

Sustainability: Time Value, Social Distance, and Efficiency Effects

Anne Anderson

Lehigh University

and

David H. Myers¹

Northeastern University

Abstract: With the recent explosion of interest and articles in the areas of sustainability, it is time for some clarity. The clarity is necessary to hold coherent conversations, both practical and theoretical, about the definitions of this related spectrum on non-traditional investing. To understand the different motivations, we posit that beyond the traditional wealth-maximizing motivations of sustainability, there are two new dimensions that investors consider when making social decisions: social distance and efficiency. Sustainability decisions that parallel altruistic philanthropy and ethical obligations are made with a strong orientation towards social distance. Sustainability decisions that parallel the economic dimensions, value-enhancing, are made with a strong orientation towards efficiency. Additionally, along these two dimensions we place a spectrum of sustainability investment decisions from philanthropy to microfinance to socially responsible investments and corporate social responsibility.

¹ Correspondence Information: David H. Myers, Northeastern University, D'Amore-McKim School of Business, 360 Huntington Avenue, Hayden Hall 413, Boston, MA 02115, tel: 617-373-5682, email: d.myers@northeastern.edu

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Introduction

Over the past forty years we have witnessed the transition from Ethical Investing to Socially Responsible Investing (SRI) to Environmental, Social, and Governance (ESG), to Sustainable Investing, Mission Related Investing, along with Corporate Socially Responsibility (CSR), and Impact Investing. In this article, we propose a theoretical road map to understand the various definitions of each and plant the debate in a more traditional financial economics asset pricing context.

The transition that has been witnessed over this period has been driven by an increase in transparency and the wealth of research on the understanding of investing. With the South African divestment movement in the eighties, we saw the advent of research and reporting by such firms as IRRC on corporations doing business in South Africa. The addition of the Sullivan Principles in 1977 provided definition and context on the social impacts that corporations and their shareholders could have with respect to divestment. These seeds of information and understanding caught the wind of public discourse to spread ethical investing from mainly a religious organization base to public pension plans and endowments.

The next leap came in the expansion of the commercialization of data with MSCI KLD research and indices and the expanded investment opportunities with Calvert and other investment funds. These provided lower costs of entry to investing in socially responsible firms both in terms of information costs since the research was already done and investment costs with diversified funds providing intermediation and divisibility efficiencies. These efficiencies were magnified during the nineties from general information and trading efficiencies with technology advances which drove the creation of exchanged traded funds, lower trading costs, and faster information dissemination.

The 21st century provided more education, research, and acceptance in the area of sustainability. The UNPRI and Millennial Goals were coupled with more research firms such as EIRIS, MSCI KLD, and others. The explosion of assets, UNPRI and SIF report trillions of dollars, following double or triple bottom line investing this century, has predictably created more differentiation among the firms competing for the those funds. With the need to distinguish their services, a plethora of terms have been created. Now there is a need for clarification of definition and understanding of these terms. Sustainable, mission related, and

impact investing are the most common categories in the industry. Sustainable has now replaced socially as the S in SRI. The United Nations has moved on from the Millennial Development Goals to the Sustainable Development Goals.

To bring clarity, we address the issue of the motivation economic agents have to engage in sustainable investing. We provide a simple lexicon that focuses the discussion and debate. We posit that there are two additional dimensions beyond wealth maximization from which decisions are made: social distance and efficiency. Along these two dimensions, we can place the spectrum of investing from ethical and socially responsible investment decisions at both individual and organizational levels of analysis from philanthropy to microfinance to socially responsible investments and corporate social responsibility; all now residing in some form under sustainability.

Research in the domain of socially responsible behavior focuses primarily on the content of organizational CSR (Jenkins, 2005; Orlitzky, Schmidt & Rynes, 2003) or on the corporate or personal benefits derived from responsible investing or socially responsible programs in organizations (Porter & Kramer, 2002) rather than on the examination of internal states which serve as antecedents to such behavior. However, some work in the domain of corporate social responsibility research proposes that unless we better understand the drivers of (and barriers to) such ethical choices, the duration or sustainability of such choices is undermined (Weaver, Trevino & Cochran, 1999; Basu & Palazzo, 2008). Our model opens an avenue of theory and testing of the variables that may help clarify the drivers of long-term sustainability decision-making in some economic situations.

The approach is to first examine the literature that provides the foundations for the model of sustainable investing. Second, a brief description of the two key variables that underlie the model and interpretations of those variables with sustainable investing decisions. Next, we review the path sustainable investing takes with respect to the two variables. Finally, the future approaches to research and implementation is discussed, again in relation to the two key variables, social distance and efficiency.

1. Literature

1. A. Social Welfare Models

The impetus for this paper began from research to explain financial decisions in the context of charity and philanthropy, specifically for microfinance and SRI. The traditional finance literature has little room for altruistic behavior and SRI and altruistic behavior has only started to be examined within behavioral finance

and economics. The management literature, on the other hand regards CSR along economic, legal, ethical and philanthropic dimensions that include altruistic behaviors at both the ethical and philanthropic levels (Carroll, 2008).

Our model combines two ways of viewing the economics of financial investments and/or CSR programs. In a traditional model, actors prefer choices from unconstrained investment opportunities and make decisions based strictly upon financial risk and returns on those investments for lifetime consumption. In the alternative view, actors choose to add a layer of social benefit or welfare to their decisions about financial investments or investments in new programs. This is often referred to as the double bottom line of sustainable investing. While there may be an interaction effect between the social and traditional economics, we initially model them separately to distinguish the effects of true altruistic behavior from economic value. An interaction effect would strengthen the theoretical case for social values, but obscure the empirical rationale for social behavior's non-economic value.

The addition of social values through distance and efficiency to the utility function of an economic agent choosing investments traditionally has been viewed as a constraint on investment choice. A majority of the research literature on SRI has shown that constraints (no tobacco stocks, for example) do not impact long term investment performance. In fact, constrained portfolios may actually yield returns as high as those made under the traditional model (Anderson & Myers, 2007). Social distance and efficiency variables are in addition to traditional measures of utility such as consumption, return, risk, and time value. The simple addition of social distance and efficiency variables presented here provides a framework from which to examine the issues of ethical behavior of economic agents, both individuals and corporations.

Asset pricing models provide two basic inputs (discount rates and investment horizon). First, discount rates are based on the time value of money--the trade-off of consuming today versus consuming tomorrow and risk uncertainty. Second, consumption tomorrow or later gives us a time goal or liability maturity from which we can develop duration matching or asset-liability matching goals that lead us directly to risk-reward trade-offs given an investment horizon.

1. B. Consumption Models with Social Distance and Efficiency

John Cochrane in his book, *Asset Pricing* (page 151) reminds the reader that all factor asset pricing models are basically consumption models. In that vein, we remind sustainable investors in all their forms that there is an advantage to structuring the discussion in terms of consumption goals as well. By formulating

the discussion in terms of consumption, the central themes become whose consumption and when. The who will be measured by a social distance variable, δ . The when is formulated in typical asset pricing model as the intertemporal discount rate, R_t . The other important dimension, efficiency, has helped drive the progress of all aspects of sustainable investing over the past 40 years. Efficiency is modeled as a separate variable within the context of returns. It is observable due to the increased transparency of sustainable investing outcomes over that period, lower costs of information and better return (net returns) opportunities. When viewed through the lens of consumption of others—contemporary or future generations, increasing transparency of information has raised the relative level of efficient sustainable investments. Less waste or efficiency leads to better returns to sustainable investing and its impacts.

1. C. Utility Function and Prospect Theory

Our model spans both the world of philanthropy (no or little return) and sustainable investing (positive returns). Given the dollars to philanthropy and to impact investing, the gains from increased efficiency (decreasing τ , the measure of efficiency) of social goods should swamp the gains from decreasing social distance (δ). While initial growth to the industry came from philanthropy and decreasing social distance, sustainability and expansion should continue increasing efficiency and impact. This is especially true as the income effects of the Great Financial Crisis threatened charitable giving and investing. If you are going to have an impact and the two things that determine dollar gifts are a change in social distance or a change in efficiency—efficiency would have a greater impact. The ability to provide for a greater good rather than your closeness to the project—i.e. you can gain from society's gains.

A good starting point is to set up two base case models. These simple models are chosen from two different ends of the spectrum and have the fewest assumptions or variables so that we may prove the flexibility of the underlying model. We begin with two agents, i and j . Agent i can choose to invest without regard to agent j or not; choosing between single or double bottom line.

Case 1: There is no social welfare function. Agent i 's utility function is only a function of their wealth and consumption. One implication of case 1 is that the social distance parameter is assumed to be infinite, $\delta=\infty$. This would be the classic portfolio problem. The financial investment is the only way money flows to agent i . For institutional investors and corporate pension plans, with no socially responsible investment mandates, case 1 is the default behavior for a fiduciary.

Case 2: The purely altruistic case may be defined with a *social distance* of $\delta=0$ or with no social discount factor and with perfect efficiency or zero inefficiencies, $\tau=0$. Agent i values an additional dollar to agent j as equivalent to an additional dollar to themselves. This is Becker's (1974) family model in which all members of the family are treated as one unit with one utility function explaining behavior.

Between the two cases falls the mass of humanity. As we allow different values for social distance and efficiency, we create a model that fills the spectrum of behavior. Most, if not all, people fall between both cases.

If there is no social welfare function (social distance = ∞) or if the individual is perfectly altruistic (social distance=0 and efficiency =1), then the model collapses to the typical consumption models of either single bottom line or Becker. In both cases, there is no difference between a dollar of private consumption to public consumption. In the no social welfare case, there is no public consumption. In the perfectly altruistic case, the agent's private and public utility are equal.

1. D. Social Distance Measure

Social distance measures the identity valuation and how we identify/relate to other individuals, groups, companies, or their products. Put more directly, social distance is how we value social issues/causes and others. Valuations may be driven by physical distance or psychological difference as a function of membership in groups by ethnicity, religion, nationality, age, education, or gender. Other anecdotal evidence of the social distance parameter comes from politics, cultures, and religions. For example, ideological alignment in politics dictates resource flow.

The social distance measure represents the relative sense of similarity or difference an individual has with others. Others may represent differences in psychological and social groupings such as ethnicity, religion, nationality, or gender. Social distance can also refer to geographic or other kinds of physical distance. It may also incorporate such things as emotional closeness or distance. Linguistic evidence of the social distance parameter is apparent in the literal expression of certain languages. For example, the word in Japanese for foreigners is *gaikokujin*. The Japanese kanji or Chinese characters are outside (*gai*), country (*koku*), and person (*jin*). The familiar term is *gaijin* (outside person). The implication is that Japanese value the Japanese ("insiders") more than foreigners ("outsiders"). The social distance for an island people to each other is very near and to outsiders, far.

Once we acknowledge that all investment decisions provide future consumption to multiple individuals, then the modeling question becomes how to measure the impact of different individuals to the objectives of the investor. Taking the societal structure of Japan one step further from the gaijin example and view society as a series of concentric circles, then those concentric circles represent increasing “social distance”. In Japan, the closest ties are to family, next to academic friends, then to company, and finally to Japanese people in general, before outsiders. The idea of social distance formalizes Becker (1968). Becker talks about investing for your own family as if it were investing for yourself and thus there is no distance between your consumption and theirs. If we increase the social distance and think about social distance as another type of discount rate then the observed discount rate for philanthropy becomes the time value rate and the social distance value.

The beauty of this framework is that we can now place the majority of investment organizations and objectives within it. For the moment, we will concentrate on sustainable investing. The concept of social distance discount rate may also be used for current and future generations.

One hurdle with intergenerational investing has been that if you consider impacts on the future generations and the “infinite” population they represent, you must assume a large time discount rate to explain why we do not seem to factor future generations into our decisions. The social distance measure substitutes for this large time discount rate and argues that the difference between environmentalists and non-environmentalists is represented by large differences in social distance to future generations. An excellent example is the Iroquois notion of investing/decision making for seven generations out (<https://www.ictinc.ca/blog/seventh-generation-principle>).

Just as with returns there is uncertainty in consumption. Uncertainty plays the same role in our model as in other traditional asset pricing models. The discount rate increases with uncertainty in both future consumption and social distance consumers. A favorite example would be Y2K and Mayan 2012 calendar fears. If you believe the end of the world is coming or you have great uncertainty that it will continue, you change your consumption patterns to closer horizons for yourself and your belief in others. Who cares about a forest or global warming if the world ends?

Social psychological research and theory provide some further insights into how and why we might perceive distance between us and others we might be in a position to help. This research has suggested since early writings in modern

social science that humans need to maintain an inner consistency with the ideals and identity of a group and to do so requires differentiation between one's own group and that of other groups (Erickson, 1959). In addition, social attribution theory maintains that humans regularly practice a self-serving bias when attributing causality to social events (Tetlock, 1985). According to Tetlock, this bias plays a critical role in maintaining personal and even social identity. A person may attribute global poverty for example to causes they would not apply to themselves. Why are there poor? According to the social attribution literature, a person may attribute the poverty of those outside their identity group to stable personality traits, such as laziness or stubbornness, whereas attributions for their own lack of wealth might be attributed to short-term situational traits such as temporary challenging economic conditions.

Furthermore, research on attraction demonstrates people are more attracted to those most similar to themselves (Jones, et. al. 2004). The idea that we value those who exist within closer proximity to us than those who are distant is a recurring theme in the literature on interpersonal relationships. When it comes to studies on prejudice and ethnic groups, Johnson et al. (1983) argue that physical proximity may be a "necessary but not sufficient condition" for minority groups to develop positive associations of an out-group because in addition to proximity barriers, ethnic heterogeneity may remain a barrier to interpersonal attraction or liking. Based upon these studies, we propose that the construct of social distance is related to a person's self-identity, biased attributions, similarity preferences, and perceptions of proximity. The value we give to the lives of others appears to be strongly linked to the way we think about ourselves. Mathematically, the social distance measure is assumed to be zero for each individual to themselves. The social distance measure declines to zero, no discounting. As the distance increases, the greater the discounting, $(1/(1+\delta))$. If there is no social distance, $\delta=0$, then there is no discounting. As $\delta \rightarrow \infty$, the discount rate drives the valuation to zero, the no social welfare function case.

A person with low social distance is assumed to perceive others as more like themselves. They may think of themselves as "global citizens" and be able to articulate ways in which they are similar to others. Alternatively, a high social distance individual would see themselves as highly distinct from others. They may be able to report a litany of specific ways in which they or those within their close in-group are different from others.

A perfectly altruistic individual is assumed to hold all others near equality or a distance of zero. There is a huge body of literature on altruism and nobody really believes it is a valid concept as exchange relationships can be defined so broadly

and incentives so intangibly that we think people either do perceive they get something from helping others or the intrinsic reinforcement of doing so counts as a reward.

A purely monetarily-oriented individual is assumed to give all other individuals or groups a social distance of infinity. The literature on altruism is controversial because some authors argue there can be no altruistic behavior as such behavior can clearly be linked with self-serving goals (de Waal, 2008). However, Piliavin and Charng (1990) propose that there has been a “paradigm shift” away from the position that “under closer scrutiny [altruistic behaviors]...can be revealed as reflecting egoistic motives” (p.27). If one highlights the motivational goals of altruism as opposed to an approach highlighting the benefits to the actor, cases of altruism abound. One can invest strictly based upon return on investment (ROI) within value economics. Additionally, the choice to constrain one’s choices to those kind of programs or investments that also benefit others while generating an ROI can be framed as an altruistic choice or sustainable investing.

1. E. Efficiency Measure

The second measure in the model is an *effectiveness or efficiency measure*, τ . The efficiency measure represents the lowering of the transactions costs or effective exchange rate of monies flowing between individuals or groups. This measure provides the basis to explain whether an individual believes that money flows through governments, charities, good works, or corporate social behavior is the best method of “spreading the wealth.” A simple measure of efficiency for charitable organizations is the percentage of dollars given that goes to their direct mission versus overhead. Social program researchers measure this in their studies of the effectiveness of governmental social programs. Cross country comparisons of charitable giving versus social welfare give us insight into how different cultures and countries view the level of efficiency. Given such an interpretation of the charitable mission percentage, the percentage should be a lower bound on the efficiency of some donations or social programs. Some social programs produce returns to the general economy and welfare of the individuals. For those programs, the efficiency measure may be greater than one bringing us back to positive ROI. Some programs with positive ROIs are assumed to have a multiplier effective from the initial investment to the general economy or society. There are a number of complicating issues within this efficiency measure. Political risk, war, corruption, and graft can all impact the efficiency of foreign aid programs. The impact return is assumed to be a function of efficiency, τ . As efficiencies are found and revealed to the market place the expected return to an impact investment increases as τ goes to 1.

It should be clear that one of the underlying concepts for the model is the addition of social welfare as part of the objective function. The concept of social utility is not new, but our direct synthesis of the variables associated with it is. Much of the recent literature on social welfare has grown out of work by Gary Becker. If giving to others or considering others is consumption and we are maximizing lifetime consumption, then the agent is getting benefit. The benefit of giving has been referred to as “warm glow.” The consumption benefit for the economic agent may be that glow or it may be a future monetary benefit too small to measure. Becker calls this benefit the “social acclaim” of charity (Becker 1974, footnote 34). We present the altruistic individual as the theoretical limit for the model presented. Becker would have our pure altruistic individuals within a family group with all family members having a social distance of 0 and an efficiency measure of 1. Where Becker has one variable, we disaggregate the measure into two. The advantage is that when we examine other agents and their behavior we have a clearer understanding of the motivations and consequently how to alter them.

A simple example highlights the advantages of the model. Assume that an agent’s utility function implies giving a dollar to Uncle Joe is worth only 75 cents. As a close family member, the social distance measure is 0, but the efficiency measure is 75%. For Uncle Joe to convince the agent to give him more, he must increase the efficiency measure. If Uncle Joe is a “distant relative” then it could be that the social distance measure is greater than zero and the efficiency measure is 1. This implies a different approach is needed to get more, in that Uncle Joe must now change the social distance measure.

1. F. Time Value of Money

The model includes a more traditional economic measure of the *discount rate or time value for future cash flows*. In the realm of charity, altruistic or environmental decisions, it may be necessary to calculate a present value of future lives. How do our decisions today affect future generations? How much are we willing to trade our welfare for that of our children and our children’s children? How much impact do we want our investments to have? One justification for this measure is to explain the behavior of environmentalists. The belief system of environmentalists hinges on the premise that future life has positive and significant value, perhaps even equal or greater value than present human life (Irvine & Pouton, 1988). This value system results in a preference for behaviors that delay immediate gratification in favor of present conservation or even hardship toward the ultimate goal of healthy future life. If we were to discount future lives at the same rate as future cash flows then the growth rate in human

value must be equal to the inverse of the discount rate. The discount or time value measure is key to long-term impact investment decisions.

While previous research in many areas examines the appropriate time value or discount rate for certain environmental projects or social programs, the observed variable is a combination of *time value*, *efficiency*, and *social distance*. If the observed variable is a combination of other variables, then conclusions from previous studies may be biased. A simple example would be the debate about the observed discount rate being too high for environmental projects that benefit future generations. We will measure the observed rate as greater than the actual rate in most cases, if the observed rate is a function of the actual discount rate and our two new variables--social distance and efficiency. By highlighting the separation of the three variables, the model provides two immediate benefits. First, we understand current behavior better and second, we can focus efforts for changing future behavior on improvements in social distance and efficiency.

The implications for corporate and individual behavior are significant as discussions of appropriate discount rates changes from discount rates to measures of efficiency and social distance.

The clarity of disaggregating observed discount rates to reflect the true discount rate along with efficiency and social distance can be applied to many types of investing decisions including environmental, microfinance, CSR, and political. In international aid programs, issues of corruption and graft may be dominant in some areas. Difficulties in convincing donors to microfinance or the establishment of microfinance banks may be tied to the costs or loss of profit and efficiency within a country's institutional weaknesses. In general, political debates, the efficiency measure and difficulties in measuring it accurately may be employed to mask lower social distance measures. One of the advantages of a model with only a few variables or issues to argue is that it provides a framework for a more honest debate of the success and sustainability of social programs. The model also provides a roadmap for change by concentrating efforts on those initiatives that improve efficiency and social distance.

We assume that our two variables are uncorrelated or can be examined as independent factors. This is a strong assumption of the model that is not relaxed so that pure altruistic behavior may be examined. An example of measuring this combination in our model is corporate reputation. Reputation effects may be the result of both the perceived efficiency of products and social distance as in local versus foreign producer. Future research can be aimed at clarifying the implied social distance measures, efficiency, and time values from previous literature.

Table 1 can be viewed as an outline of literature that can be re-examined under our model. We assume that transaction costs are represented through both social distance and efficiency. Since our model goes beyond the family to society, increasing distance from the wife to child to cousin to other groups lowers the value to the donor (this is our Uncle Joe example). The value may also diminish as efficiency decreases.

So far, the example is only in current dollars and does not reflect the social utility of the reduced dollar to Uncle Joe. As a further illustration, figures 1 and 2 look at two individuals with different initial wealth and log utility. Agent i 's utility is additive of power utility of agent i and agent j . Utility of i 's wealth plus the utility of j 's wealth is greater than or equal to utility of i and j 's wealth combined. Given the simplified utility function chosen for the illustration, the functions are not in the region of a global maximum. Each figure shows that utility may be increased by increasing efficiencies, decreasing social distance, or increasing donations from individual i to j .

FIGURE 1:

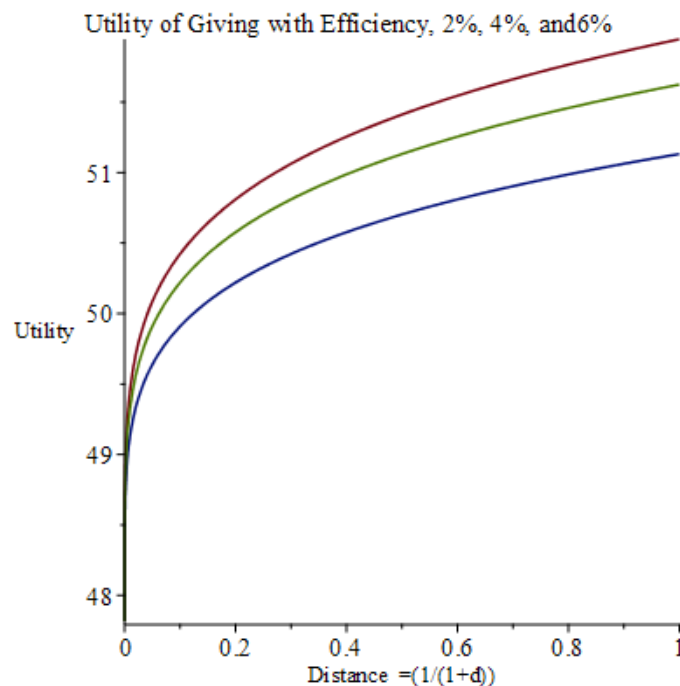
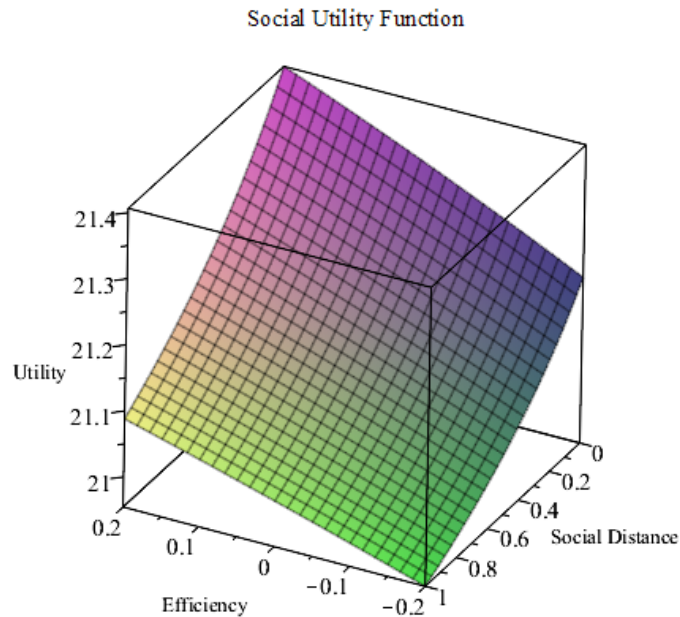


FIGURE 2:



Our model not only does something with social welfare functions, it clarifies the variables and beliefs that underlie social welfare and provides application to both theoretical and practical analysis of social responsibility by both the individual and corporation.

2. Implications of the Model

Given the model, a research agenda can be proposed to study the effect on sustainability of the two key variables: social distance and efficiency. In addition, an action agenda can be generated to plan improvements in the social distance perceptions measure and efficiency. Social distance may be tied to group identity or personal ethics. Group identity such as race, family, nation, religion, sex, attractiveness, union, political party, may impact the general model. For a microfinance model, changes to group identity that influence the social distance variable may be more concentrated to national ties, religious ties, and awareness including such things as simply imagining increased exposure to “out-groups” (Stahti & Crisp, 2008) or showcasing common destinies or group goals across national and economic boundaries (Gaertner, et. al., 1999; Waldzus, et. al. 2003).

Furthermore, education and communication about such efficiency improvements to potential donors will take on additional importance as we understand more

about actors' perceptions of efficiencies as well as actual efficiencies in the field. In a narrow sense, sustainability may be couched in terms of increasing returns through increasing efficiencies.

The same argument can be applied to corporate citizenship programs. Corporations benefit from better efficiency of such programs and the reduction in perceived social distance.

We can discover how efficiency, effectiveness and competition have led us to a myriad of definition by looking at how sustainability programs are implemented. Now that we have the background of investing to consume, we can move to whose consumption different investors are concerned. This step leads directly to different client bases and an understanding of the different terms employed across the spectrum of sustainability. Pension funds invest for the benefit (future spending or consumption) of the retirees/beneficiaries. Endowments invest for the benefit of future students and institutions. Foundations invest for the benefit of their missions. Similarly, family offices invest for the benefit of the families and the families' foundations' missions.

The relation of trust and efficiency is that the growth of sustainable investing has come about through increased information (ratings) on firms at lower costs or greater efficiency. This has had a tremendous impact on making sustainable strategies more rewarding and more widely available. It also has been supported by increased trust or decreased uncertainty of the ratings.

The expansion of definitions can be attributed to more efficient and feasible strategies for achieving sustainable results. At one point, negative and positive screens were the cheapest entry point. A company sells guns, I don't like guns, and I remove it from my portfolio. During the 1980s with the apartheid divestment movement, investors could go to the IRRC for a list of firms doing business in South Africa that had or had not followed the Sullivan Principles. At the time, this was ethical investing which later morphed into socially responsible investing.

With technology and data and with market growth, the marginal cost of implementing other approaches has come down and research has shown that there are benefits to good behavior such as good governance and that the cost in terms of returns is low. Approaches such as shareholder activism need increasing numbers/votes to be successful. As we watch the growth of sustainable investing, the growth and success of shareholder activism should follow.

Database companies such as MSCI KLD and others provide the ability to not only do positive and negative screening across hundreds of categories, but also can be combined for optimal portfolios based on both impact objectives and investment objectives or best in class practices.

Any approach for sustainability now comes down to talking with clients about objectives to ferret out their beliefs in social distance, efficiency, and time frame. Product success will be based on the breadth of the market.

2. A. Reduced Framework and Practical Approaches

Kinder (2005) defines social investors into three categories—value-based, value seeking, and value enhancing. Along our two dimensions, it is easy to place the value seeking investors as interested in high levels of efficiency, value based investors as having close social distances, and value enhancing investors as being value seeking with very far social distance. Those investors not involved in SRI are in the low level of efficiency and far social distance quadrant.

		Social Distance	
		Far	Close
Efficiency	High	Value Enhancing	Value Seeking
	Low	NON SRI	Value Based

Practical approaches to sustainability can also be categorized along the dimensions of social distance and efficiency. Imagine two investors who both advocate change. One investor decides to screen out investments that do not align with her beliefs and the other investor advocates change through proxy votes and active investment. What explains the different approaches? We argue that there are different beliefs about the level of efficiency in the two actions (if we hold social distance constant for the two investors). It will only be through better research along the lines of efficiency that we can convince or change these investors' beliefs about the level of efficiency of the different methods. If we held efficiency constant, then it would be different social distances to explain the differences in approach.

In CSR and R&D studies, McWilliams and Siegel (2000) find that the CSR financial performance relationship can be explained by higher R&D. While this may be a stretch, R&D can be viewed in terms of higher efficiency to later generations since R&D benefits future investors and delays current consumption

for later. Improving sustainability through companies involved in heavier R&D may have lower social distance measures for future generations. Thus the confusion of whether R&D impacts on performance are separate from CSR is due to the narrow definition of R&D and would be alleviated with our broader definition and simpler lexicon of efficiency and social distance.

2. B. Road Map to Today

Examining the past forty years of sustainability, in light of the efficiency and social distance measures, allows us to track the path that has been traveled from ethical investing (South Africa divestment and screened portfolios) to the impact investing today of Mission Related and Sustainable (ESG, SRI, CSR, and others). The ethical investment screens of divestment can be seen as an infinite social distance to the corporations involved in the activities that are being screened. An alternative interpretation for environmental screening is that there is either a closer distance to future generations or a greater distance to the offending corporations.

With triple bottom line being financial, social, and environmental, it should be evident from this social distance interpretation that the triple bottom line can be recast into a double bottom line where social distance for future generations is a social goal. This framework also helps explain the difficulties that environmental models that imply huge discount factors for future generations. These huge observed time value discount factors are recast as greater social distance to future generations.

Once you have accepted the two variable model addition, it becomes straightforward to see the road taken as a combination of our two dimensions.

Mission related investors aim their philanthropy and endowment dollars to a specific mission: medical, educational, poverty. The who, for consumption, is defined by their mission. For example, a community based foundation can meet its mission both through its current spending as well as combining that with community based investments such as community lending. The degree to which they undertake community based investments will rely on the effectiveness of reaching their community. Measures of effectiveness or impact for such an investor would be both return based as well as percentage of current and future funds reach their clientele. A medical related mission investor may similarly aim to invest in medical firms or research as well as donating current dollars to medical related groups.

An educational endowment has as its consumers' goals, current and future students' education. Limits on endowment spending are one control to ensure future generations will benefit. The issue of sustainability should be paramount if there are to be future generations. This may explain some of the move by endowments to adopt carbon-related divestment.

Pension funds are invested for the pension beneficiaries. There has been some relaxation by the Department of Labor's oversight to allow for double bottom line investing as long as there is no reduction in return. Our interpretation is that the proven research that there is no cost to being good (Anderson and Myers, 2007) has aided in this movement. Another interpretation is that more efficiency or greater impact has resulted in more sustainable investments.

2. C. Limitations of the Efficiency and Social Distance

The road map presented does not define social distance and efficiency narrowly enough. The arguments are valid, but they are also at the center of the need for more research into better measures and better tests. This is a call to arms for those interested in better understanding both the drivers and true consequences of the sustainability movement.

There are criticisms of how the model falls short of the realities of true implementation. One simple criticism is that there is no pure altruistic behavior. People only give within parameters of perceived reciprocity, even when the reciprocal gain takes the form of intrinsic and even anonymous satisfaction. Donations or ties to groups bring returns or benefits in other ways. If that criticism is true, then the addition of a feedback loop between giving and investing should have the effect of increasing dollars to corporate social programs and investments. This would include microfinance, philanthropic donations, socially responsible investing (institutional as well as personal) and corporate programs designated as "socially responsible".

2. D. Policy Implications

Sustainability and its expansion in our context requires a decrease in social distance, an increase in efficiency/effectiveness which will then increase the profitability whether through reduced risk or increased return.

Social distance may be decreased through education, information, and marketing efforts. Investors or donors must be made to identify more closely with the beneficiaries. Making people aware of the successes, aware of the need, and

aware of the human beneficiaries are all a part of the education, information, and marketing efforts.

Efficiency or proof of efficiency may also be tied to information and education efforts and to the research agenda. The appropriate metrics and research validating the success of those metrics will improve or prove their effectiveness. The removal or diminishing of corruption and graft and other drains or transaction costs on the delivery of support to the beneficiaries will increase the efficiency of the effort.

Finally, as with any investment model, even without the social welfare function, the increased expected return and reduced risk will increase allocation of funds to an investment. As with efficiency to beneficiaries, reduced costs whether transaction costs or drainage of direct benefit will increase return to the investor. For example, exchange rate fluctuations may have a dramatic impact on returns on microfinance investments to developed market investors.

3. Conclusions

We have presented a simple model of investing behavior that relies on the social distance and efficiency within the context of traditional risk and return models. Models that have as their basis, consumption. This represents a cross academic discipline approach of business, management, and finance to shed light on how to make a contribution to the growing field of sustainability. This paper offers a model to spur research on the antecedents and consequences of applying a double bottom line in the financial and programmatic decision-making of individuals and organizations.

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Table 1: Time Value, Social distance, and Efficiency from Literature

Social distance and Efficiency

Authors	Journal	Measure
Samuelson, 1956	Quarterly Journal of Economics	Attractiveness Charity
Gardberg & Fombrun	Academy of Management Review	Reputation
Rao, 1994		Trust and legitimacy
Adler & Kwon (2002)	Academy of Management Review	Social capital
Fukuyama (1995)		
Fombrun (1996)		Brand equity

Efficiency

Authors	Journal	Measure
Taussig, 1965	Dissertation	Income elasticity of demand for charity
Schwartz, 1970	Journal of Political Economy	Charity's share of social income
Hymer, 1976		Transaction costs, information efficiencies

Social distance

Authors	Journal	Measure
Gardberg & Fombrun, 2006	Academy of Management Review	Institutional distance, range of acceptability, corporate citizenship customization
Kindleberger, 1969		Physical distance