WHO BENEFITS FROM DONOR ADVISED FUNDS? INSIGHTS FROM BEHAVIORAL ECONOMICS

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INTRODUCTION

The purpose of this article is to bring reasoning and evidence from both mainstream economics and from behavioral economics in an attempt to understand why people would use donor advised funds as a financial vehicle for their charitable giving and what are the effects of doing so. Clearly there are some simple benefits, such as budgeting convenience, smoothing consumption and giving over time, and the involvement of family in the charitable decision making. These are all well documented by the 2015 Giving Report from Fidelity Charitable.

While these benefits are laudable, they do not seem consequential enough to account for the huge rise in use of DAFs in recent years. We will use standard economic logic as well as the responses to the survey given by Fidelity Charitable to its account holders and recounted in their 2015 giving report to inform our analysis.

It is important to note, while I apply well-established economic results and tools of analysis in this document, what I do not do is look directly at any data about DAF holders: their other financial holdings, their wealth, their ages, education, or domestic situations. I do not know how much wealth they have or how they attained it, and I do not know how they had planned to spend that wealth before the popularization of DAFs. I don't use this because such data is not available to researchers. Because of the reports from survey conducted by Fidelity of its donors, I am able to glean sufficient important information to form the hypotheses used in my analysis.

I have organized my paper into two main parts. Part I takes a sober look at DAFs as public policy, from the point of view of a dispassionate neoclassical economist. It raises some questions about DAFs that the neoclassical economist would find puzzling. We then go to Part II where a

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more modern behavioral economist takes over. In this section I attempt to use models and findings about how people actually think, as opposed to how a purely rational person is *supposed* to think, to explore further the intriguing behavior of DAF holders.

The paper ends with a conclusion that summarizes what we know, acknowledges what we must conjecture, and describes the steps we must take to understand the public policy implications for DAFs and to determine their social value as financial vehicle for charitable giving.

PART I. THE ECONOMICS OF CHARITABLE GIVING

A. Charitable Giving as a Social Investment

A familiar and important concept in financial investing is the *return on investment* or ROI. Financial ROI is easy to measure—it is all in terms of dollars, and it is easy to track. On statements from brokerages there is usually some calculation labeled, for instance, "your personal rate of return." Since gains are compounded, a $100 investment with an annual ROI of 6% will in ten years be worth $216.

Contributions to a charity can be thought of as investments as well. Some of these have been studied and quantified just as financial investments have. If, for instance, a donation allows an underprivileged student to attend college, we know the ROI for a college degree is, on average, about 15%. Other charities have done the work to uncover their own ROI. For instance, GiveDirectly gives $2000 cash grants to the poorest households in Kenya and did a randomized field test to learn what recipients of their grants did. They most often invested in replacing the grass roof on their huts with a tin roof and thus saving $400 per year in roof-maintenance, making it an investment that yields about a 20% return. But the value of other charitable services are difficult to quantify, such as a safe house for an abused woman, the granting of human rights to the oppressed, or freeing someone from death row by demonstrating an incorrect conviction. Turning these into a "dollars equivalent" ROI requires assumptions that only the donor can make—what is the value of a person's life, or dignity, or freedom?

Like financial investing, charitable investing also often has compounding returns, and this compounding can be far more rapid than in financial investing. For example, every time someone is vaccinated that person is protected, but the protections provided to those not vaccinated increase as well. When vaccines saturate society to a sufficient degree (called the herd immunity threshold), often around 85-90%, virtually the whole population is protected. Or think of our college graduate in the example above. It is well known that the children of college graduates are far more likely to go to college. Thus creating one extra college graduate means that his 2.4 chil-

dren are likely to become college graduates, as are his 4.8 grandchildren, and so on, and through time the growth is exponential. Or the Kenyan with who saves $400 per year may now have a healthier and more productive family, again sending positive ripple through time.

These investments have the property that the more any one person invests, the greater the ROI to each dollar invested by *everyone.* We call this phenomenon *increasing returns*. The idea is illustrated in Figure 1. An example of an increasing returns charitable investment might be a project to build a new Economics building to UCSD. There is a minimum amount of money it takes to even break ground on the building, say $5 million. Before this, a small donation produces no building. After the first $5 million, then as more dollars come in the building can be larger, equipped with more and better classrooms, until the ROI on the Charitable investment exceeds the ROI on financial investment. Before reaching this point, a donor looking at the ROI on private investing and the ROI on charitable investing would find a gift a bad deal. But if the charity can somehow get total donations to the point that ROI surpasses that of private investing (B, in Figure 1), then the fund drive can be a success.

This concept of increasing returns to charitable investing has been studied extensively in economics and is one of the most robust features of giving. For instance, it explains one of the common rules of thumb for charitable campaign drives—line up donations of about one third of your goal ahead of announcing the campaign. The pre-arranged donations, often called "seed gifts," assure that the charitable ROI rises above the financial ROI at the start of the fund drive, thus guaranteeing its success.[1]

[1] See James Andreoni, "Toward a theory of charitable fund-raising," *Journal of Political Economy* 106.6 (1998) 1186-1213; John A. List & David Lucking "The effects of seed money and refunds on charitable giving: Experimental evidence from a university capital campaign," *Journal of Political Economy* 110.1 (2002) 215-233 (empirical tests); Steffen Huck and Imran Rasul,"Matched fundraising: Evidence from a natural field experiment." Journal of Public Economics 95.5 (2011) 351-362. See also James Andreoni, "Philanthropy," Handbook of the economics of giving, altruism and reciprocity 2 (2006) 1201-1269; James Andreoni & A. Abigail Payne. "Charitable giving." Handbook of Public Economics 5 (2013): 1-50 (reviews of the literature on charitable giving). James Andreoni, *The Economics of Philanthropy and Fundraising, Volume I: Theory and Policy Toward Giving*, and *Volume II: Fundraising and the Sociality of Giving* (2015) provides a compendium of the major contributions of economics to the study of charitable giving.

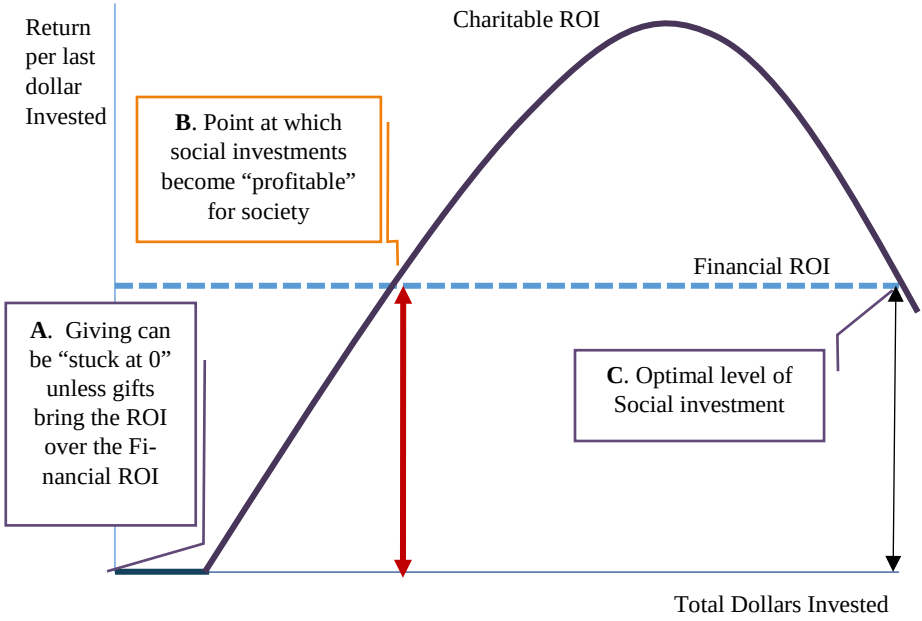

Figure 1. Making Charitable Investments.
Charitable giving is often characterized by increasing returns. This means that the Return on Investment is higher for *all* investors as the fund grows. When the ROI is below the financial ROI, donors are reluctant to give and a good cause can get "*stuck a 0*" (A). If donors, or perhaps a single lead donor, can invest enough so that the ROI exceeds the financial ROI, then donors can invest (B). As long as the charitable ROI exceeds the financial ROI, it is socially better to invest in the charity (C).

When looking at charitable giving in terms of *investing* rather than simply spending money, one can appreciate that the concept of return-on-investment is key to giving wisely. Today there is a concerted effort by many charities, charity advisors, and charity recommenders to quantify the "impact" of a charity.[2] While there may be no way to quantify the social returns of many of these charities (although some are trying) the hope is

[2] See Charity Navigator and the Hewlett Foundation, www.**myphilanthropedia**.org. See also the Center for High Impact Philanthropy at the University of Pennsylvania, the Effective Philanthropy movement started by Peter Singer, now embodied in TheLifeYouCanSave.org, the charity ratings by GiveWell. The Center for Effective Philanthropy, with funding from The Hewlett Foundation, Robert Wood Johnson Foundation, and others is devoted to helping charities measure and demonstrate their impacts.

that by describing the impact, donors themselves can decide whether the impact of a charity adds up to an ROI that justifies a gift

Those investing in DAFs may be no different, and appear to have potentially more information on charitable impact since one of the services that accompany DAFs is advice on effective giving. In the survey Fidelity Charitable did, 43% of DAF holders reported relying on Fidelity for advice on the recipients of their donations.

B. Are Tax Savings a Benefit of DAFs or a Cost?

The web pages of organizations offering DAFs often tout the tax savings the donor will receive as a benefit. While it is a benefit to the person receiving the tax savings, it is important to keep in mind that it is a cost to society.

The argument is akin to legislators who say that the benefit of a public works project, like building a new bridge, is that it will create jobs. In fact the benefit is that people will be able to use the bridge. The cost can be measured by, in part, how many people the government needs to hire to build the bridge. That is, those jobs are not the benefit of the government spending, but the cost. To be sure, those who get the jobs will benefit as individuals, but from a social point of view, if we can get the same bridge and create *fewer* jobs, then we have a more efficiently built bridge and *society is better off.*

Let's look at the statement that reduced tax payments to the government are a benefit. What is the objective of a DAF from the point of view of the society in general? It must be to increase the level and impact of charitable giving in the US—this is like building the bridge. What is the cost? That the government will lose tax dollars in the process. Those tax dollars could then be used to reduce the federal deficit. Then the public policy question becomes, does the tax policy toward DAFs create enough benefits in terms of growth in charitable giving to justify the loss in tax revenue?

Next we will look at the consequences for DAFs on the finances of those who give, and use current research to conjecture on how the policy influences giving.

C. Evaluating Costs and Benefits for Policy

The concepts about how policy makers evaluate the costs and benefits of a policy are perhaps best illustrated by analogy to an example that is similar to, but simpler than, DAFs.

Imagine a firm wants to encourage its employees to exercise. They offer a free membership to a nearby gym, and pay employees $25 each week

that they use the gym at least once. Usage of the gym is extraordinary. Is the business making a good investment? Consider three types of employees. Employee A never worked out before and now uses the gym once a week. Clearly both the gym and the subsidy have encouraged this person. Employee B was a member of a gym already, but only went once a month. Now he goes 3 times a month. The free gym membership has no effect on this person, but the subsidy is paying off for the company. Finally employee C already went to the same gym 3 times a week, and now with the policy gets a free membership and $100 a month, but does no extra workouts.

Economists would say that for Employee A, both the gym and the subsidy provided *marginal incentives.* That is, both policies changed A's behavior. For B, the subsidy had marginal incentives; the $75 encouraged 2 additional visits. However, the effect of the free membership was *infra-marginal;* the free membership was a waste of money, but the weekly subsidy paid off. Employee C's exercise regimen was affected neither the membership nor the subsidy, so the incentives are all *infra-marginal*: C got a free membership and $100 a month all for doing what he would have done anyway. So whether the impact of this program are worth the cost depends on the number of people like A, B, and C in the company.

How does this apply to DAFs? When evaluating a policy, the government weighs the benefits against the cost. One of the costs to DAFs are the lost tax revenues caused by the existence of DAFs. The benefits of DAFs are the potential increase in donations caused by the existence of DAFs. The important clause in the last two sentences is "caused by the existence of DAFs." That is, if there are marginal effects on either the taxes paid or the donations made, then we want to count these as part of the social costs or social benefits. But if people pay the same tax or give the same amount that they would without the DAF—even if money flows through a DAF—then we don't want to count the tax saving or the giving as part of the costs or benefits. We only want to count as costs the *marginal* (i.e. new) tax savings caused by the DAF, and count as benefits the *marginal* (i.e. new) charitable giving caused by the DAF.

Suppose the investors using DAFs to save taxes are savvy enough to have found other ways to save those tax dollars had they not been able to do so with a DAF. Then this tax cost would be zero for those donors. That is, the DAF did not cause a change in tax savings. Only if the DAFs open new opportunities for tax savings will those be counted as costs.

The same is true on the side of donations. If the DAF allows people to give what they always planned to give, but just in a different form, then these donations from the DAF do not count as benefits. If DAFs end up encouraging new donations that otherwise would not have been given, then this new generosity is what we need to count as the benefit to society.

Clearly there are other costs and benefits to DAFs that are also important to families and to charities. These are not to be ignored. For this piece, however, we will focus on the main elements of costs and benefits: tax avoidance and new donations.

C. How do DAFs Affect Personal Finances?

A DAF is like a savings and investing account that is restricted only to be spent on charitable giving. How does this restriction affect personal and charitable investments? Answering this question will be easiest if we work from an example. Table 1 is based off of an example provided by Fidelity Charitable on their web page.[3] We will work through this table in this section as part of our attempt to understand the financial consequences of DAFs for the economy in general.

Consider an individual who has an account that today is worth 100, where you may think of this as anywhere from $100 to $100,000 to $100 million. The assets in this account are earmarked to be given away in 10 years, at whatever value they have then. We can ask how this decision is affected by the availability of a DAF.

Example 1: Suppose the assets are in an account that regularly gets taxable income or dividends. Then this person would be wise to put the 100 in a DAF and allow it to accumulate these proceeds without tax. Realistically, the fact that the tax system favors capital gains means that most securities are designed to produce capital gains rather than income. For instance, looking at some of the most popular blue chip mutual funds offered by Fidelity, the average fund would generate a tax bill each year that is less than 1% of the price of the security. Thus, while the gain from avoiding this is real and is easily enough to justify using a DAF, this is unlikely to tip the scale one way or the other on policy questions surrounding DAFs.

Example 2: Suppose the funds designated for the charity are in assets that have accrued substantial long term capital gains, and that pay no taxable dividends. Thus one of the tax consequences is that one can gain the income tax deduction for the current amount now by giving the money to the DAF rather than waiting 10 years. But is this desirable? Table 1 shows an example of a person who has an account that is yielding long term capital gains, which are only taxable on realization, to use to fund her DAF. We want to compare scenario B, where the person sets up a DAF, to scenario C

[3] Go to http://www.fidelitycharitable.org/giving-account/features/tax-benefits.shtml, and follow the link "view hypothetical example". This example is of a $100,000 sale of appreciated stock, with a basis of $40,000, a capital gain of $60,000, a marginal tax rate of 35% and a capital gains rate of 15%. The example shows how giving this asset to a DAF would say $35,000 in income taxes and $9000 in capital gains tax. This is shown in Panel 2, the first column labeled Give Today.

where she does not. In both cases the money is distributed to the charity in 10 years and thus the charity gets the same donation. The assumption in B is that the tax savings are immediately reinvested in the same asset, and then liquidated in 10 years, with a capital gain. In C the assumption is that the tax savings are realized in 10 years as cash. As the Table shows, there are there is a $4 advantage to *not* setting up a DAF (Comparison 1 versus 2). The reason is that the tax savings today of $35 on federal income tax in scenario B sets up a basis for a capital gain when it is liquidated in 10 years with taxes paid. If instead the donor holds the money herself, the charity receives the same donation and no capital gains tax is ever paid.

Example 3: Moving to scenario D, we see that DAFs seem financially advantageous almost exclusively to those who anticipate a realization of capital gains *before* the time in which they are ready to give away the entire value of that asset (Table 1, Comparisons 3 and 4). Someone who must realize the gain would otherwise pay a tax of 15%, or $9. To justify setting up the DAF, this person must be willing to give away the DAF balance in their lifetimes, or in the lifetimes of their heirs. For example, one of the biggest recipients of DAF contribution from Fidelity Charitable is the Church of Jesus Christ of Latter-day Saints. The money set aside in the DAF can be used for the family's annual donation to the Mormon Church, and if the owner dies before the DAF is fully liquidated, her heirs can continue using the DAF for the same purpose. In this way, we now see the value of a charitable savings account. A need or desire to sell a security with substantial capital can create an opportunity to use a DAF for considerable tax savings.

The fact that avoiding capital gains tax is the primary financial advantage to DAFs is borne out by the Fidelity Charitable survey of their clients. 78% donors list that their reason for setting up a DAF was "to potentially limit capital gains taxes."

The Fidelity Charitable web page seems to recognize this as well. Their hypothetical example, which is the basis for Table 1, is the only example given for how the tax savings can accrue. They, correctly, do not list collection of the income tax deduction immediately as a financial benefit, as Table 1 demonstrates that this can create a financial loss. (Other DAF providers, however, make this mistake.)

Table 1: Why Do People Need a Charitable Savings Account?

Future Value of a plan to give all of the appreciated stock to charity in 10 years vs today under different scenarios. The greatest gain is to Give Today without a DAF (A), and the Strongest Incentive to do so is if the alternative is no DAF as well. The most convenient alternative for the Donor is (B) which costs the charity 17% of the value of the gift, but gains nothing for the donor.

Panel 1: Assumptions

Assumptions:	Value of Stock	100
	Capital Gain	60
	Return on Investment:	
	Financial	6%
	Charitable	8%
	Tax Rates:	
	Capital Gains	15%
	Income	35.0%

Panel 2: Giving Scenarios

Giving Scenarios:		**A. Give Today**	**B. Give thru a DAF**	**C. Save unrealized**	**D. Save realized**
	Give Today	**without a DAF**	**in 10 years**	**gain outside DAF**	**gain outside DAF**
	Present Value	Future Value	Future Value	Future Value	Future Value
	at time of Gift	in 10 years	in 10 years	in 10 Years	in 10 Years
Charitable Investment:	$100	$216	$179	$179	$163
Federal Tax Savings†‡					
Capital Gains Tax	$9	$12	$12	$16	-$8
Income Tax	$35	$63	$63	$63	$57
Total	$44	$75	$75	$79	$49

Panel 3: Net Benefits to Society and to Donors

	Comparison 1	**Comparison 2.**	**Comparison 3.**	**Comparison 4**
	FV of Give Today	Give in10 yrsThru DAF	versus Private Saving	FV of Give Today
	vs Give w/ DAF	Assuming	Assuming	vs Give w/o DAF
	in 10 years	Unrealized Gain	Realized Gain	in 10 years
		today	today	after Realized Gain
	A - B	**B - C**	**B - D**	**A - D**
Net Benefits to:				
Charitable Investment	$37	$0	$16	$53
Donor's Federal Tax Savings†	$0	-$4	$26	$26

† it is also common for state taxes to allow for a deduction of charitable contributions from state taxable income. In California, for example, one could expect an additional 10.3% to 13.3% savings in state tax

‡ The tax savings in the first column include $9 of avoided capital gains tax, that is, the comparison is made to an individual who would otherwise have liquidated the asset for personal use.

D. Does the Existence of a DAF Make People More Generous?

To make thing simple, suppose that our donors is facing the choice of giving away the $100 asset discussed in Table 1, or liquidating the asset to use for personal expenses.

Example 4: Suppose the individual had considered making a donation of the assets now worth $100 and had decided not to. The investment is in a single asset which she has no intention of trading or realizing any gains for the coming 10 years. The introduction of DAFs has absolutely no consequence for this person. Neither the charity nor the donor can benefit.

Example 5. Suppose instead that the donor planned to leave the money for the charity in her will. Again, she had considered giving it earlier, but decided against it. The DAF is, again, inconsequential.

Example 6. The donor had decided to give the fund, and decided that giving it in 10 years most suited her. The DAF is equivalent to holding the asset herself, except that by realizing the income tax savings now, she sets up a basis for a capital gains tax when she liquidates in 10 years, which as we see in comparison 2 of Table 1 makes her worse off. This person has no use for a DAF.

So far, as long as the investor has money in a financial instrument that allows for delay of any realized gains until the asset is sold, we have no financial reason to favor a DAF. Therefore, to prefer a DAF, it must also be that one would prefer to trade the asset they are giving away.

Example 5: Suppose our donor was an early investor in Company X and would like to diversify by selling some shares in Company X. She is held back by the sizable capital gain tax that would result. The donor realizes that throughout her remaining life, and the lives of her heirs, she will give at least $100, in present value terms, to charity. If she donates the stock today to an irrevocable DAF she can save the large capital gain and satisfy her lifetime giving goals, and perhaps those of her children. She now has use for a DAF.

Example 6: Instead, suppose our donor is happy to hold on to her investment in Company X, but because of a sale, is being forced to liquidate and realize those capital gains. In anticipation of this the donor can open a DAF to shield herself from the tax on capital gains. If the $100 in wealth represents the present value of all of the lifetime donations that this person would ever plan to make, then the person can benefit from a savings account for charitable giving.

Example 7: A donor holds some highly illiquid asset, such as stock in a privately held company. The individual would like to sell the stock, but because it does not publicly trade, it is difficult to arrange a buyer and agree on a fair market price. In their 2015 report, Fidelity Charitable states that the company, "Has expertise in converting non-publicly traded assets into charitable dollars and has seen substantial growth in these types of contributions in recent years. Since inception, Fidelity Charitable has assisted in converting $2.4 billion of illiquid assets into charitable dollars available for grants." Depending the valuation provided by Fidelity in this service, setting up DAF could be superior to other methods of realizing the gain, but only if the donor had already planned to give away an amount that, over her lifetime, would result in an equivalent change in her private investment accounts. Since appreciated assets are difficult to value, it is unclear from the Fidelity report how much of this $2.4 billion dollars in assets eventually became available for the charity, what the tax cost to the government would be, and what the alternatives a DAF would have produced for the investor. This seems like an important and growing role that DAFs are playing, and

more data from the financial institutions that convert these illiquid assets would be extremely helpful in understanding how they are making a difference to charities and donors alike.

E. Who Benefits Financially From DAFs?

The examples above illustrate two things. First, for people without appreciated stock to use to establish a DAF, most of the financial benefits of a DAF can be reproduced with other financial instruments, as long as investors choose securities that pay little or no taxable distributions. The benefits of avoiding these taxes on distributions are real, and if a donor wishes to hold a DAF for many years, the gains will indeed add up. Furthermore, if the donor devotes all of these savings to charity (realistically, about 1% per year), then the additional giving would exactly offset the tax savings, that is, benefit equals cost and the policy conclusion is neutral.

The second thing the examples show is that there can be considerable tax savings by a donor that satisfies these three criteria: 1) has shares of stock with substantial capital gains, 2) would like to sell the stock, and 3) has already decided that over her lifetime (and those of her heirs) she will give away at least the amount of wealth that is represented by this current market value of this stock.

Those who satisfy these 3 conditions are in a position to reach their giving goals at a substantial saving of taxes. It is important to note that for these people in these examples, the saved taxes are a pure windfall—they had been planning to give at least $100 over their remaining life anyway, so the tax benefit is fully "infra-marginal," that is they don't have to change their behavior at all in order to gain the full tax benefit. So what happens to the saved tax dollars? How much of it will go to charity, and how much will be kept by the donor? While we know a fair amount about how annual giving responds to the tax deduction on income taxes, less is known about the effects of the forgiveness of capital gains taxes or about people with incomes in the reaches of those most likely to have such gains.[4] Based on the estimates we do have, it is believed that individuals who have the means to save substantial sums in capital gains, most likely someone well above the top 1% of income and wealth, gives away about 2% to 6% of annual income. Keeping with the example in Table 1, adopting the most favorable estimate, the loss of tax revenue to the treasury today of $9 would on aver-

[4] For the most relevant results on high income tax payers, see Gerald E. Auten, Charles T. Clotfelter, and Richard L. Schmalbeck. "Taxes and philanthropy among the wealthy." In J.Slemrod, ed., *Does atlas shrug* (2000): 392-424.

age result in an estimated 6% of this this $9, or $0.54, in present value of extra charity.

As with our example of the gym membership, there now remains a third type of person. Suppose this person had made a plan to give $40 to charity over her lifetime, not the $100 full value of the asset. Surely she will open a DAF worth 40, saving capital gains tax of 3.6. But if she puts more in the DAF she will save more tax. Now there is a *marginal incentive* to give away more—by changing her intended behavior she can save more tax. Suppose we adopt the most optimistic assumption, that is, the additional tax saving encourages her to give all 100 to the DAF. The $60 of new donations that are caused by the DAF, but the DAF will now cost the full amount of the lost capital gains tax, $9, plus will now cost society an extra $30 in income tax revenue.[5] This now results in a net benefit from the DAF—$60 in new giving at a cost of $39 of tax revenue

As with the example of the company's gym subsidies, whether DAFs will generate more benefit than cost will depend on the proportions of these three types of investors among DAF holders. Unfortunately, data that would be sufficient to learn about the impacts of DAFs changes in intended giving an on tax savings are not available to researchers, thus we cannot know for sure what the proportions of donors of different types are. This discussion and analysis can be greatly helped by the availability of data from providers of DAFs and from surveys from individual DAF holders.

F. When is the Best Time to Spend a DAF?

The interesting thing about DAFs is that the money is in an irrevocable fund, that is, the money has already been given *from* the donor, but simply has not yet been allocated *to* the qualified charity. When is the best time to give money to the charity?

From a purely economics point of view, the simple-minded answer is to look at the ROI. If a donor has already decided which charity she wants to invest in, the return on investment for the charity (given the values of this donor) can be assumed to be above that of the market. Considering only economic arguments, society as a whole would be getting richer by allocating money sooner. In the worst case, if a donor gives all of the money to the charity, the charity itself can save and invest the money, which should

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[5] The DAF lowers the "price" of giving this extra money from $0.65 cents on the dollar (i.e. 0.65 = 1 - 0.35) to $0.50 cents on the dollar (i.e. 0.5 = 1 - 0.35 - 0.15). Our best estimate from the literature is that this would not cause the donor to give the remaining $70 to charity, but only increase giving by about 26% or about $10.4 (assuming a price elasticity of 1.1). Thus our best guess, given current data, is that this donor would give an extra $10.4 to charity, and claim a tax savings of $25.2. That is, our best estimate in this example is that the DAF would cause the average person to increase giving by $10.4 and to claim new tax savings $5.2.

not make the donor worse off, but the charity can choose the optimal risk of investment and timing of spending, which should make the donor better off. Thus, considering only the fundamentals, the sooner the money goes to the charity the better.

An illustration of this is given in Table 1 in in scenario A. Here we assume that the donor gives the money directly to a charity in the year of the upcoming realized gain. Because, as we established earlier, a wise charitable investor will donate to organizations offering social rate of return above the private rate of return, we assumed for illustration that the ROI is 6% per year on financial investing and 8% per year for the charitable investing.[6] As this shows, the social value of the charitable investment of $100 today will grow to $216 in 10 years. If instead that asset were put into a DAF and then given in 10 years, the social value of the gift at that time would be only $179 (scenario B). Society has a return of $37 more in ten years if the donation was given directly to the charity (comparison 1).

Since the returns to society are obviously larger when investments in society are made sooner, then why don't all DAF holders apply this logic? The answer is that there must be other reasons beyond the purely economic logic just provided that makes the donor, the financial institutions, or the charities themselves happier to have DAFs than not. Going beyond the simple rational-economic-thinker paradigm means looking more closely at how people really make decisions, not simply how a traditional economist assumes they do. That means that we allow motivations that are psychological, social, or are based on a different reasoning than that of a coolly analytical economist.

PART II. THE BEHAVIORAL ECONOMICS OF CHARITABLE GIVING

A. Why Do People Give?

Why do people give? This question is as old as Aristotle. It has been asked by theologians, philosophers, sociologists, evolutionary biologists, neuroscientists, and economists. What we've learned is that there is no single answer, except for this one: Giving is rarely done for purely altruistic reasons.[7]

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[6] Both of these ROIs were selected somewhat arbitrarily by the author, and for the qualitative statements here make little difference. The difference in the two rates, however, was chosen to be 2% since that is approximately the typical management fee for DAFs and represents a minimum of surplus return to charity.

[7] For reviews on the economics literature on philanthropy and charitable giving, see Andreoni, "Philanthropy," Handbook of the economics of giving, altruism and reciprocity 2 (2006) 1201-1269 (2006); Andreoni & Payne, "Charitable giving," *Handbook of Public Economics* 5 (2013): 1-50.

By pure altruism I mean that giving that is done solely for the concern of the recipient without any other motives. The moral philosopher Thomas Nagel (1978) in his famous book, *The Possibility of Altruism*, argues in 120 pages that such pureness of heart is indeed possible, but science has discovered in thousands of studies that no matter how pure or pious one's heart, there are usually ulterior motives. That is not to say, however, that the lack of pure altruism automatically makes someone any less generous, moral, or good. Rather, science also shows that our natural predisposition is mostly to be virtuous, but that we also get a psychological boost from the very act of being virtuous.[8] Moreover, this disposition toward giving means that social institutions can develop rules and customs to bring out altruism in others. That is, our ulterior motives provide the behavioral levers that society can pull to nudge us into helping one another.

1. Warm Glow of Giving

In the social science literatures, these ulterior motives for giving are often (somewhat pejoratively) wrapped up in the single term: the *warm-glow* of giving.[9] By this we mean that "something else" about the *act* of making a gift brings us private benefits that complement our altruistic concerns. The sources of warm-glow are as wide ranging as feeling good about one's self, feeling the admiration of others, seeing your name on a building, or reading Crayola colored thank-you notes from school children helped by DonorsChoose.org.

Warm-glow giving can be useful because it can explain a great deal more of individual giving than pure altruism. For example, Figure 2 demonstrates how warm-glow can explain generosity beyond what standard eco-

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[8] See William T. Harbaugh, Ulrich Mayr & Daniel R. Burghart, "Neural responses to taxation and voluntary giving reveal motives for charitable donations," Science 316.5831 (2007) 1622-1625; Elizabeth W. Dunn, Lara B. Aknin, & Michael I. Norton "Spending money on others promotes happiness," *Science* 319.5870 (2008) 1687-1688. Further evidence of a predisposition toward altruism is that people seem to be aware of the fact that this makes them vulnerable to being manipulated and exploited. The problem of exploitation is known in economics as the *Samaritan's Dilemma* (Neil Bruce & Michael Waldman, "The rotten-kid theorem meets the Samaritan's dilemma," *The Quarterly Journal of Economics* (1990) 155-165v, with applications to charity by Stephen Coate, "Altruism, the Samaritan's dilemma, and government transfer policy," *The American Economic Review* (1995): 46-57). See also James Andreoni, Justin M. Rao & Hannah Trachtman, "Avoiding the ask: a field experiment on altruism, empathy, and charitable giving," No. w17648. National Bureau of Economic Research (2011) for a discussion of how people choose actions in an attempt to control their environment in order to prevent themselves from being manipulated to give.

[9] James Andreoni, "Giving with impure altruism: applications to charity and Ricardian equivalence," The Journal of Political Economy (1989) 1447-1458; James Andreoni, "Impure altruism and donations to public goods: a theory of warm-glow giving," The Economic Journal (1990) 464-477.

nomics could do. Here is a case where standard economics would predict that giving would be zero since the financial ROI is below the Charitable ROI. But because people care about this cause in their own hearts, or they get special esteem from giving, then the warm-glow could be used to justify an individual's gift. This makes it important to understand what kinds of things make up the warm-glow and how important they are to donors.

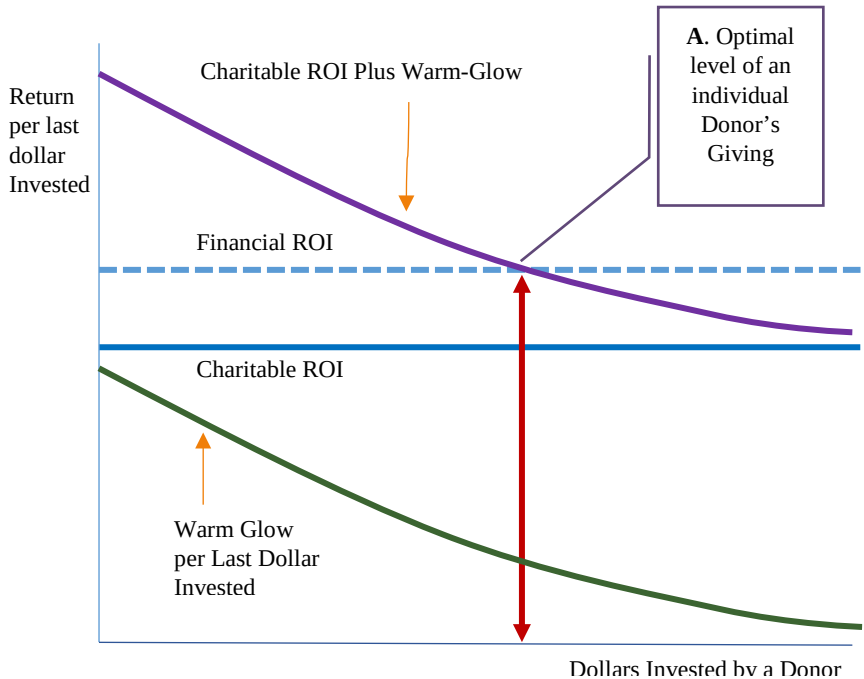

Figure 2. Individual Giving Decisions with Warm-Glow

Donors care about the returns to the charitable investment, but also about the joy they will feel from helping someone in need, from the social esteem they may get from others, and from the pride and self-esteem they feel from making a difference. We combine these and other sources of joy from the act of being charitable as the warm-glow of giving. Charities that may not merit investment just on economic terms (Financial ROI exceeds Charitable ROI) can be supported when the warm-glow of giving is added (Charitable ROI + Warm-Glow exceeds Financial ROI).

2. Self-Image, Social-Image, and Warm-glow

A particularly robust finding is that warm-glow is primarily composed of two related notions: *self-image* and *social-image*. These are a concern for

how people feel about themselves (*Am I a good and moral person?*) and what people believe others feel about them (*Do others see me as a good and moral person?*). These concerns are felt by everyone. They are natural, and perhaps even instinctive. Moreover, when people evaluate themselves or others, they tend to judge the actions of themselves and others relative to their peers.[10] A $20,000 donation from a college professor would be the height of generosity, but from a billionaire would be seen as a pittance. So comparison groups matter, and have been shown in many cases to influence how information about others can have both desired positive effects and hazardous negative effects.[11] The main conclusion, however, is that people have a strong desire to be seen by themselves and by others as a generous and altruistic.

Another well-established component of self-image and social image, however, is the opposite of generosity. People seem to take pleasure in having a high level of wealth, especially in comparison to their peers. They compete, if you will, in the size of their homes, the stylishness of their cars and clothes, and the lavishness of their vacations. A high balance in their investment accounts contributes to this image concern.

Notice that the two image concerns are somewhat in contradiction. If you are more generous you are less rich, and vice versa. It would be grand if one could feel more generous without feeling less rich!

3. Warm-Glow, Making a Difference and Leaving a Legacy

Many donors with high incomes have other warm-glow objectives that are not in the purview of those of more average incomes. People of means often talk of gifts that "make a real difference," or that leave a legacy. This is natural—everyone wants to be remembered for more than having simply done their jobs well.

What does it mean in economic terms to make a difference or to leave a legacy? Let's return to Figure 1 and increasing returns. If there is some

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[10] James Andreoni, & John Karl Scholz. "An econometric analysis of charitable giving with interdependent preferences," Economic inquiry 36.3 (1998) 410-428.

[11] One example is reporting the gifts of donors in categories, such as the "$1000 to $2000" category. Naturally, people assume everyone in this category is giving precisely $1000, which become a self-fulfilling expectation. Setting categories optimally is a fine art of fundraisers. See William T. Harbaugh, "What do donations buy?: A model of philanthropy based on prestige and warm glow," Journal of Public Economics 67.2 (1998) 269-284;
William T. Harbaugh, "The prestige motive for making charitable transfers," American Economic Review (1998) 277-282. Another example is the unintended consequence of announcing the cumulative donations to a cause whenever someone made an additional donation. This make the large donors give smaller and more frequent amounts, but made the small donors hide by giving nothing. See James Andreoni, Matthew Goldman & Marta Maras, "Holier Than Thou? Social Effects on Religious Giving," (Draft, 2015).

charitable good or cause that is "stuck at zero" because of increasing returns, one wealthy donor can do a great service by giving enough to surpass the threshold, (point B) that makes the good viable. When Bill and Melinda Gates first opened their foundation, for instance, their first project was providing millions of vaccines to people in the poorest and most remote areas of the globe, which was a job that no other government or charity had attempted. Because they could give on such a large scale, they were able to create great social good. Similar opportunities exist for others at a less grand scale, such as donating a wing of a hospital, building an art museum, founding a charter school, or giving a named professorship.

B. *Behavioral Economics: Loss-Aversion, Endowment Effect, and Mental Accounting, and Present-Bias*

Behavioral economics has uncovered many regularities in behavior that have expanded our notions of how people make choices. The important ones for DAFs are discussed here.

1. Loss Aversion

The primary insight from behavioral economics is that decisions on spending depend not only how much people have, but on how much it *changes* what people have. In particular, people set a *reference point* for evaluating how they feel about these changes. This reference point may vary from one situation to the next. For stock traders it may be zero gains or losses on the day. For people saving for retirement it may be whether their portfolio is keeping up with their expectations. For deciding how happy I am with my salary, it may matter how it compares to the salary of my closest colleague.

What makes these reference points interesting is that behavior becomes especially sensitive to changes around that reference point. A stock trader who is $10,000 down will take more risky positions than one $10,000 up, even though the quality of new investments does not depend on the investor's recent good or bad luck. An individual may be happy with a low return on their 401(k) plan when it beats the market but unhappy with the same return with it does worse than the market. A $10,000 raise makes me happier when that raise is $1000 above my colleague than when it is $1,000 below my colleague, even though it spends the same either way. This asymmetry that people hate losses more than they love gains of similar magnitude is called *loss aversion*, and it is the famous theory attributed to Daniel Kahneman and Amos Tversky and discussed in Kahneman's best-selling book, *Thinking, Fast and Slow* (2011).

2. The Endowment Effect

Second is a related notion called the *Endowment Effect*.[12] How much would you be willing to pay to acquire a new Tesla? Now suppose I gave you a new Tesla and offered to buy it back from you. What price would you be willing to accept? Standard economics says that the highest price you would pay to buy the object should be about the same as the lowest price you would accept to sell the object back. Yet, the difference in these prices is often very large, sometimes as high as 50%. The idea here is that before you own something it is not in your reference point, so acquiring it is a gain. But once you come to own something (you are endowed with it), it enters your reference point and giving it up is a loss. Since you hate losses more than you love gains, parting with something reduces your happiness more than acquiring that same object increases your happiness.

3. Mental Accounting

The third key insight from behavioral economics is called *mental accounting*.[13] Suppose that you are walking to a restaurant to meet your spouse for dinner when you discover a $100 bill blowing down the sidewalk. No one is in sight, and there is no use in trying to find its owner. You decide to use the $100 to splurge on a fine wine at dinner, and to leave the waiter a big tip. Suppose instead that while you are waiting for your spouse at the restaurant you use the time check your investments returns using your smart phone. You see that the value of your portfolio went up by a surprising $10,000 today. Paradoxically, you do not splurge at dinner. Why not? Both events were unanticipated gains, and one was 100 times more than the other. Shouldn't the portfolio returns trigger the bigger splurge? The reason it doesn't is that people tend to see money as segregated for different purposes, often depending on how the money was obtained or where the money is kept. Inherited money, salary, bonuses, gifts, tax refunds, 401(k) accounts, and found money are often spent in very different ways, even though to an economist money is money, regardless of its source. In reality people do not see that money is money, but keep it in separate "mental" accounts.

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[12] Daniel Kahneman, Jack L. Knetsch & Richard H. Thaler. "Anomalies: The endowment effect, loss aversion, and status quo bias," The journal of economic perspectives (1991) 193-206.

[13] Richard Thaler, "Mental accounting and consumer choice." Marketing science 4.3 (1985): 199-214.

4. Present Bias

Suppose you can buy something you want, get it right away, but pay for it tomorrow? Or suppose you must pay for it today and only receive it tomorrow. Since there is very little difference between these two cases, standard economics predicts the number of buyers should be similar. In fact, the difference is large—more people buy when the joy of consuming comes before the pain of paying.

What does this have to do with charities? In a recent experiment on giving, donors were given one of these three options: 1) Give today and pay today, 2) commit to giving today but pay for that gift later, or 3) make a non-binding pledge today to give money later.[14] The finding is that people give more when they can pay for the donation later (comparing 2 to 1). When they can pledge, they are even more willing to pledge a gift than they were to commit to a gift. However, when time came to actually follow through on the pledge, many had changed their mind. In the study, depending on other factors, sometimes pledges resulted in more total donations in the end, sometimes fewer, but on average donations were the same with either pledges or commitments.

When donors were given the choice to give now or pledge to give later, most preferred to pledge rather than give now—they valued keeping their options open. Those who were quite certain of making their donations later, however, actually preferred to give today. That is, those who didn't really need the flexibility were the ones who were more willing to give away the money immediately.

From the point of the view of the charity, getting a commitment would probably be favored—since on average they could expect about the same revenues, a commitment is helpful in that it eliminates the risk that someone could give less without foreclosing the chance they could give more.

5. Applying Behavioral Economics

Since individuals are largely unaware of the four deviations from rational-economist behavior just described, behavioral economists think that, rather than try to educate people about how to make better decisions, we can often be more effects if we think of ways to change the presentation of decisions to help people make "better" ones. This is the point of the important book *Nudge*, by Cass Sunstein and Richard Thaler (2008). We've learned, for instance, that "cashing out" Wall Street traders more frequently

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[14] Andreoni, James, Ann-Kathrin Koessler, and Marta Serra-Garcia, "Intertemporal Altruism." Draft 2015.

than once a day prevents them from "chasing their losses," and that "opt in by default" to 401(k) programs greatly increases participation and locks away that money in people's minds so that, psychologically, it isn't available for splurging. And making tax refunds available in a matter of days rather than months makes more people file before the April 15 deadline, thus reducing the burden on the IRS.

So, by working with the behavioral shortcuts that people use naturally, we can guide people to make decisions that are better for themselves and for society at large.

C. Behavioral Economics and DAFs

We begin this with a discussion of mental accounts and what we know from research about what happens when the timing of gifts is mismatched with the making of those gifts. We will also distinguish between gifts that are intended to buy something for others (a donation) as compared to buying something for one's self (a legacy). Finally, we will consider the effect of commitment inherent in DAFs, and how those differ from "intentions" to give without using a DAF.

1. Mental Account: Charity's Money

Consider an average person who does not have the means to be concerned with a charitable legacy. If such a person has a substantial capital gain and uses that to set up a DAF, they get two windfalls. First is the tax savings, and second is the dollars in the DAF. We don't have the data to know how these windfalls fit into mental accounts, but we can speculate based on what we do know.

First, we rely on our prior analysis that tells us that when the policy is infra-marginal, then a person can get the full tax benefits of a DAF without changing their plans for giving. This type of person will always open a DAF, and will likely use it as a savings account for a year's worth of giving. One might imagine a member of the Church of Jesus Christ of Latter-Day Saints (the ninth most popular recipient of DAF contributions from Fidelity Charity in 2014[15]) using the DAF account each year for her annual dues to the church. For people like this, it is very likely that the DAF is seen in the mental account that people count as, in this example, "money for the Church." The DAF money is seen as already spent, and the DAF is allowing them to meet their annual obligations, but to do so in a way that saves the most tax dollars for the individual.

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[15] Giving Report 2015, 8.

2. Mental Account: My Legacy

Things get more interesting when we imagine those DAF holders who are capable of a major gift. Rather than imagining the gain as 100 thousand dollars, perhaps we could imagine the gain to be 100 million dollars. At this level of DAF account, the donor is very likely to be looking for more than simply paying annual dues to the church, but instead could be looking for a legacy contribution. By its nature, legacy is public. It may even carry the donor's name. Now a donor looking at this DAF has an entirely different mental account for this money, namely "my legacy account." It is far more compelling to believe that such an individual may still think of the $100 million DAF deposit as his or her own money even though intellectually they recognize that it is not.

What if the donor for this or some other reasons continues to see the DAF money as being in a mental account that belongs to her? Then there are at least three possible effects. First, a donor will be very deliberate in her choice of recipient, since it reflects on the donor as well as helping society. Second, the right investment might well exceed the $100 set aside in the DAF, meaning one might need to wait 10 or 15 years until the balance grows large enough to make the desired statement. Since both of these effects contribute to delay in giving, these contribute to a loss of social return, thus lowering the value of the gift.

Third, because the DAF money is thought of as hers, it is part of her *endowment*, and therefore is subject to the *endowment effect*. That means creating the DAF is a gain which she can enjoy as long as it is in her "legacy account." When the money leaves the legacy account it neither emotionally or intellectually belongs to the donor. Thus, spending the DAF could be seen as a loss, and if a losses looms larger than gains, once people set up a fund that is mentally "my legacy fund" they may become unwilling to spend the money and absorb the loss of that fund.

These three effects all give the donor the incentive to wait before spending the money from the DAF. As we argued earlier, what is best for society is not that the money grows inside the DAF, but that the money grows in society through charitable investments. Even if the only difference between the average growth rate in the DAF and in a charitable investment is 2% per year, keeping the money in the DAF for 10 years can mean a 20% loss to society.

3. Intentions versus Commitments

When does one get to enjoy the warm-glow of giving if one can give to a DAF before giving to a charity? We said that one can always reproduce the financial aspects of a DAF without actually having a DAF account. Just put investments in an account without taxable distributions and give the money to a charity when one is ready. Table 1 showed that such a plan actually is a better financial investment than a DAF. So why use a DAF when a "home-made-DAF" is financially superior?

The answer might lie in when someone gets the personal and social joy from giving. If a person privately sets up an account with the intention of giving the balance in that account to charity in 10 years, there is no social reward until donation is given. And because the decision can always be changed, one cannot really feel much joy from giving until the money actually resides with a charity.

Do DAFs change this? They might. Since the money donated is irrevocable it literally represents how generous one *is* rather than how generous one *might become*. If that allows people to take more joy now in their plan to give in 10 years, then an actual DAF may be an attractive alternative to a home-made-DAF.

But now we have to ask the question, which DAF is more likely to actually be donated in 10 years, the real DAF or the home-made DAF? Again, we invoke the endowment effect. Now the real DAF account enters my reference point for how generous I am, and it has been growing nicely over 10 years. The home-made DAF is not in my reference point and to show myself and others that I really am generous, I must actually give the money to a charity. Since my actual DAF is already given, I can continue to enjoy the warm-glow without actually disbursing it.

4. Mission-Driven Charities Prefer DAFs

Nonprofits and community foundations also manage DAF funds. For instance, Stanford University will hold and manage your DAF as long as you agree that at least half of the money will be disbursed to Stanford. Community Foundations might have similar rules stipulating minimum contributions to the community.

Imagine a charity or a community foundation that is meeting with a prospect to solicit a gift. They give the donor two options: 1) give us the money now and we will use it as best we see over the coming years, or 2) put the money in a DAF with us, where most or all of the DAF money is committed to our charity, and work with us over the coming years to find just the right projects for you to sponsor.

Both behavioral economic theory and experimental evidence suggest that getting a "yes" from the donor is more likely in option 2. It is always easy to commit today to do something that is potentially far off into the future. And since DAFs are irrevocable, the charity eliminates the risk that the donor will change her mind about supporting their cause (at least insofar as they require the DAF contribution to go to their charity). Thus, despite any possible delays, the competition for donors and the uncertainty about the future make DAFs an attractive resource for charities by locking in dollars, even if it sacrifices control.

D. Can DAFs be Part of the Solution?

Behavioral economics tells us that a key variable concerning DAFs is whether some people, such as those saving to create a legacy gift, see the DAF as emotionally belonging to them even while intellectually recognizing that all they own is the control of how it is spent, and not the money itself. If such cases exist, then these donors would be susceptible to the endowment effect: Seeing the money leave the DAF creates a loss that exceeds the gain of adding money to the DAF.

In the discussion of behavioral economics in this paper, I said rather than trying to educate people to behave differently, it is often easier to find ways to present decisions that work with people's natural behavioral shortcuts and help them make the choices that, were they educated, are most likely what they would prefer for themselves or for society. If we think there is a problem that some people are holding onto DAF funds because of the endowment effect, then we should ask whether we can undo this by changing the frame of their decisions.

The reason the endowment effect might make people unwilling to allocate DAF deposits to charities is that the DAF has entered their reference point. When money leaves the DAF it also leaves the financial statements and, as a result, the donor feels a "loss." To avoid this loss, the donor may prolong the time the DAF money stays unallocated.

The statement of this problem seems almost to suggest a solution. What if when making a grant from the DAF, the donation did not "fall off" of the financial reports. Instead, suppose DAF holders also reported money in a third fictitious account labelled, for example, **Charitable Investments.** Figure 3 gives such an example. In Monthly Statement A, we see $60,000 leaving the DAF. Even though it is technically false, this appears to potentially create the visceral feeling of having taken a loss.

Compare this to Monthly Statement B. Here the $60,000 allocation is simply transferred from one account to the other. This example does not include any calculations of ROI for the charitable investment, but in princi-

ple such information could be included. If, for instance, charities have done their due diligence and have an estimate of ROI, then this can be included on this statement. Lacking that, the DAF holder could allow the donor to input their own calculation of ROI based on their research and personal values. In this way, donors could see their investment in giving grow as well and, if they are growing faster than the DAF investments, the good feeling from having given will exceed the *potential* of a good feeling from money remaining invested in financial instruments. Furthermore, it will remind donors that money spent on charity is not simply a one time "warm-glow," but has the quality of an investment that can yield dividends—and so also a flow of good feelings—year after year.

CONCLUSION

The Donor Advised Fund appears to be a simple financial instrument that for transitioning wealth into segregated accounts that helps people plan their giving, smooth their spending over time, and maximize the tax savings offered to charitable gifts, especially gifts of appreciated property.

Here we have asked what are the public policy impacts of DAFs? Is this a good investment for taxpayers? They typical analysis of this kind offers a simple test: Do we gain more in extra new charity than we lose in extra tax dollars?

To answer this question we need to know how frequently and by how much donors increase giving as a result of DAFs. For the policy to "break even" all of the extra tax savings received by donors would, on average, need to be devoted to new giving. The Fidelity report indicates that 75% of DAF holders report giving more because of DAFs. This, on the one hand, is encouraging. On the other hand, it means that 25% do not increase donations because of the DAFs. If we assume that they also do not decrease donations, but that the tax incentives are *infra-marginal* here and thus do not affect behavior, it means that the 75% now who do increase giving because of the DAF will (if this 75% is representative of all DAF holders) need to increase their donations by 130% of their individual tax savings in order to make up for those who do not give more and allow the policy to exceed the cost benefit threshold.

While we can speculate from research done on other sorts of giving that this is a relatively high bar to meet, reaching it would not be outside the range of estimates of the effects of other inducements to charitable giving. What is needed is a detailed analysis of the past and current giving patterns by donors, information on the sources of wealth that are contributed to DAFs, and the tax consequences of these for the donors. Only then can we confirm the claims that DAFs provide a meaningful public policy benefit.

Monthly Statement A.

Statement of Accounts. September 1 to September 30, 2015

	Beginning Balance	Activity	Ending Balance
Portfolio	1,550,032		
Change in value		+7,760	1,557,782
Donor Advised Fund	100,000		
Change in Value		+520	
Grant to Doctors without Borders		-60,000	40,520

Monthly Statement B.

Statement of Accounts. September 1 to September 30, 2015

	Beginning Balance	Activity	Ending Balance
Portfolio	1,550,032		
Change in Value		+7,760	1,557,782
Donor Advised Fund	100,000		
Change in Value		+520	
Grant to Doctors without Borders		-60,000	40,520
Charitable Investments	0		
Doctors without Borders		+60,000	60,000

Figure 3: Can reframing of Financial Statements Discourage the Endowment Effect?

Donors may be discouraged from spending DAF accounts if they see the account as, at least emotionally, part of their endowment. A financial statement like Panel A above may evoke a visceral feeling of loss. Panel B, by creating a fictitious account called **Charitable Investments**, allows the money to remain on the financial statement after it has been given to a charity. This now prevents the feeling of a loss and may diminish the propensity of donors to fall victim to the endowment effect.

Just like the survey conducted by Fidelity on its DAF holders, an investment house that works closely with a team of economists could craft a survey that could help shed light on these questions without violating individual confidentiality.

The second major point made here is that, for reasons unrelated to DAFs themselves, behavioral economics would suggest that donors, and especially higher income donors, would be predicted to postpone the date on granting DAF dollars to charities. Economics teaches us that charitable contributions should really be thought of as charitable investments, since they often have returns that can last generations. As such, it is important both for policy evaluation and for economic efficiency that, once a recipient has been identified, waiting to fund that recipient is not advancing any economic goals, and so only social goals must be being pursued by delay. Such a goal could be giving a legacy gift, or other forms of social or personal gratification.

To help combat delay, one avenue providers of DAFs could test is whether financial statements should include a fictitious "charitable investment account" that keeps track of donations already given. This then makes grants from a DAF appear more like transfers between the donors' accounts rather than a deduction from an account. In this way the donations feel emotionally like less of a loss and could even be viewed as a gain. If the method were scientifically tested on a sample of donors, and the result was to see higher payout rates from the DAFs that have an associated charitable investment account, then this would both demonstrate that the endowment effect is slowing payout rates, and that a remedy exists that could help both donors and society.