocial worker adds up the two previous ones: $V = w_{FP} - \widetilde{w_{NP}}$.

the prosocial worker takes the job with the FP firm, the NP must hire a regular worker. This matters because it increases the NP's labor cost and impacts the NP's output optimization. The objective function of the NP can thus be written:

$$Q = \begin{cases} (S - \widetilde{w_{NP}} + D)^a & if\ the\ worker\ is\ prosocial \\ (S - w_{NP} + D)^a & if\ the\ worker\ is\ regular \end{cases} \quad (5)$$

In any case, the NP pays a lower wage than its FP counterparts, either because of non-monetary benefits (if it hires a regular worker) or because of labor donation (if it hires a prosocial worker). We impose the technical condition on the exogenous subsidy relative to the wage: $S > w_{NP} (\geq \widetilde{w_{NP}})$. The condition ensures that the NP can afford to pay its worker's wage regardless of the size of the cash donation.

When the prosocial worker takes the job with the NP, the regular workers are irrelevant to our problem. In contrast, when the prosocial worker takes the job with the FP firm, the NP must hire a regular worker. This matters because it increases the NP's labor cost and impacts the NP's output optimization. The prosocial worker has full information on this mechanism.

The Prosocial Worker's Problem. As described above, the prosocial worker can choose to work for the NP firm, which we call the *compassionate-career* case, or they can choose the FP firm—i.e., the *earning-to-give* case. The prosocial worker can make a cash donation to the NP regardless of with which firm the worker is working, but they can likely give more when working for the FP. The prosocial worker's total income is the sum of their wage (w_{FP} or $\widetilde{w_{NP}}$, depending on their employer) and their non-labor income *y* (Menchik and Weisbrod 1987). The prosocial worker has full information on the NP's decision process, and makes three joint decisions formalized as follows: 1) the binary job choice between the FP firm or the NP, 2) the amount *D* donated to the NP, and 3) the consumption level, *C*. They maximize utility $U(C, Q, I_{NP})$ in Eq. (1) under the budget constraint:[10]

$$y + w - D = C,\ D \geq 0,\ with\ w = \begin{cases} w_{FP} & if\ the\ employer\ is\ the\ FP\ firm \\ \widetilde{w_{NP}} & if\ the\ employer\ is\ the\ NP \end{cases} \quad (6)$$

Ultimately, the prosocial worker makes the decisive job choice since regular workers are indifferent between the two types of firms. As a result, if the prosocial worker opts to work for the FP, a regular worker will take their place at the NP. Similarly, if the prosocial worker chooses

[10] If donations are tax-deductible (tax rate θ) the constraint becomes: $y + w - (1 - \theta)D = C$.

the NP, a regular worker takes their place at the FP. Beyond maximizing profit (FP firms) or output (NP firms), the firms are passive. In the next section, we solve for the occupational choice of the pure altruist before turning to the mixed altruist's situation in Section 4.

3. Pure Altruism

We solve the occupational problem for purely altruistic workers in two steps. First, we derive the optimal values of donation and consumption in the compassionate career case and the earning-to-give case. Second, we compare these optimal utilities to determine the worker's choice of employer.

The optimal solutions for the first step in the compassionate-career (*CC* index) and earning-to-give (*ETG* index) situations are derived in Appendices A and B, respectively.

$$D_{CC}^{*} = Max\{0, T_1\}, C_{CC}^{*} = \begin{cases} \frac{S+y}{1+ba} & if\ T_1 > 0 \\ y + \widetilde{w_{NP}} & if\ T_1 \leq 0 \end{cases}, Q_{CC}^{*} = \begin{cases} \left(\frac{ba(y+S)}{1+ba}\right)^{a} & if\ T_1 > 0 \\ (S - \widetilde{w_{NP}})^{a} & if\ T_1 \leq 0 \end{cases} \quad (7)$$

where $T_1 = \widetilde{w_{NP}} + \frac{-S+bay}{1+ba}$.

$$D_{ETG}^{*} = Max\{0, T_2\},\ C_{ETG}^{*} = \begin{cases} \frac{S+y+\delta}{1+ba} & if\ T_2 > 0 \\ y + w_{NP} + \delta & if\ T_2 \leq 0 \end{cases},\ Q_{ETG}^{*} = \begin{cases} \left(\frac{ba(y+S+\delta)}{1+ba}\right)^{a} & if\ T_2 > 0 \\ (S - w_{NP})^{a} & if\ T_2 \leq 0 \end{cases}, \quad (8)$$

where $T_2 = w_{NP} + \frac{-S+ba(y+\delta)}{1+ba}$.

Regarding the compassionate career, the parameter configurations for which $T_1 \leq 0$ signal a prosocial worker who is not wealthy enough to fully meet their basic consumption needs and to make a cash donation (on top of the labor donation). This situation arises when the prosocial worker has low non-labor income y, and/or when the NP wage is low, and/or when the nonprofit is highly subsidized. In these situations, the optimal cash donation is zero. Furthermore, the impact of a high subsidy is increased by the productivity of the prosocial worker (i.e., their labor donation) and mitigated by their level of pure altruism (i.e., their willingness to donate).

In the earning-to-give situation, the prosocial worker makes no labor donation. Thus, if the prosocial worker fails to earn sufficient income to make a cash donation, they give nothing to the NP even though they are motivated and gain utility from its output. Intuitively, this no-donation scenario is less common than in the compassionate-career scenario, since the prosocial worker receives a higher wage at the FP firm. Similarly, one would expect the cash donation to be higher in the earning-to-give situation than in the compassionate-career situation, all other things being equal.

Thanks to Lemma 1 in Appendix C, we can label the three parameter configurations relevant for future comparisons as "low budget" $\left(w_{FP} \leq \frac{-S+ba\,y-\delta}{1+ba}\right)$, "middle budget" $\left(\frac{-S+ba\,y-\delta}{1+ba} < w_{FP} \leq \frac{-S+ba\,y-(1+ba)V}{1+ba}\right)$ and "high budget" $\left(w_{FP} \geq \frac{-S+ba\,y-(1+ba)V}{1+ba}\right)$. These categories reflect how much slack the prosocial worker has available for cash donation.

Table 1: Possible Outcomes for Pure Altruists

Worker / Situation	**Low budget** $w_{FP} \leq \frac{-S+ba\,y-\delta}{1+ba}$	**Middle budget** $\frac{-S+ba\,y-\delta}{1+ba} < w_{FP} \leq \frac{-S+ba\,y-(1+ba)V}{1+ba}$	**High budget** $w_{FP} \geq \frac{-S+ba\,y-(1+ba)V}{1+ba}$
Compassionate career	Labor donation No cash donation	Labor donation No cash donation	Labor donation Cash donation
Earning-to-give	No labor donation No cash donation	No labor donation Cash donation	No labor donation (Higher) cash donation

Table 1 summarizes the options offered to a purely altruistic worker with low, middle, and high budget, respectively. In the compassionate-career situation, the low- and middle-budget workers end up donating labor only. They cannot afford to give money away even though they are prosocial and therefore gain utility from the subsidized output of the NP; this pattern was highlighted by Shahrier and Kotani (2016) in studying the ways that citizens contributed to post-cyclone relief in Bangladesh. In a survey of 1000 respondents, they found that poorer people were more likely to opt to donate labor while richer people were more likely to donate money.

In contrast, the high-budget workers $(T_1 > 0)$ give both money and labor to the NP. Their budget is sufficient to make a positive cash donation. Eq. (7) shows that the market wage gap δ acts like an extra amount of non-labor income y: The prosocial worker donates share $\frac{ba}{1+ba}$ of the sum $(\delta+y)$ to the NP and keeps the remaining share $\left(\frac{1}{1+ba}\right)$ for their own consumption. The combination of these two gifts makes both their consumption and the NP's output insensitive to the wage paid to them by the NP ($\widetilde{w_{NP}}$). Only the market wage gap matters. Meanwhile, the consumption of the high-budget worker in the earning-to-give situation depends positively on the subsidy received by the NP.

In the earning-to-give case, there is no labor donation. Yet the low-budget worker is still unable to make a cash donation and ends up giving nothing. The middle-budget worker has the budget needed to make a cash donation to the NP. The high-budget worker is even wealthier in the earning-to-give situation than in the compassionate career and is thus able to make a higher cash donation.[11] As in the compassionate-career situation, the prosocial worker is better off when their favored NP is already highly subsidized, because their marginal utility of donation is higher.[12]

In sum, the first step shows that the low-budget worker cannot make any cash donation. The middle-budget worker lacks the resources to combine both types of donations but can choose between only-labor and only-money donations.[13] The high-budget worker will always give money to the NP.

In the second step, we determine the optimal occupational choices of the three categories of prosocial workers. The pure altruist is confronted with the choice of working with the NP (compassionate-career case) and getting utility U_{CC}, or working with the FP (earning-to-give case) and getting utility U_{ETG}. The difference between these utilities may be split into two terms, related to optimal consumption and optimal output, respectively:

$$\Delta U = U_{CC} - U_{ETG} = \Delta \ln C^* + b\, \Delta \ln Q^* \quad (9)$$

where:

$$\Delta ln\, C^* = \ln C^*_{CC} - \ln C^*_{ETG} \quad \text{and} \quad \Delta ln\, Q^* = \ln Q^*_{CC} - \ln Q^*_{ETG} \quad (10)$$

Lemma 2 in the Appendix D shows that, for the purely altruistic worker, who is concerned with consumption and output, we have $\Delta lnC^* \leq 0$ and $\Delta lnQ^* \leq 0$ (with $\Delta lnQ^* = 0$ for the low-budget worker). With higher consumption and larger output, the purely altruistic worker automatically opts to earn-to-give. Theorem 1 (proof in Appendix E) provides the optimal occupational choice for pure altruists in each budget class.

Theorem 1: (i)*The* ***high-budget purely altruistic worker*** *opts for the earning-to-give solution, which is aligned with the interests of the nonprofit.* ***(ii)*** *The* ***middle-budget purely altruistic***

[11] If cash donations are tax deductible, this effect is even stronger.

[12] This could explain why Warren Buffet financed the Gates Foundation rather than a smaller charity. His marginal utility of donation is higher when he donates to a charity that is already largely funded by others. More generally, the substitution effect between the donation *D** and the subsidy *S* is a consequence of how workers' optimization is formalized. It depends on the marginal utility of donations and the concavity of the NP's production function, which makes marginal productivity decrease for more subsidized companies. A convex production function for the NP can lead to the opposite effect.

[13] The optimal occupation rests on the values of the parameters at stake. The width of the middle-budget class is (V-δ/(1+ba)) and heavily rests on the wage gap δ, i.e., the non-monetary compensation of regular workers.

worker *opts for the earning-to-give solution. This choice is aligned with the interests of the nonprofit if and only if the total wage gap is low enough:* $V < \overline{V} = w_{FP} + \frac{bay - ba\delta - S}{1+ba}$. ***(iii)*** *The* ***low-budget purely altruistic worker*** *opts for the earning-to-give solution but ultimately makes no donation, which is not aligned with the interests of the nonprofit.*

Table 2: Outcome of the Model with Pure Altruism Only

	Worker's budget		
	Low	**Middle**	**High**
Occupational choice	(Degenerate) Earning to give	Earning to give	Earning to give
Optimal donations	No donation	Cash donation	Cash donation

Table 2 summarizes the situation, showing that prosocial workers acting on pure altruism choose to earn to give. Ironically, the low-budget pure altruist does not donate anything in an earning-to-give situation. This special case, referred to as "degenerate" earning to give, exemplifies the paradox of effective altruism. The ethos of "earning to give" clearly appeals to those who assume an ascetic lifestyle, where consumption is limited and generosity can be maximized. In our model, which relies on the standard assumption of concave utility of consumption, the higher generosity situation is more likely to be associated with wealthier prosocial workers. This is because all prosocial workers value their own consumption alongside their charitable giving. For those with less wealth, their ability to donate is constrained by family needs, other needs that cannot be minimized, or simply a desire to consume comparably to their peers.

4. Mixed Altruism

Dur and van Lent (2019) use a survey of more than 100,000 workers in 47 countries to show that about 25 percent of respondents see their job as "socially useless" or believe it could be. Most workers in the survey report wanting a socially useful job and report suffering when their job seems "socially useless." Part of this feeling come from "impure" altruism, which, as noted earlier, captures the satisfaction (or dissatisfaction in the case of Dur and van Lent 2019) one gets directly from one's own actions, independent of the net impacts on others (Francois and Vlassopoulos 2008; Andreoni 1989 and 1990; Costa-Font et al. 2013). Adding impure altruism can shift the prosocial worker's choices, which can both benefit and hurt the NP. We model

impure altruism though a constant term for warm glow added to the utility of the prosocial worker who chooses the compassionate career (parameter c in Eq. 3):

$$U_{CC} = \ln C_{CC}^{*} + b \ln Q_{CC}^{*} + c \quad (11)$$

where the last term refers to the personal preference for working with the NP. The prosocial worker here is thus a mixed altruist, combining elements of pure altruism with impure altruism of a sort that tilts in favor of working with the NP. Accordingly, the difference between the utilities corresponding to the two occupational choices becomes:

$$\Delta U = U_{CC} - U_{ETG} = \Delta \ln C^{*} + b\, \Delta \ln Q^{*} + c \quad (12)$$

Theorem 2 (proof in Appendix E) describes the final decision of the prosocial worker with both pure and impure altruism and shows that adding impure altruism can bring the worker into alignment with the NP—but can also push the worker out of alignment.[14]

***Theorem 2**: **(i) high-budget mixed altruist:** If $0 < c < \overline{c}_{HB} = ln\left[\left(\frac{S+y+\delta}{S+y}\right)^{ab+1}\right]$, the worker opts for the earning-to-give solution, which is aligned with the nonprofit interests. Otherwise, the worker opts for the compassionate career, which is suboptimal for the nonprofit. **(ii) middle-budget mixed altruist:** If $0 < c < \overline{c}_{MB} = ln\left\{ab^{ab}\left[\frac{S+y+\delta}{(1+ba)(y+w_{FP}-V)}\right]^{ab+1}\right\}$, the worker opts for the earning-to-give solution, which is aligned with the interests of the nonprofit if and only if the labor donation is high enough: $V > \overline{V} = w_{FP} + \frac{bay-ba\delta-S}{1+ba}$. If $c > \overline{c}_{MB}$, the worker chooses the compassionate career, which is aligned with the nonprofit's preference if $V > \overline{V}$. **(iii) low-budget mixed altruist:** If $0 < c < \overline{c}_{SB} = ln\left[\frac{y+w_{FP}}{y+w_{FP}-V}\left(\frac{S-w_{FP}-\delta}{S-w_{FP}-V}\right)^{ab}\right]$, the worker makes no donation ("degenerate" earning-to-give case). If $c > \overline{c}_{SB}$, this worker chooses the compassionate career, which is aligned with the preference of the nonprofit.*

Theorem 2 shows that, when there is no market wage gap ($\delta = 0$), the threshold for high-budget workers with impure altruism reduces to zero ($\overline{c}_{HB} = 0$). In this special case, both types of firms pay regular workers the same wage. No matter how small the level of impure altruism ($c > 0$), the high-budget worker will always prefer to work with the NP. This situation aligns with experimental evidence indicating that people experience the warm glow of a labor donation more strongly than an equivalent cash donation. Brown et al. (2018) compare a situation in which

[14] An alternative modeling strategy would be to also consider warm glow from donating money. That choice would reduce the impact of the warm glow associated with labor donation.

people can work on a task and have their efforts directly benefit a charitable cause; alternatively, the subjects can work for money and then donate the money to the cause. Much more is given when it is possible to donate effort rather than money. These warm glow feelings push the worker toward taking a job with the NP, even when the resulting solution is suboptimal for the NP. This is consistent with the results of Dur and van Lent (2018), who, using survey data from Germany and the Netherlands, show that working in the public-sector tends to diminish the likelihood of making monetary donations. Theorem 2 details how this mismatch depends on the parameters of the model. A non-zero market wage gap ($\delta > 0$) mitigates the mismatch by increasing the odds that the altruist makes the earning-to-give occupational choice. This is because $\overline{c}_{HB}$ depends positively on δ. One interpretation is that NPs with high appeal to the general population offer regular workers' wages significantly lower than those available in the for-profit sector. This pushes prosocial workers toward the earning-to-give option.

By introducing impure altruism, Theorem 2 partly reconciles the situations of the three groups of prosocial workers. In each category, there is a warm glow threshold above which any worker is willing to work for the NP. However, budget-constrained mixed altruists have an optimal occupational choice that differs from that of their high-budget counterparts. A zero market wage gap ($\delta = 0$) is insufficient to prompt them to switch to a compassionate career unless this career was already their preferred outcome under pure altruism. The reason is that their budget constraint prevents them from making an additional cash donation to compensate for the lack of labor donation. In short, cash donations require a high budget to secure a decent consumption level. Table 3 summarizes the situation when c is above the threshold. The below-threshold choices are the same as those in Table 2 for pure altruism. In the low- and middle-budget situations, the worker makes no cash donation. In contrast, the high-budget worker always makes a cash donation, but working for the NP reduces their wages, which mechanically reduces their monetary gift.

Table 3: Outcome of the Model with Mixed Altruism (for *c* above threshold)

	Worker's budget		
	Low	**Middle**	**High**
Occupational choice	Compassionate career	Compassionate career	Compassionate career
Optimal donations	Labor donation	Labor donation	Cash donation + labor donation

Note: The table is built on the assumption that the impure altruism parameter c is above the budget-specific threshold $\bar{c}$, such that it is sufficiently large to matter for choices. For the low budget case, $c > \overline{c}_{SB}$; for the middle budget case, $c > \overline{c}_{MB}$; and for the high budget case, $c > \overline{c}_{HB}$. The analytical expressions of the thresholds are provided in Theorem 2.

5. Alignment with the Nonprofit's Interests

NP interests do not depend directly on the type of prosocial worker in the market, but rather on whether the optimal choice of this worker maximizes charitable output. Table 4 summarizes the results on alignment of NP interests with the prosocial worker's decision.

First, let us consider the pure altruist situation. Lemma 3 in Appendix E compares the pure altruist's optimal choice to the preference of the NP. For the NP, there is a dramatic difference between the low-budget worker who devotes to consumption their earning-to-give wage surplus, and the middle- and high-budget workers who share the surplus between (selfish) consumption and (altruistic) cash donation. The NP logically prefers the earning-to-give option if the cash donation it entails exceeds the cost of replacing the prosocial worker with a regular worker. According to Lemma 4 in Appendix F, this condition is met for the high-budget worker. For the middle-budget worker, the outcome depends on the parameters of the model.

According to Theorem 1, threshold $\overline{V}$ represents the limit value of the total wage gap below which the NP prefers the middle-budget pure altruist to choose the ETG solution. The low-budget pure altruist cannot afford to make a cash donation, which diverges from the NP's interest. In sum, the pure altruist's choice is optimal for the NP only if the worker's budget is either high, or middle with the total wage gap being large enough $\left(V < \overline{V}\right)$.

As in the theoretical analysis of optimal labor contracts with motivated workers by Barigozzi et al. (2018), our results suggest that a wage increase has mixed consequences for aligning the interests of the NP and its prosocial worker. However, in Barigozzi et al. (2018), the effect is driven by the correlation between ability and motivation, while in our case it is due to the trade-off between labor and cash donations for the workers who cannot afford both.

Second, in the case of mixed altruism with c below the budget-specific threshold $\bar{c}$, the level of impure altruism is insufficient to make a difference. Thus, the results are the same as those for

pure altruism. However, when *c* exceeds the threshold, the level of impure altruism reverses the results (see Theorem 2). Nevertheless, warm glow is neither a blessing nor a curse for the NP. Since warm glow creates misalignment for workers in the upper budget segment, it can be costly to NPs that rely on a highly skilled workforce. Conversely, NPs whose production technology relies on blue-collar workers are likely to be more productive when warm-blow attracts prosocial low- and middle-budget workers willing to donate substantial labor. In that case, impure altruism helps the NP by encouraging low-budget workers to pursue a compassionate career.

Table 4: Alignment with the NP's Interests Depending on the Type of Altruism and Budget of the Prosocial Worker

Alignment	**Worker's budget**			
	Low	Middle		High
Type of altruism		$V > \overline{V}$	$V < \overline{V}$	
Pure altruism	No	No	Yes	Yes
Mixed altruism with c below threshold	No	No	Yes	Yes
Mixed altruism with c above threshold	Yes	Yes	No	No

Note: For the low budget case, the threshold is $\overline{c}_{SB}$; for the middle budget case, the threshold is $\overline{c}_{MB}$; and for the high budget case, the threshold is $\overline{c}_{HB}$. Their analytical expressions are provided in Theorem 2. The analytical expression of $\overline{V}$ is provided in Theorem 1.

A potentially testable consequence of the model is that NPs with low market wage gaps should attract disproportionally more budget-constrained mixed altruists than wealthy ones. High market wage gaps play in favor of the earning-to-give option and can partly compensate the counter-effect of impure altruism. In that sense, our model suggests that the earning-to-give principle of effective altruism is more effective for wealthy, prosocial workers than for those with limited budgets. Alternatively, it may apply well to workers who are willing to deny themselves consumption in order to give more. In either case, the effective marginal utility of consumption is low.

Overall, altruism can influence the career choices of prosocial workers. For them, higher wages are not only a way to increase their own consumption, but also a tool to increase their contribution to the common good. However, both pure and impure altruism can lead workers to make occupational choices that diverge from the NP's interests. In these cases, there is a trade-off between the worker's welfare and the objective of the NP that they care about.[15]

[15] In our framework, the level of warm glow is exogenous. More realistically, however, firms may try to shape feelings of warm glow, perhaps through the ways that leaders communicate to employees and the public and how they curate office environments. An unexpected byproduct of effective altruism and "earning to give" could be wage

6. Conclusion

We consider a worker who wants to make the world a better place. Most labor market theory instead considers workers motivated by wages but not intrinsically by their employer's output. We have joined recent analyses of "motivated workers" in departing from this assumption. The insight that motivated workers are particularly valuable for nonprofits (because they are likely to work hard and mitigate incentive problems) contrasts with a second idea, drawn from the philosophical approach known as "effective altruism" and the related strategy of "earning to give" (MacAskill 2015). This idea suggests that prosocial workers could help more by *not* working for the profit but instead taking a higher-paying job that permits them to make large donations.

The model we present describes a prosocial worker who navigates these competing notions. They derive utility from the output of a particular nonprofit organization (in the sense of "pure altruism"). They may either hold a standard wage-earning job and give money to the nonprofit or accept a lower wage working for the nonprofit than a regular would demand from the same nonprofit. In doing so, the worker is donating time.

The theoretical model shows that outcomes shift based on the worker's budget and the type and extent of altruism. From the nonprofit's perspective, the best outcome is for the prosocial worker to be a pure altruist (without a warm glow associated with working with the nonprofit) and take a high-paying job to make large contributions to the nonprofit (i.e., earning to give). In that case, the nonprofit would need to hire a "regular" worker with no particular prosocial motivation. However, this option is not feasible for a prosocial worker with a severe budget constraint, who would end up donating neither money nor time to the nonprofit. In that case, the nonprofit would be worse off.

For these budget-constrained workers, the decision to work directly for the nonprofit is more likely if—unlike the premise for earning to give—the worker acted on warm glow feelings (in addition to purely altruistic motivations) derived from working for the nonprofit (Imas 2014;

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equalization between the for-profit and nonprofit sectors, especially for the high-end jobs where the market wage gap is large (Weisbrod 1983; Preston 1990). Wage increases in the nonprofit sector could be driven by a desire to attract or retain the most skilled and prosocial employees (Jones, 2015). Barigozzi and Burani (2016) argue that motivation is more important than ability for firms that benefit from the labor donations of their prosocial employees. Since efficiency-conscious donors typically rank charities based on their overhead costs (Cochrane and Thornton 2016; Meer 2017), a wage increase could further hurt nonprofits that rely on skilled workers. However, Delfgaauw and Dur (2010) argue that regardless of information asymmetries, it is cost-inefficient to raise nonprofit wages to for-profit levels in order to attract skilled workers.

Lilley and Slonim 2014). In this situation, warm glow feelings are helpful to bring outcomes into alignment. However, our model demonstrates that warm glow can also take them out of alignment for wealthier prosocial workers. Overall, the model helps to show that altruism, whether pure or impure, does not necessarily align the interests of prosocial workers with those of the nonprofit organizations they support. The alignment of interests depends critically on workers' budget constraints and their interaction with the nature of altruistic preferences.

Our framework contrasts continuous cash donations with binary labor donations based on occupation, offering a novel approach to modeling altruism. While higher granularity of money relative to labor realistically makes time and money imperfect substitutes, granularity is not the only theoretical factor driving the findings. One key factor is the identification of two sources of wage differentials between for-profit firms and nonprofits: nonmonetary compensation for regular nonprofit employees and uncompensated labor of prosocial workers.

Our results enrich the conversation about effective altruism by incorporating nuances regarding the preferences and budget constraints of prosocial workers. These workers have lives outside their prosocial goals, including their own consumption and potentially their friends and family. Proponents of effective altruism tend to advocate for combining earning to give with an ascetic life (Muyskens, 2017). However, this approach may be counterproductive for two reasons. First, it may be unfeasible for prosocial workers with severe budget constraints. Second, and perhaps unexpectedly, it could harm the nonprofit sector by pushing some workers toward occupational choices that are misaligned with the nonprofit's interests.

Our results also reveal new possibilities for nonprofit financing. For instance, they supplement the literature on "financing bricolage," which typically considers monetary and labor donations separately (Helleput and Périlleux, 2025; Korbi, Liu and Hossain, 2026). Furthermore, labor donations to nonprofits are often only formalized as volunteering, disregarding the labor donations of prosocial workers who earn wages, such as those in our model (Jegers, 2011; Van Slike and Brooks, 2005). Overall, our approach cross-fertilizes literature fields on altruistic behavior and nonprofit management.

We have focused on the trade-off between giving time and money. Andreoni (2006, p. 1252) concludes: “In sum, the literature on time and money contributions is in great flux, and there has yet to be a definitive study to address this gap.” Our goal has been to simplify in order to highlight certain mechanisms and relationships. Next steps will require more complexity. For

example, we use a utility function that, while standard, has specific features that could drive some results (such as the proportionality result that aligns the interests of the high-budget pure altruist and the nonprofit firm). Another simplification comes from the fact that we assume that the labor market is in equilibrium, so that everyone is passive except the prosocial worker. This allows us to focus on the worker's choice of occupation. In a more general setting, there may be asymmetric information about workers' motivations and abilities (Burani and Palestini 2016), and both nonprofit and for-profit firms may be active and strategic. Additionally, the dependence of workers' optimal money donations on exogenous subsidies could be generalized and endogenized with multiple workers via a stag-hunt game mechanism.[16] In this mechanism, altruistic workers simultaneously make their occupational choices and envision cooperating, based on other-regarding preferences (Erkal et al. 2011). However, the possibility for such cooperative situations would likely violate the assumption of fixed productivity, which would further undermine the tenet of effective altruism. Indeed, if workers could align their employer's preferences with their own, it is unclear why they would work elsewhere and allow a non-altruistic person to manage their preferred nonprofit and potentially cause it to deviate from its social mission (Varendh-Mansson et al. 2020).

In sum, unlike proponents of effective altruism, we consider choices when, following fundamental economic principles, all individuals, regardless of their prosocial tendencies, derive utility from consumption rather than viewing consumption as merely a survival necessity. The essence of the "earning to give" principle of effective altruism (Singer 2015) is that even if altruistic workers do not work directly for a nonprofit, they can help by donating money to the nonprofit. If their for-profit salary is high enough, they can actually help the nonprofit more by donating money than by working for it directly. Our results show how concern with consumption matters for these occupational choices—and how the ascetic ethos of effective altruism is essential to the clarity of this "earning to give" logic.

[16] We are grateful to an anonymous referee for making this suggestion.

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Appendix A: The Pure Altruist in a Compassionate-Career

We consider the case of the prosocial worker who works for the NP. Their utility is linked to the NP's productivity, which in turn depends on the type of worker that this firm has hired. The prosocial worker's problem is then:

$Max\ U(C,Q)$ s.t. $Q = (S - \widetilde{w_{NP}} + D)^a$ and $C = y + \widetilde{w_{NP}} - D$

Equivalently, the worker maximizes:

$U(D) = \ln[y + \widetilde{w_{NP}} - D] + b\,a \ln[S - \widetilde{w_{NP}} + D]$

Let us assume for the moment that the non-negativity conditions are fulfilled. Under the first order condition the prosocial worker's money donation is:[17]

$D^* = \widetilde{w_{NP}} + \frac{-S+bay}{1+ba} = w_{FP} - V + \frac{-S+bay}{1+ba}$

The NP's optimal output and consumption are:

$Q^* = (S - \widetilde{w_{NP}} + D^*)^a = \left(\frac{ba(y+S)}{1+ba}\right)^a$

$C^* = \frac{S+y}{1+ba}$

We have:

$0 < \frac{\partial D^*}{\partial y} = \frac{ba}{1+ba} < 1$

$-1 < \frac{\partial D^*}{\partial S} = -\frac{1}{1+ba} < 0.$

In sum, when non-negativity restrictions do not bind, we have:

$D^* = \widetilde{w_{NP}} + \frac{-S+bay}{1+ba}$

$C^* = \frac{S+y}{1+ba}$

$Q^* = \left(\frac{ba(y+S)}{1+ba}\right)^a = (ba\ C^*)^a$

Taking account that money donation cannot be negative yields the following optimal strategy for the purely altruistic worker in the compassionate-career situation:

$$D^*_{CC} = Max\{0, T_1\}, C^*_{CC} = \begin{cases} \frac{S+y}{1+ba} & if\ T_1 > 0 \\ y + \widetilde{w_{NP}} & if\ T_1 \le 0 \end{cases}, Q^*_{CC} = \begin{cases} \left(\frac{ba(y+S)}{1+ba}\right)^a = (ba\ C^*_{CC})^a & if\ T_1 > 0 \\ (S - \widetilde{w_{NP}})^a & if\ T_1 \le 0 \end{cases}$$

where $T_1 = \widetilde{w_{NP}} + \frac{-S+bay}{1+ba}$.

[17] This result does not hold for $b = 0$ (regular worker) because then we then have a corner solution $D^* = 0$ (no interior solution since $\ln C$ is decreasing with respect to D).

Appendix B: The Pure Altruist in the Earning-to-Give Career

We consider the case in which the prosocial worker chooses to work for the FP firm, so the NP instead must hire a regular worker and the prosocial worker gets their wage from the FP firm and their maximization problem becomes:

$$Max\ U(D) = \ln[y + w_{FP} - D] + ba\ln[S - w_{NP} + D]$$

We solve the model as in Appendix A. First, ignoring the non-negativity conditions, we derive the optimal donation, output and consumption from the first order condition.

$$D^* = w_{NP} + \frac{-S+ba(y+\delta)}{1+ba}$$

$$C^* = \frac{S+y+\delta}{1+ba}$$

$$Q^* = \left(\frac{ba(y+S+\delta)}{1+ba}\right)^a = (ba\ C^*)^a$$

Secondly, when the non-negativity restrictions are taken into account, the optimal strategy for the purely altruistic worker in the earning-to-give situation is given by:

$$D^*_{ETG} = Max\{0, T_2\},\ C^*_{ETG} = \begin{cases} \frac{S+y+\delta}{1+ba} & if\ T_2 > 0 \\ y + w_{NP} + \delta & if\ T_2 \le 0 \end{cases},\ Q^*_{ETG} = \begin{cases} \left(\frac{ba(y+S+\delta)}{1+ba}\right)^a & if\ T_2 > 0 \\ (S - w_{NP})^a & if\ T_2 \le 0 \end{cases},$$

where $T_2 = w_{NP} + \frac{-S+ba(y+\delta)}{1+ba}$.

Appendix C: Lemma 1

Lemma 1: *The optimal donation of the purely altruistic worker in the earning-to-give case is not smaller than in the compassionate-career case:* $D^*_{ETG} \ge D^*_{CC}$.

Proof: We have:

$D^*_{CC} = Max\{0, X_1\}$, and $D^*_{ETG} = Max\{0, X_2\}$

where: $X_1 = \widetilde{w_{NP}} + \frac{-S+ba\ y}{1+ba}$ and $X_2 = w_{NP} + \frac{-S+ba(y+\delta)}{1+ba}$

Moreover, the two wage gaps are expressed with reference to the for-profit market wage as:

$w_{FP} = \widetilde{w_{NP}} + V = w_{NP} + \delta$, which yields:

$X_1 = w_{FP} - V + \frac{-S+ba\ y}{1+ba} = w_{FP} + \frac{-S+ba\ y-(1+ba)V}{1+ba}$ and $X_2 = w_{FP} - \delta + \frac{-S+ba(y+\delta)}{1+ba} = w_{FP} + \frac{-S+ba\ y-\delta}{1+ba}$

Finally, $V \ge \delta \Rightarrow (1+ba)V \ge \delta$. If follows that $X_1 \le X_2$.

QED

Appendix D: Lemma 2

Lemma 2: *For the purely altruistic worker,* $\Delta lnC^* \le 0$ *and* $\Delta lnQ^* \le 0$.

Proof:

- If $w_{FP} \leq \frac{-S+ba\,y-\delta}{1+ba}$ (low budget): $C^*_{ETG} = y + w_{FP} \geq C^*_{CC} = y + w_{FP} - V$, and $\Delta lnQ^* = 0$
- If $\frac{-S+ba\,y-\delta}{1+ba} < w_{FP} \leq \frac{-S+ba\,y-(1+ba)V}{1+ba}$ (middle budget): $C^*_{ETG} = \frac{S+y+\delta}{1+ba} \geq C^*_{CC} = y + w_{FP} - V$

  because: $\frac{S+y+\Delta}{1+ba} - (y + w_{FP} - V) = \frac{S-ba\,y+\delta+(1+ba)V}{1+ba} - w_{FP} \geq \frac{S-ba\,y+\delta+(1+ba)V}{1+ba} + \frac{-S+ba\,y-\delta}{1+ba} = \delta \geq 0.$

  Moreover, $Q^*_{CC} = (S - w_{FP} + V)^a$ and $Q^*_{ETG} = \left(\frac{ba(y+S+\delta)}{1+ba}\right)^a \geq Q^*_{CC}$

  because: $S - w_{FP} + V \leq S - \frac{S-bay-(1+ba)V}{1+ba} = \frac{ba(y+S)+(1+ba)V}{1+ba} \leq \frac{ba(y+S+\delta)}{1+ba}$.
- If $w_{FP} \geq \frac{-S+ba\,y-(1+ba)V}{1+ba}$ (high budget): $C^*_{ETG} = \frac{S+y+\delta}{1+ba} \geq C^*_{CC} = \frac{S+y}{1+ba}$

  Moreover, $Q^*_{CC} = \left(\frac{ba(y+S)}{1+ba}\right)^a$ and $Q^*_{ETG} = \left(\frac{ba(y+S+\delta)}{1+ba}\right)^a \geq Q^*_{CC}$
- In all cases, we use the monotonicity of the log function to conclude that $\Delta lnC^* \leq 0$ and $\Delta lnQ^* \leq 0$.

QED

Appendix E: Lemma 3

Lemma 3: *For a middle- or high- budget purely altruistic worker,* $\Delta ln\, D^* \leq 0$.

Proof:

- For the high-budget prosocial worker, we have: $D^*_{CC} = \widetilde{w_{NP}} + \frac{-S+bay}{1+ba} = w_{FP} - V + \frac{-S+bay}{1+ba}$, and $D^*_{ETG} = w_{NP} + \frac{-S+ba(y+\delta)}{1+ba} = w_{FP} - \frac{\delta}{1+ba} + \frac{-S+bay}{1+ba}$ Since $ab > 0$. Comparing the two equations shows that the spread between the two optimal donations is: $D^*_{ETG} - D^*_{CC} = V - \frac{\delta}{1+ba} > V - \delta > 0$. This inequality proves the result.
- The low-budget prosocial worker makes no cash donations (see Propositions 1 and 2): $D^*_{CC} = D^*_{ETG} = 0$ Hence, the nonprofit will obviously prefer the *CC* situation providing labor donation over the *ETG* one that excludes any donation: $D^*_{ETG} - D^*_{CC} = 0 < V - \delta$.
- For the middle-budget prosocial worker, we have: $D^*_{CC} = 0$ and $D^*_{ETG} = w_{NP} + \frac{-S+ba(y+\delta)}{1+ba}$. As a result, we have: $D^*_{ETG} - D^*_{CC} = w_{NP} + \frac{-S+ba(y+\delta)}{1+ba} > V - \delta \iff V < \overline{V}$, where $\overline{V} = w_{FP} + \frac{bay-ba\delta-S}{1+ba}$.

QED

Appendix F: Lemma 4

- For the high-budget worker, the optimal cash donation in the earning-to-give case is not smaller than the extra cost of hiring a regular worker: $\Delta ln\, D^* = \ln Q^*_{CC} - \ln D^*_{ETG} \geq V - \delta$. Hence, the nonprofit prefers the earning-to-give option (ETG).

- For the low-budget worker, the inequality is reversed: $\Delta ln\, D^* = 0 \leq \mathrm{V} - \delta$. Hence, the nonprofit prefers the compassionate career option (CC).
- For the middle-budget worker, the situation depends on the parameter configuration. If the donation is low enough: $V < \overline{V} = w_{FP} + \frac{bay - ba\delta - S}{1+ba}$, then the situation is the same as for the high-budget worker. Otherwise, it mimics the situation of the low-budget worker.

Appendix G: Proof of Theorem 1

We have from Lemma 2: $\Delta U = U_{CC} - U_{ETG} = \underbrace{\Delta \ln C^*}_{\leq 0} + b\ \underbrace{\Delta \ln Q^*}_{\leq 0} + c$.

As a result: $c = 0 \Rightarrow \Delta U \leq 0$, and the earning-to-give solution is dominant because it delivers higher utility to the prosocial worker.

- For the high-budget worker, Lemma 3 shows that the NP prefers the *ETG* situation, so that the preferences of the worker and the NP are aligned.
- The middle-budget worker opts for the *ETG* solution. As stated in Lemma 4, this option is also optimal for the NP provided that $V < \overline{V}$.
- Regarding the low-budget worker, $\Delta \ln Q^* = 0$ and therefore $\Delta U \leq 0$, showing that the low-budget worker prefers ETG over CC, and this choice that involves no donations at all diverges from the NP's optimum.

QED

Appendix H: Proof of Theorem 2

We have: $\Delta U = U_{CC} - U_{ETG} = \Delta \ln C^* + b\, \Delta \ln Q^* + c$ The compassionate-career solution will thus be chosen when: $c > \overline{c} = -\Delta \ln C^* - b\, \Delta \ln Q^*$, where $\overline{c}$ depends on the level of budget of the prosocial worker. Precisely, $\Delta \ln C^*$ is computed for each budget size in Appendix B, $\Delta \ln Q^*$ is given in Appendix C for high and middle budgets and in Appendix E for low budgets. Hence, we derive the threshold value for impure altruism:

$$\overline{c} = \begin{cases} \ln \frac{y+w_{FP}}{y+w_{FP}-V} + ab \ln \frac{S-w_{FP}-\delta}{S-w_{FP}-V} & for\ low\ budget \\ \ln \frac{S+y+\delta}{(1+ba)(y+w_{FP}-V)} + ab \ln \frac{ba(y+S+\delta)}{(1+ba)(y+w_{FP}-V)} & for\ middle\ budget \\ \ln \frac{S+y+\delta}{S+y} + ab \ln \frac{S+y+\delta}{S+y} & for\ high\ budget \end{cases}$$

$$= \begin{cases} \ln \left[\frac{y+w_{FP}}{y+w_{FP}-V} \left(\frac{S-w_{FP}-\delta}{S-w_{FP}-V} \right)^{ab} \right] = \overline{c}_{SB} & for\ low\ budget \\ \ln \left\{ ab^{ab} \left[\frac{S+y+\delta}{(1+ba)(y+w_{FP}-V)} \right]^{ab+1} \right\} = \overline{c}_{MB} & for\ middle\ budget \\ \ln \left[\left(\frac{S+y+\delta}{S+y} \right)^{ab+1} \right] = \overline{c}_{HB} & for\ high\ budget \end{cases}$$

These quantities are the threshold above which altruistic workers of each category choose the compassionate career. Moreover, the preference of the NP does not depend on warm glow.

QED