

Economics, Gratitude, and Warm Glow*

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Abstract

People feel a sense of gratitude when they receive gifts, transfers, or assistance. Based on psychological literature, I argue that gratitude is different from standard notions of reciprocity. Indeed, people derive utility from in-kind transfers (i.e., feel grateful), even if they do not like or do not consume the gift. This is because it is the *thought that counts*, so long as the donor made a genuine and sincere effort to make the recipient happy. I incorporate a sense of gratitude into preferences and use it to rationalize giving induced by feelings of warm-glow. I am also able to explain the effect of social distance on the degree of redistribution, why government charitable donations may not crowd out private charitable contributions, the Keynesian effects of government debt, intrinsic motivation, donations to not-for-profit organizations and the practice of thanking anonymous referees in academia.

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Ingratitude is the essence of vileness – Immanuel Kant

Ingratitude is monstrous – William Shakespeare

The essence of all beautiful art, all great art, is gratitude – Friedrich Nietzsche

I hate ingratitude more in a man than lying, vainness, babbling, drunkenness, or any taint of vice whose strong corruption inhabits our frail blood. - Viola, in Shakespeare's 'Twelfth Night'.

1. Introduction

There have been attempts to incorporate emotions and other psychological attributes into economics. Loewenstein (1987), Caplin and Leahy (2001) and Glaeser (2003, 2004) examine the implications of satisfaction stemming from feelings of anticipation, Rabin (1993) and Fehr and Schmidt (1999) study fairness in a game-theoretic setting, Andreoni (1989, 1990) examines feelings of gratification (warm-glow) from the act of giving and Akerlof and Kranton (2000, 2005) study identity. This is a small subset of the burgeoning field of Behavioral Economics.¹ In this note, I attempt to contribute to this literature. My goal is to introduce gratitude into economics and to argue that it could help us to understand certain economic phenomena.

By introducing gratitude into the preferences of recipients of charity, I am able to rationalize donors' feelings of warm glow as in Andreoni (1989, 1990)² and to explain interesting economic phenomena as will be shown below in section 3. I argue that gratitude is different from standard notions of reciprocity in the economics literature.

¹ For recent developments in this field, see Camerer et al. (2003). See Glaeser (2003, 2004) for an interesting analysis of the relative strengths of economics and psychology in the explanation of individual and aggregate (market) phenomena.

² Andreoni (2004) mentions, *in passing*, that people give because they enjoy gratitude. However, he does not apply it extensively to other economic phenomena as we do in section 3.

Andreoni (2005) mentions, *in passing*, that people give because they enjoy gratitude. However, he does not apply this idea extensively to various economic phenomena as we do in section 3. Indeed, Andreoni (2005) concludes his survey on philanthropy by observing that “[T]he concept of warm-glow is only a convenient reduced-form representation for deeper and more complex considerations of givers. Future work ... can help fine-tune the model of givers.” The goal of this paper is to help in this fine-tuning endeavor and to explore a deeper and more complex consideration of givers. Also, as discussed below, gratitude has received relatively little attention from researchers.

The paper contributes to the literature on charity and philanthropy which seeks to identify and analyze the implications of various motives for giving. Brekke et al (2003) consider people who give because they consider themselves to be socially or morally responsible. Duncan (2004) considers people who give only if they can make a difference. That is, they give if and only if their donation will have an impact. Contributors in Harbaugh (1998) are motivated by the social prestige of being known as a donor. In this paper, people are partly motivated to give because they expect gratitude in return. This is consistent with Emmons (2004, p. 7) who observes that “[g]ratitude is a motivator of altruistic action... because it entails thanking one’s benefactors...” Therefore, as in Andreoni (1989, 1990), a donor’s altruism is impure. By providing a rationale for feelings of warm glow, I am able to address Brekke et al. (1990, p. 2003) critique of Andreoni (1990) when they observe that “[I]n Andreoni’s (1990) impure altruism model, there is no explicit modeling of why there is a ‘warm glow of giving’ ...”

In the next section, I present a socio-psychological discussion of gratitude. A simple economic model of gratitude is presented in section 2. Section 3 discusses applications and section 4 concludes the paper.

1.1 A socio-psychological discussion of gratitude

In the abstract of their paper, McCullough et al. (2001) write:

“[g]ratitude is conceptualized as a moral affect that is analogous to other moral emotions such as empathy and guilt. Gratitude has 3 functions that can be conceptualized as morally relevant: (a) a moral barometer function (i.e., it is a response to the perception that one has been the beneficiary of another person's moral actions); (b) a moral motive function (i.e., it motivates the grateful person to behave prosocially toward the benefactor and other people); and (c) a moral reinforcer function (i.e., when expressed, it encourages benefactors to behave morally in the future). The personality and social factors that are associated with gratitude are also consistent with a conceptualization of gratitude as an affect that is relevant to people's cognitions and behaviors in the moral domain.”

The above quote indicates that gratitude is an emotion and plays various roles in social relationships. By bringing together researchers from various fields, Emmons and McCullough (2004) provide a fairly elaborate analysis of gratitude. In the preface to this book, the philosopher, Robert C. Solomon writes:

“[g]ratitude is one of the most neglected emotions and one of the most underestimated of the virtues. In most accounts of emotions, it receives nary a mention. Even in broader surveys of attitudes, it is often ignored.... And yet gratitude is one of those responses that seems essential to and among civilized human beings...”

On page 3 of the introductory chapter of Emmons and McCullough (2004), the psychologist Robert A. Emmons writes:

“[o]ver the past quarter century, unprecedented progress has been made in understanding the biological, psychological, and social bases of human emotions. As psychologists further unravel the complexities of emotions, gaps in understanding are revealed. One of the gaps concerns the psychology of gratitude. A distinguished emotions researcher recently commented that if a prize were given for the emotion most neglected by psychologists, gratitude would surely be among the contenders.”

Emmons and Crumpler (2000) also make the point that gratitude has received relatively little attention even among psychologists (i.e., the most-neglected emotion).

According to Emmons and Crumpler (2000, p. 56) "... gratitude is an emotional response to a gift." Showing gratitude is a common human trait. Teaching kids to be grateful is part of parenting and is also expected to be demonstrated by teachers in schools. We often hear of the phrase "debt of gratitude". And it is believed that certain forms of transfers or assistance cannot be fully reciprocated, are impossible to reciprocate, or should not be reciprocated. In these situations, a simple and sincere show of gratitude is what is expected. Transfers and assistance from parents fall in this category. The acts of kindness of organ donors and other life-saving favors also fall in this category. Christians, Muslims, and creationists believe that gratitude must be shown to a supreme being for their existence.

The link between gratitude and gifts is obvious.³ People derive utility from in-kind transfers (i.e., feel grateful), even if they do not like or do not consume the gift. This is because it is the *thought that counts*, so long as the donor made a genuine and sincere effort to make the recipient happy. Emmons and Crumpler (2000, p. 58) note that "... sheer dislike of the gift is irrelevant. One can be grateful for the intentions of the benefactor." Rabin (1993) explicitly models intentions using psychological game theory. In his model, people reciprocate fair actions, and an action is perceived to be fair if the *intention* of the person taking the action is kind.⁴ Therefore, the *thought* counts.

³ Komter (2004) presents an interesting discussion of this link.

⁴ In his model, the explicit modeling of intentions is necessary because intentions can be fair (good) or unfair (bad) and target of the action responds depending on his inference of the other player's intentions. In my model, I simply assume that all intentions are good. I revisit this point in the conclusion.

Clearly, gratitude does not have to be shown by giving something back of almost equal value. In this sense, it is different from standard notions of reciprocity. As noted above, “gratitude is an emotional response to a gift.” For example, a friend who pays for dinner may not expect dinner or a cash transfer in return. Sometimes, just a verbal thank you, a card, or telling a mutual friend about the gift or assistance makes the donor happy.

Gratitude might represent feelings of reciprocity which do not need to be carried out. For example, sincerely telling a donor or benefactor, “I wished I could reciprocate or I wished I could repay you” is enough to make him happy. Emmons and Crumpler (2000, p. 58)

note that:

“[t]o be genuinely grateful is to feel indebted for a debt that can never be repaid. Expression of gratefulness are *attempts* to repay debts for which no payment may be possible ... A simple exchange or reciprocity notion cannot begin to deal with the profundity of gratitude ...”

The above discussion shows that gratitude is different from standard notions of reciprocity in economics as surveyed in Fehr and Schmidt (2005). While reciprocity is one way of showing gratitude, it is neither necessary nor sufficient for it. Paying for a friend’s dinner to reciprocate a previous payment of your dinner by this friend does not necessarily mean that you are grateful. If the act was undertaken grudgingly or without emotion, it may not be seen as a sign of gratitude.

Related to the previous points is that the size of the gift or assistance is sometimes irrelevant and the intensity of gratitude may be shown or is expected to be shown according to the relative ability of the donor. So a gift card from a poor donor may elicit greater feelings and expression of gratitude than the same gift from a richer donor. For

example, part of the by laws and policies of the Knox Community School Corporation in Knox, Indiana, reads as follows:

“...[s]taff members need to be aware when receiving gifts that they are modeling gratitude for their students. Accordingly, they should bear in mind the potential of embarrassing students with limited means when they choose to open gifts in class or comment on them in front of students.”⁵

Gratitude may not only make people happy but may also enhance their capacity to enjoy material consumption. Emmons and McCullough (2003) find that a grateful disposition improves a person’s physical and mental well-being. McCraty and Childre (2004) discuss the positive psycho-physiological effects of gratitude on the functioning of the heart.

2. Incorporating Gratitude into Preferences

Let $m > 0$ be the wealth of the donor and t the transfer, where $t \in [0, m]$. Of course, the act worthy of gratitude need not be pecuniary. It could be a spiritual, medical, or emotional assistance. I use pecuniary transfers for the sake of exposition.

Let $g = g(t/m)$ be the gratitude function, where g is continuous and increasing in t . We may then write the recipient’s utility function as $U_R = U_R(t, g(t/m))$. Both arguments are increasing in t . The first argument is the pure consumption part. This the material benefit from consumption. This part is independent of any characteristics of the donor. The second argument (i.e., the gratitude part) stems from the recipient’s notion of how much the donor has sacrificed for him. I model it as a function of the transfer-wealth ratio of the donor.⁶ The recipient is grateful because the donor sacrificed his consumption for him. He derives utility from being special enough and worthy of the donor’s sacrifice.

⁵See <http://www.neola.com/knox-in/search/policies/po4214.htm>

⁶ The transfer-wealth ratio formulation is not crucial to the analysis. I elaborate on this in section 3.

This utility stems from the act of receiving *per se* and must be different from the utility derived from the material consumption of goods. The psychological literature and the arguments presented above support this claim. As indicated in the previous section, people feel grateful, even if they do not materially consume the good. To re-iterate, the good thoughts *per se* of the donor counts. Gratitude is an emotion.

I have modeled the recipient's perception of the donor's sacrifice in terms of the dollar amount sacrificed by the donor. One may argue that to capture the donor's sacrifice, we should model this in terms of his sacrifice of utility. One may also argue that the gratitude function should not be continuous. Specifically, there is some $\bar{z} > 0$ such that $g = 0$ if $t/m \leq \bar{z}$ and $g > 0$, otherwise. These are interesting alternative formulations but incorporating them into the analysis will not change the main conclusions.

My formulation is consistent with Camerer et al. (2005) who argue that neural evidence suggests that people value money not only for the goods that money can buy but also for its own sake. Gratitude, in our model, may be interpreted as the utility from the act of receiving the gift *per se*. And this utility is increasing in the size of the gift. Thus, the recipient's emotional response to the gift is increasing in the size of the gift. This is also consistent with Andreoni (1989, 1990) where the warm-glow of giving is increasing in the amount given.

I do not model the cost of showing gratitude to the recipient. I assume that the donor can costlessly observe the level of gratitude since he knows the recipient's utility function. When information is incomplete, the donor may have to infer the intensity of the recipient's gratitude. In this case, the cost to the recipient of sending signals about his type must be modeled. For example, in a two-period model, we could assume that

showing gratitude is costly to the recipient. The recipient has the incentive to overstate his type (i.e., his intensity of gratitude) to the donor in the first period in order to get a larger transfer in the second period.⁷

The effect of gratitude on the donor may be weaker if the recipient is anonymous. And it is in these situations that the incompleteness of information may have some bite. However, anonymity itself may not be a problem since donors may have some idea of how recipients generally view gifts and transfers. Indeed, if people are expected to feel grateful because it is the *thought* of the donor that really matters, then donors may also feel good about giving because it is the *grateful thoughts* of an anonymous recipient that count. A clear case in point is the enormous gratitude of a recipient when his life has been saved by receiving an organ (e.g., a kidney) from an anonymous donor. Also, what explains the tradition of thanking *anonymous* referees or reviewers in academia? What utility does an anonymous referee receive from being thanked? One may argue that thanking reviewers is an indication that the paper went through the review process. But if so, why don't we simply say that without thanking the reviewers. Surely, there must be some academics who feel an obligation to show their gratitude to reviewers who helped them to improve the quality of our work and there are reviewers who are happy to have been acknowledged, even if anonymously. This practice may also reflect a norm that is partly influenced by a socialization process to show gratitude. Academics may simply follow it without questioning it.

Now let's consider a simple analysis of this model. Write the donor's utility function as $U_D = U_D(c, U_R(t,g))$, where U_D is increasing in U_R , and $c = m - t$ is his private material consumption. Suppose $U_R = \ln(t) + \alpha \ln(g(t/m))$ and $U_D = \ln(c) + \beta(U_R)$, where α

⁷ Lagerlof (2004) examines signaling in the "samaritan's dilemma" transfer game.

> 0 , and $0 < \beta < 1$. Let $g(t/m) = t/m$. It is easy to show that U_D is strictly concave in t .

Hence there is a unique maximum. Then $\partial U_D / \partial t = 0$ gives $t^* = \frac{\beta(1 + \alpha)}{1 + \beta(1 + \alpha)}m$. Not

surprisingly, $\partial t^* / \partial \alpha > 0$.

Note that $t^* > 0.5m$, if $\beta(1 + \alpha) > 1$. If there is no gratitude, $\alpha = 0$, and so $t^* < 0.5m$. With gratitude, it is possible that the donor might give out more than he consumes (i.e., $t^* > 0.5m$). Notice that $U_R = \ln(t^{1+\alpha}) - \alpha \ln(m)$. Since m is a constant in the model, we could have obtained the same result by simply writing the recipient's utility function as $U_R = \ln(t^{1+\alpha})$. Indeed, the transfer-wealth ratio formulation is not crucial to the analysis. I could simply have assumed that g is a function of *only* t . What really matters is that t enters U_R *twice*; once to capture the utility from the recipient's material consumption and also to capture the utility from the recipient's feeling of gratitude. Besides, any transfer is still some form of sacrifice of material consumption by the donor. The transfer-wealth ratio formulation might change the quantitative results but *not* the qualitative results.

3. Applications and discussion

Clearly, if the donor's degree of altruism, β , and the recipient's combined marginal utility of material and emotional consumption, $\partial U_R / \partial t = (1+\alpha)/t$, are sufficiently high, then it is not surprising that the donor might give out more than his own consumption (i.e., $t^* > 0.5m$) as obtained in the previous section. Our main contribution lies in opening a black box and thereby identifying a realistic mechanism (i.e., gratitude) through which such a high marginal utility might arise. Notice that the donor and recipient have identical utility functions for material consumption (i.e., $\ln(c)$ and $\ln(t)$)

and the donor values his own material consumption more than the recipient's material consumption (i.e., $\beta < 1$). Nevertheless, knowing that a recipient is a *very* grateful person (i.e., a high α) might induce a *very large* transfers from a donor. Our enormous sense of gratitude for those who lay down their lives for the defense and freedom of our lands might partly explain why some people are willing to go to war to risk their lives. These people give their fellow citizens such a huge transfer because they (i.e., the donors) partly believe that their sacrifices generate feelings of gratitude.

Andreoni (1989, 1990) gave prominence to the idea of “warm glow” in economics. Warm glow is the utility derived from the act of giving. If gratitude is the utility derived from the act of receiving, then the two may be connected. Given an altruistic donor and a grateful recipient, the warm glow effect will emerge. To see this, recall that donor's utility function is $U_D = U_D(c, U_R(t,g))$, where U_D is increasing in U_R . Clearly U_D is a function of g , and could induce a warm-glow effect. In Andreoni (1989, 1990), the contribution to the public good appears *twice* and *positively* in the donor's utility function; once as part of a public good and also as a private good. Similarly, the transfer, t , appears twice and positively in U_R , and therefore it appears twice and positively in U_D . Thus, gratitude and inter-dependent utilities are sufficient conditions for generating preferences with warm-glow. Andreoni (1989, 1990) argues that people sometimes give in order to receive a warm-glow. A component of this warm-glow may be gratitude because people could give in order to receive gratitude. In short, we are able to rationalize feelings of warm-glow by arguing that donors derive utility from the act of giving *per se* precisely because their beneficiaries derive utility from the act of receiving *per se*. We may even go further to argue that there can be no warm-glow without

gratitude on the part of the recipient. Why should one feel good when one is “casting pearls before swine”? In this case, it is only the material consumption of the recipients which gives the donor a sense of satisfaction.

Brekke et al. (2003, p. 1969) observe that “[A]ndreoni’s impure altruist obtains more “warm glow of giving” simply by contributing more; no complex moral reasoning on issues such as individual obligations or social values is required. If she is informed that recycling is less environmentally beneficial than previously believed ... it is not clear that she would change her recycling behavior.” Clearly, based on my rationalization of warm glow preferences, the critique by Brekke et al (2003) is much weaker. An individual with warm glow preferences takes into account the effect of his contributions on the feelings of gratitude of his recipient. If recycling is less environmentally and therefore is less deserving of the gratitude of society,⁸ then the donor may reduce his contribution.

In standard voluntary contributions public goods (e.g., charity) games, three empirically false predictions could arise: total provision of the public good is independent of the distribution of income among contributors, government provision completely crowds out private provision, and subsidies have no effect on aggregate contributions. Andreoni (1990) showed that by incorporating warm glow into contributors’ preferences, the model can generate empirically consistent predictions. Given that gratitude could provide sufficient basis for warm glow, it follows that the theoretical results obtained and empirically discussed in Andreoni (1989, 1990) could stem from the widely-spread social norm of showing gratitude.

⁸ As argued above, the gratitude or otherwise of anonymous beneficiaries can still have an effect on donors.

Based on Andreoni (1989, 1990), we can conclude that the social norm of gratitude may explain why government charitable donations do not completely crowd out private charitable contributions and why government debt will have Keynesian effects. To elaborate, consider the following argument in Andreoni (1989) but presented in terms of gratitude. Suppose children make transfers to their parents. Parents feel grateful and this gives children a warm-glow as argued above. Now suppose the government redistributes income from the young (children) to the old (parents). Then the government's action will crowd out the voluntary transfers of children one-for-one, if there is no gratitude and therefore no warm-glow. This is because a dollar from the government to parents is seen by children as a perfect substitute for their voluntary transfers. But if there is gratitude and therefore a warm-glow from giving, then the reduction of a dollar by a child reduces his utility by more than the gain in utility stemming from the government transfer of a dollar. Thus government transfer is no longer seen as a perfect substitute for voluntary (private) transfers. This hinges on the assumption that parents do not see the dollar from the government as coming from their children tax dollars, and therefore are not grateful to their children for these government transfers. Therefore, children will not reduce their transfers by the full amount of the government transfer and therefore their parents' consumption will increase. Government redistribution is not neutral. It follows that government fiscal policy may have no Ricardian Equivalence effect (i.e., debt is no longer neutral).⁹ Therefore, debt has Keynesian effects, if people are grateful.

⁹ The first papers to present this genre of neutrality results were Barro (1974), Warr (1982), Roberts (1984) and Bernheim (1986).

Tullock (1981, p. 901) argues that

“... the charitable motive tends to weaken as you move away from the charitable person, both in geographical distance and in social distance. If so, this would tend to indicate that ... people of your own class or people who live in your town should be treated better than other citizens...”

A similar point is made in Luttmer (2001) and Alesina et al. (2002). While group loyalty induces people to redistribute income to their groups or those that they identify with, I wish to propose a complementary explanation. If donors derive utility from the gratitude of their beneficiaries and if it is easier to judge the level of gratitude of those closer to you, then this may yet be another reason why the charitable motive is stronger, the shorter is the geographical or social distance from the recipient. Indeed, the connection between solidarity and gifts (gratitude) has been thoroughly discussed in Komter (2005). The main argument of her book, supported by empirical illustrations, is that the sociological theory of solidarity should incorporate some of the core ideas from anthropological gift theory. Group loyalty based on race, ethnicity, social class, religion may initially bring people together. But emotional, spiritual, and material gifts *and* the corresponding gratitude sustain, glue, and cement these social ties. As Komter (2005, p. 8) observes “[a] culture or society deprived of all acts of gratitude will inevitably break down.”

Since showing gratitude is expected to be sincere but need not involve any expensive gifts, it follows that firms can show their gratitude to their employees by giving them token gifts (e.g., cards, certificates, etc). This means that huge monetary rewards may not necessarily be good motivators in the workplace. While money might have a positive effect, it may cease to do so beyond some point. Beyond this point, an

emotional and expressive appreciation of the employee's effort may be a better motivator. The potentially weak incentive effects of monetary rewards has been recently appreciated in economics (e.g., Frey, 1997; Benabou and Tirole, 2003; Akerlof and Kranton, 2005).

Related to the previous point is the effect of mandatory rules on performance. If an act is considered obligatory or mandatory, it may cause people to rebel against authority figures by shirking. However, if the doer (agent) knows that beneficiaries of the act other than the authority (principal) are grateful, then this may dampen the adverse effect of mandatory rules on performance. For example, an employee – who is supervised by a very cold-hearted principal - might still deliver very good customer service if he believes that customers are grateful for such pleasant personalized treatments, although the agent's intrinsic motivation would have been dampened otherwise.

Also, to the extent that the consumers of the products of *not-for-profit* organizations and the public sector are more grateful than the consumers of the products of *for-profit* organizations,¹⁰ gratitude and its corresponding warm-glow inducement in donors may also explain why people are motivated to work in *not-for-profit* organizations and the public sector under low-powered monetary incentives as opposed to *for-profit* organizations. The issue of incentives in *not-for-profit* organizations has been investigated by Francois (2000) and Besley and Ghatak (2005). In these papers including Glaeser (2002), the workers of not-for-profit organizations care directly about the output of the organization. I claim that the workers may have such preferences because the output of the organization generates feelings of gratitude in its consumers.

¹⁰ This is because consumers are much more likely to perceive the work of not-for-profit organizations as sacrificial.

Incorporating gratitude in economics may also help us to understand other puzzling behaviors. An example discussed in the previous section is the practice of thanking anonymous reviewers in academia. As argued above, the recipient's feeling of gratitude need not be weakened by the anonymity of the donor (i.e., referee).

4. Conclusion

Gratitude is related to reciprocity but it is different from it in fundamental respects. This paper has shown that incorporating the wide-spread human characteristic of gratitude into economics could shed light on certain economic phenomena. Some of these phenomena were discussed in the previous section. We are able to rationalize feelings of warm-glow by arguing that donors derive utility from the act of giving *per se* because their beneficiaries derive utility from the act of receiving *per se*. Gratitude could explain why government debt might have Keynesian effects.

Based on psychological literature, I argue that the utility to the recipient from a sense of gratitude is different from the utility of material consumption. I am not claiming that these utilities stem from different parts of the brain. My claim is that they ought to be treated differently in conceptual and formal analyses of gratitude in economics. It appears that empirical and rigorous analysis of gratitude has, until recently, received relatively less attention from even psychologists. Surely, there must be fertile and extensive ideas worthy of research. Other applications of the ideas and simple model presented in this paper might catch the attention of other scholars. For example, I do not examine insincere or fake gratitude nor do I examine the donor's inference of signals of the recipient's feelings of gratitude. Also, donors may manipulate recipients by making them feel guilty

for not showing enough gratitude. The *intention* of the donor may then be unfair in the sense of Rabin (1993). In this case, the explicit modeling of intentions and beliefs about intentions are necessary.¹¹ While the importance or pervasiveness of donors' manipulation of recipients' gratitude is not clear, these are, nevertheless interesting issues awaiting research. The formal model presented in this paper is very simple. However, it is hoped that this short piece and the ideas herein will generate theoretical, empirical, and experimental research on the economics of gratitude.

¹¹ See Amegashie (2006) for a model of intentions in a dynamic psychological game under incomplete information.

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