Why Do We Invest Ethically?

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Understanding investor behavior is no easy task. The capriciousness of human nature generates a seemingly endless variety of behaviors that manifest themselves in interesting ways when individuals pit themselves against the markets. One particular type of behavior that has emerged over the last 20 years or so is the desire to invest ethically. Our analysis of why we invest ethically goes some way toward advancing our understanding of ethical investor behavior.

Our empirical contribution is a survey of both shareholders and prospectus requesters (who did not make purchases) of Earth Sanctuaries, Ltd., which we describe in Beal and Goyen [1998a, 1998b]. With a stated objective of conservation and a financial focus on stability rather than maximizing shareholder returns, ESL provides an ideal opportunity to gather data to aid our understanding of ethical investor behavior.

At the time the sample for this study was selected (1999), there were about 7,000 prospectus requesters and shareholders of ESL. A random sample of 1,400 (or 20%) was selected to survey. Corporations and overseas investors were excluded from the sample. In all, 943 responses were returned, 788 from current shareholders and 155 from prospectus requesters, for a net response rate of 67%.

INVESTOR MOTIVATION

A growing body of research acknowledges that investors don't behave in the fashion that traditional finance theory typically assumes. There is evidence in particular that suggests individuals do not always act as if they were homogeneous with respect to mean-variance optimization. We look at some systematic differences in the way investors behave, and discuss some of the literature on ethical investment.

Recognition of the Non-Rational Investor

Since the early 1960s, individual investors have been deemed to be rational. Indeed, as Statman [2004a] notes, rationality on the part of investors is the basic foundation of modern finance. The finance discipline has developed the assumptions that investors are rational; that they prefer more to less; that they juggle risk and return; and that they demand higher returns to compensate them for taking on greater risk. In short, traditional theory does not admit any influences on the investment decision apart from maximizing returns, given the individual's particular level risk aversion.

These conclusions are attributable to the work of several influential authors. Research by Miller and Modigliani [1961] on dividend policy complements Markowitz's [1959] development of mean-variance portfolio theory,

which sees investors as focused entirely on the expected returns and risk of their overall portfolios.

As Statman [2004a] observes, Markowitz's investors are never reluctant to realize losses on stocks when tax savings are available and add to their wealth, and they do not care about dividend policy or about the social responsibility of the companies of which they are part owners, as long as risk and expected returns are unaffected. Rational investors do not avoid investment in firms that operate in areas or with methods that contravene their personal value sets. To put this simply, personal values are irrelevant to the investment decision.

Statman [2004a] also argues that before finance became overwhelmed by the notion of rationality, investors were seen as normal when they exhibited the typical subjective reasoning of human nature, rather than the cold calculations of the rationalists. Snyder [1957] observes that the "normal" investors of the day could in fact increase their wealth by realizing losses and claiming tax benefits, if only they could overcome their reluctance to make the losses concrete. Snyder's investors held on to loss-making investments in the hope that one day they would recover their values, and thus they were not indifferent between unrealized and realized losses. In addition, by their behavior, they showed that they did not prefer more to less, as they eschewed the chance to increase total wealth by claiming tax benefits from the capital losses. Odean [1998a], four decades later, reports similar findings in relation to losses.

If investors actually behave as traditional finance theory assumes, ethical investment would exist only because it provides the opportunity for equivalent return at lower risk or provides higher returns for the same level of risk as standard funds. Hence, our first proposed motivation for ethical investment is that investors are looking for superior financial performance.

Despite the concept of rationality that has dominated finance for four decades, in the last two of those decades authors have taken delight in pointing out that investors do not uniformly exhibit rationality. Behavioral finance draws on concepts and evidence from the psychology literature in an effort to propose better explanations for finance phenomena.

For example, well documented in psychology is the tendency of decision-makers to be overoptimistic, to overestimate their own abilities, and to be generally overconfident. Men appear to suffer from these traits more than women. In the finance world, overconfidence is manifested in excessive trading (Odean [1998b]). Barber and Odean [2000] show that net returns fall as trading activity increases, and that the men in their sample traded 45% more than the women.

Other examples are confirmation bias (the tendency to find information that reinforces one's original views and to reject other information), conservatism (inability to react or slow reaction to unfolding events), anchoring, and framing.

Anchoring occurs when a person who is asked to make a quantitative assessment can be influenced by irrelevant suggestions made at the same time. Tversky and Kahneman [1974] report an influential experiment showing this phenomenon; many variations have been reported in the years since with unchanged results.

Framing refers to the way a proposition is presented; the context of the proposition influences the resulting decision. Slovic [1995] summarizes nearly three decades of empirical evidence that shows comprehensively that framing changes decisions.

Research in the developing area of behavioral finance has illuminated many facets of individual investor behavior. Thaler [1993] focuses on noise in financial markets, price volatility, overreaction in markets, corporate finance effects (e.g., preference for cash dividends over capital gains), and individual behaviors. *Noise* is the opposite of news, and it makes up much of the information that fuels markets. Rational investors may be stimulated to trade on news, but for every buyer there must be a seller. If potential buyers and sellers have the same information, then one side must be contemplating a trade that will prove to be an error and a trade made on noise.

Why do people trade on noise? Black [1986] asserts two reasons: First, they trade because they like trading, and, second, they don't know they are trading on noise; they think they are trading on information. Peterson [2002] draws on the psychology literature to show that anticipation of reward (price appreciation) generates a positive *affect* (emotion, mood, or attitude) that drives increased risk-taking behavior and buy trading. Then, following the anticipated event or news, there is a reduction in positive affect that produces more risk-averse behavior and drives sell trading.

Volatility in the prices of stocks cannot be explained merely by changes in the present value of future dividends. Cutler, Poterba, and Summers [1989] show that large price movements occur in the absence of important news, and, conversely, not all potentially price-significant news results in price changes. Overreaction (and underreaction) in markets is concerned with announcement effects and the tendency of investors to over-weight recent information

and underweight information received longer ago.

De Bondt and Thaler [1986] find stocks that had shown extreme performance over an extended period were likely to subsequently underperform (winners) and outperform (losers). This research proved controversial in the prevailing rationalist climate.

Shefrin and Statman [1985] highlight that cognitive biases and emotion affect investors, thus detracting from the traditionally assumed rational behavior. Normal investors often manage their stocks individually rather than as portfolios. They are reluctant to realize losses, as Snyder observed almost 30 years before, possibly because they use mental accounts, and selling a stock at a loss closes each account with a finality that allows no recovery of value and causes emotional distress.

Individual Investor Needs

Lease, Lewellen, and Schlarbaum [1976], contrary to mainstream expectations at the time, report that there is market segmentation to the extent that individual preferences can hinder the free flow of capital and interfere with the establishment of coherent risk-return relationships among securities. They isolate five different investor groups with different investment goals, investment approaches, and portfolio compositions. The following year, Lewellen, Lease, and Schlarbaum [1977] found that age, sex, income, and education affect investor preference for capital gains, dividend yield, and overall return. Warren, Stevens, and McConkey [1990] again report that lifestyle and demographic factors influence choices among asset classes.

Nagy and Obenberger [1994] investigate the investment decision processes of equity investors with substantial holdings of U.S. Fortune 500 firms, and find seven summary factors that capture the major investor concerns. Investors were asked to rank 34 variables identified as potentially affecting investment decisions as significant, considered, or ignored in the decision process. Most of the variables impacting on decisions were the traditional wealth maximization criteria such as those concerned with earnings, diversification, or risk.

Interestingly, the highest-ranked wealth-maximizing criterion (expected corporate earnings) was ranked as significant by less than half the sample (46.6%). Thus, no wealth-maximizing criterion was considered important by more than half the sample. The variable coming third in the list of significant factors, "feelings for firm's products and services," is decidedly an emotional and non-rational decision driver. Nagy and Obenberger [1994, p. 65] conclude that investors "use diverse criteria" and "do not approach investment decisions in a normative fashion."

Finally, Statman [2004b] draws an analogy between food consumption choices and investment choices. Both offer utilitarian and expressive benefits. The utilitarian benefits of food involve nutrition and flavor, while the most-favored utilitarian benefits of investment choices are high expected returns and low risk. Expressive benefits allow people to define and express their values, social class, and lifestyle choices to themselves and others. It is readily acknowledged that foods, food supply establishments, and food consumption places (restaurants) all offer expressive benefits to consumers as well as vital nutrition.

Statman contends that investments also supply expressive benefits and that most of the arguments over rationality and irrationality in investment decisions stem from the rationalists' unwillingness to acknowledge the existence and influence of expressive benefits. Statman considers that mean-variance optimizers (rational investors) view their portfolios as a whole, while non-rationalists build distinct layers into their pyramidal portfolios, with low-risk safety assets forming the base and more risky assets that fulfill other purposes occupying the upper layers.

Our data support Statman's assertion. About 30% of our respondents consider that ethical investments constitute 20% or less of their equities portfolios. A further 10% consider their portfolios to be 100% ethical, but the majority of these respondents held shares in only Earth Santuaries.

Social responsibility is one such "other purpose." While socially responsible portfolios are generally private matters and not proclaimed to the world, they still offer self-signaling benefits, where investors reinforce their feelings of social responsibility and generate personal emotional benefits from their feelings of having financially supported good things and having put their money where their mouths are. This rationale leads to our second proposed motivation for ethical investment—non-wealth returns.

Ethical or Socially Responsible Investment

Ethical or socially responsible investment (SRI) has emerged in the last decade or so as a reasonably legitimate focus of discussion about investor choice. During the 1980s, SRI was confined to the margins of the investment world and manifested itself publicly only in the establishment of a few retail mutual funds, popularly characterized as supported by the loony left. Since that time, this force in investment has grown rapidly in importance with expanded

expression to encompass retail funds, shareholder activism at annual general meetings, and SRI streams within pension funds.

Concomitant with the growth in investor support for SRI has been the development of academic interest in the phenomenon. A decade or so of academic interest has produced possibly thousands of studies in the U.S., the U.K., Canada, France, Germany, Australia, and other countries around the world. These studies have concerned:

- Definition of SRI.
- Processes of SRI or use of screens.
- Historical returns from SRI mutual funds versus conventional funds.
- Effect of SRI on corporate behavior.
- Identify of SRI investors.
- Why investors choose SRI.

Rosen and Sandler [1991] report an early U.S. study of investors in two socially screened mutual funds. The SRI investors in their sample, when compared with other mutual fund investors (MFI), were younger, white-collar employed, better educated, and lower salaried. On average, SRI investors were 13 years younger (39 years compared with 52 years). 60% had graduate degrees, but currently earned 15% less than the MFIs, possibly because they were in earlier stages in their careers. SRI accounted for only 49% of their investments.

In Beal and Goyen [1998b] we study investors in an Australian company (ESL) that openly acknowledged it had replaced wealth maximization with nature conservation as its primary motivation. We find ESL shareholders more likely to be female, to be educated to a tertiary level, and probably to a postgraduate degree level than typical shareholders of companies listed on the Australian Stock Exchange (ASX). They are professionally employed or retired, likely to have lower household incomes, high household assets, and a portfolio of more than 11 stocks.

In Beal and Goyen [1998a] we investigate whether investors in ESL with its unconventional mission could really be considered to be donors rather than investors. Drawing on Cullis, Lewis, and Winnett's [1992] findings that a distinction may be drawn between *consumption-investors,* who gain utility from investing ethically, and, *investment-investors*, who gain utility from the social outcomes of their investments, in Beal and Goyen [1998a, p. 219] we find the vast majority of shareholder respondents meet the definition of investment-investors—they derived significant benefit from the conservation activities of the company. We concluded that "investors are far more complex creatures than the current state of theory would suggest." Further, investors apply many criteria in the decision-making process, although each investor weighs the criteria differently.

Lewis and Mackenzie [2000a] study the motivation of more than 1,000 U.K. ethical investors. They find ethical investors to be middle-aged and middle-income activists (in politics, community, and church) with a vast majority holding mixed portfolios. Only 20% held ethical investments exclusively. This U.K. research found ethical investors to be not extremists, but merely one arm of the investment community.

A consistent theme of the literature reporting SRI investor characteristics and the rapid growth of SRI in many countries around the globe is the movement of women into higher-paying jobs (and thus becoming savers and investors in ever-increasing numbers) and the influence of higher education. It is estimated that, in the U.S., about 60% of SRI investors are women, a far greater proportion than in the general investor population.

Schueth [2003] complements the Australian and U.K. findings with the argument from the U.S. that the rapidly growing SRI industry there is fueled by better education, the appointment of women as senior executives and directors, giving them access to power and also the ability to invest personally, and the realization that socially screened portfolios do not necessarily underperform the market.

MOTIVATIONS FOR ETHICAL INVESTMENT

Traditional finance theory and the ethical investment literature together suggest three potential reasons people may invest some or all of their funds ethically:

- For superior financial returns.
- For non-wealth returns.
- To contribute to social change.

These motivations are neither exclusive nor exhaustive, but offer a starting point for advancing our understanding of ethical investors and the choices they make.

Is Ethical Investing a Fair Game?

If, on balance, the risk-return profiles of SRI funds are the same as for ordinary funds, ethical investment can be considered to be a fair game.

The relationship between the level of social responsibility of a firm and its financial performance has been a contentious topic in both the academic and and professional literature and the popular press; see, for example, Ali and Gold [2002], Bauer, Koedijk, and Otten [2002], Chan [2003], Emery [2001], Johnson [2001], and Rothchild [1996]. To advance the understanding of the relationship between corporate social performance and corporate financial performance, Orlitzky, Schmidt, and Rynes [2004] conduct a meta-analysis of 52 studies. They conclude that, after considering methodological and measurement issues, the empirical analysis does suggest socially responsible firms outperform financially.

Ali and Gold [2002] approach the issue by assessing the impact of excluding sin stocks on portfolio returns. They find portfolio returns on Australian stocks would have increased with inclusion of alcohol and gambling stocks from 1995 to 2001. Bauer, Otten and Tourani-Rad [2004] use Australian funds data over 1992–2003, and find the returns for SRI funds are not significantly different from the returns on a market index.

The empirical analysis of returns and social responsibility has yet to provide a convincing causal link between the two factors. A reasonable conclusion, according to the research, is that SR investments neither over- nor underperform their non-SRI counterparts. The single objective of generating financial returns cannot therefore explain ethical investment.

We argue against the traditional finance theory assumption of homogeneous mean-variance-optimizing investors. The differing levels of intensity investors apply in the consideration of ethics in their investing make a discussion about comparative returns and purported trade-offs less important. To better explain the range of investments that are considered acceptable by different SRI investors, we need to move beyond the concept of financial return to a more holistic definition of utility.

Product Differentiation of SRI Funds

As the amount of investment in SRI has increased, so too have the number and variety of funds offered to investors. Bauer, Otten, and Tourani-Rad raise the possibility that some ethical funds are really "conventional funds in disguise" [2004, p. 15]. If this is the case, we would expect some SRI funds to hold portfolios that do not differ greatly from ordinary funds. SRI funds adopting a best-of-sector investment strategy would appear to do this.

One Australian ethical investment fund has the stated investment objective of providing "capital growth and some income over the long term from investment in Australian shares, while maximising the sustainability focus (economic, environmental, and social) of the portfolio" ("Westpac Australian Sustainability Share Fund" [2005]). In fact, the maximizing of the sustainability focus would appear to be more of a moderating activity. The fund's advertising material advises that when necessary "we select companies with lower sustainability ratings to manage the overall risk of the portfolio."

This sustainability fund is one of a suite of predominantly non-SRI options offered by the provider. More than 50 of the fund's Australian equities investments are disclosed on its website ("BT Institutional Australian Sustainability Share Fund" [2004]). Perusal of these investments reveals quite a number of companies that have attracted negative media attention for poor environmental performance, especially in the extractive industries.

Funds at the other end of the spectrum use positive and negative screens in portfolio selection. One such fund discloses the 35 listed Australian equities it holds (see "Australian Ethical Equities Trust" [2005]). While the provider of this fund does offer a number of investment options, it offers only SR investments. The best-of-sector fund above and this screened fund hold only four equities in common. This overlap is small, especially given that there are only around 1,700 companies listed on the Australian market.

The opportunity for diversity is significantly lower in Australia than it would be in the U.S., where there are many more listed companies. Why would fund managers offer such a range of SRI funds?

Cowton [2004, p. 249] considers ethical funds to be "retail financial products that specifically add social or ethical goals or constraints to normal financial criteria." Products are marketed to attract customers, and the customers of SRI funds are ethical investors. Viewing SRI funds as products can help us understand the considerable differences in the investment styles of the screened and best-of-sector funds and why there is demand for both.

Consider a best-of-sector fund that holds equities in the ethical portfolio that are not significantly different from those an ordinary fund holds. One would expect the primary difference between these funds to be the higher transaction costs associated with holding the ethical fund. So, although the risk-adjusted returns would be similar on both portfolios, the ethical investor will receive a lower return net of transaction costs.

Bateman, Fraedrich, and Iyer [2001] state that consumers use rule-based (or heuristic) processes when they

make decisions that are similar to those made before. Thus, in a world of mean-variance optimizers (with no first-time investors) who make their investment choices on the basis of risk and return, there would be no demand for the ethical fund because investors choose the fund with the higher net return. For unfamiliar decision situations, consumers use a cost-benefit (or utilitarian reasoning) process to make the decision. Again, we are left with zero demand for the ethical fund because of lower financial benefits than from the standard fund.

This leads us to ask why investors would support an additional goal in the investment decision. Auger et al. [2003] use a structured choice experiment to elicit customer willingness to pay for the social product features of soap and running shoes, and find some consumers are willing to pay a significantly higher amount for an ethical product. The extent of the ethical premium is related to the demographic characteristics of the participants.

If we view SRI funds as products, it is reasonable to extend the findings of Auger et al. [2003] to SRI funds. Non-wealth motivations for ethical investment are the most likely explanation for the observed demand for best-of-sector ethical funds. To pay higher transaction costs for what is essentially the same product, these customers must derive an incremental benefit solely from the fund's branding as an SR investment.

The incremental benefit is a psychic return (or expressive benefit, in Statman's terms). This psychic return bridges the gap between financial return and utility. Cullis, Lewis, and Winnett [1992, p. 7] state that the:

> extent of an individual's ethical investment activity is dependent on the size of the marginal benefits, which may be psychic or more tangible, relative to the marginal costs of such actions.

Some would argue that an ethical fund that is not substantially different from the market index cannot be counted as an SR investment at all. Sparkes [2001, p. 203] considers that funds "not fulfilling generally accepted notions of ethics are at least attempting to meet the ethical concerns of the underlying investors." No matter how small the ethical component of the fund's investment selection, there are apparently investors who receive sufficient psychic return to create demand.

Investors willing to purchase best-of-sector funds fit Cullis, Lewis, and Winnett's definition of consumption-investors—"those who gain direct utility from investing ethically" [1992, p. 9]. Consumption-investors may be motivated simply by fashion; they feel good because they are engaging in an activity that is viewed as desirable by their peer group. Ethical investors in this category are motivated by a combination of financial returns and non-wealth factors.

Investing to Improve the World

Our final proposed motivation for ethical investment is the objective of achieving social change. Those with the objective of achieving social change can be identified as *investment-investors*. Investment-investors gain their psychic returns indirectly from the real outcomes of the activities of the firms in which they invest (Cullis, Lewis, and Winnett [1992]).

Heinkel, Kraus, and Zechner [2001], Kreander, McPhail, and Molyneaux [2004], and Lewis and Mackenzie [2000b] argue that SRI provides a vehicle for social change. We are unaware of any research that documents systemic social change attributed to SRI funds. Shareholder activism is increasing in the first-world nations, and has achieved some significant outcome (see "Socially Responsible Investment in Australia 2004").

Rehbein, Waddock, and Graves [2004] find that shareholder activists are most likely to target large companies and deal with specific issues. While some SRI funds are well placed for shareholder advocacy with their investments in large firms, fund managers are unlikely to seek or receive consensus on which social issues the investors wish to pursue or with how much vigor such issues should be pursued. Further, Haigh and Hazelton [2004] conclude that the focus of shareholder activism has not been one of systemic change. They argue that neither shareholder advocacy nor investment in SRI funds can induce significant corporate change.

While one shareholder alone cannot create social change, shareholders acting in concert with others can. We see this in the formation of ethical shareholder groups in some large companies (BHP shareholders for social responsibility and Boral green shareholders, for example). This track to achieving social change is unpalatable to some as it involves generating financial return from the activities they oppose.

An alternative route to social change lies in supporting a non-governmental organization (NGO) to act on one's behalf. Guay, Doh, and Sinclair [2004] note the increasing level of activity of NGOs designed to effect social change via investing. Greenpeace, for example, has sought the backing of individual shareholders and fund managers for resolutions that reduce environmental damage.

The major dichotomy in these two alternative routes to achieving social change is the number of social issues that can be addressed by each approach. The SRI fund's objectives could be viewed as achieving some social change across a range of issues, while the NGOs tend to focus on one issue (e.g., Greenpeace and the environment). Thus, the objective of social change is not achieved in a direct sense by investment in an SRI fund, but the joint objectives of financial returns and some reduction in damaging corporate activities can be met through SRI funds.

We conclude that the main benefits SRI fund investors derive from the social change aspect of their investment is one of psychic return—feeling good about not supporting undesirable activities—rather than from any tangible external benefit of making significant change. That is, these investors are motivated by all three of our proposed objectives, and the social change factor is the least important in the decision to invest in an SRI fund.

We find a range of SRI products help to meet the varying levels of satisfaction individuals obtain from investing ethically. Our data show considerable heterogeneity in the way ethical investors make investment decisions. We asked respondents if they always consider social factors in their analysis of investments. Ethical aspects were always considered by about 24% of respondents, and never considered by a further 14%, while the majority (62%) considered them sometimes.

We also find considerable disparity in judgments of company environmental performance by our respondents. These two questions were structured with open responses to avoid disclosing our opinions. Respondents identified 273 "good" companies and 114 "bad" companies. Many of the companies were rated by only one or two respondents, demonstrating that not all investors looking for environmentally sound investments are looking for the same type of thing.

More interesting is the tendency for some respondents to rate companies as good environmental performers while the same companies are identified as bad performers by more respondents. This phenomenon was particularly strong for mining companies. BHP Billiton, for example, was classified as a good environmental performer by 10 respondents, while 189 thought it was a bad environmental performer. BHP is held by the best-of-sector sustainability fund discussed earlier, but not by the screened fund. North, Ltd., which through its subsidiary ERA owned a uranium mine whose tailings dam was leaking effluent into the Kakadu National Park, was rated by 9 respondents as a good environmental performer but bad by another 138.

UTILITY OF ETHICAL INVESTMENT

Ethical investment provides SR investors with more than financial return. Investing in an ethical company or ethical fund is to a certain extent like investing in fine art—in addition to financial returns, the investment yields a flow of pleasure and even social status.

We can take some tentative first steps toward incorporating this aspect of ethical investing into a theoretical economic framework. There are three ways to approach the task of placing ethical investing within a theoretical economic framework:

1. By treating the psychic returns from ethical investing as equivalent to the gambler's fun of participation.
2. By including the perceived level of ethicality of an investment in the investor's utility function.
3. By treating the psychic returns from ethical investing as equivalent to the happiness or well-being derived from other pleasurable activities. In this case, we can make use of the tools developed by researchers on happiness.

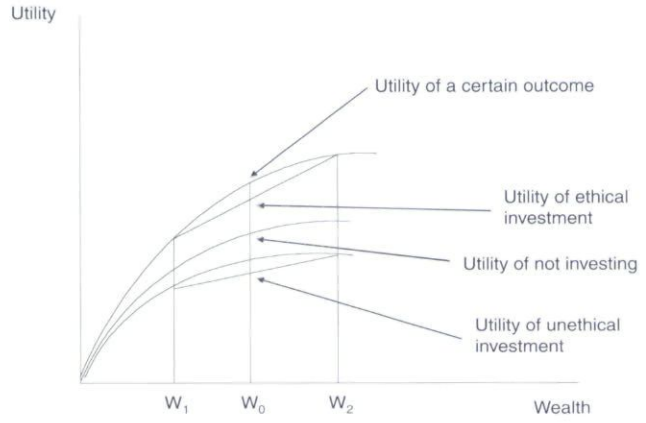
Fun of Participation

The psychic returns from ethical investments are somewhat analogous to the *fun of participation* that some gamblers may derive from participating in a game of chance. Casual observation reveals that some people who take small gambles (compared to their overall level of wealth) are quite satisfied with the experience, whether they win or lose—winning is an added bonus.

The fun of participating in a fair game generates more utility than would be derived from the financial return on the gamble. The additional utility gained from the fun of participation is independent of the outcome of the gamble itself (Markowitz [1952, p. 157]). In the case of ethical investing, we could say that the utility derived from an ethical investment is the expected financial returns of the risky investment outcomes plus the utility of investing ethically and that the latter is independent of the former.

Assuming that ethical investors display some degree of risk aversion, simple geometry can be used to display the ethical investor's utility functions. In Exhibit 1, a risk-averse individual with initial wealth W_0 faces an investment in a fair game gamble that results in wealth of W_2 if won and W_1 if lost. The utility that the investor derives from participating in the investment depends on whether the investment is perceived as ethical or unethical.

EXHIBIT 1
Ethical Investor's Utility Function



If the investment cannot be viewed as ethical, the SR investor will derive less utility from the investment than from avoiding it. That is, the fun of participation is negative and outweighs the expected financial return. If the investor receives more utility from an ethical investment than from avoiding the investment, the fun of participation is positive and is added to the expected financial payoff.

An important implication of this model is that the expected utility of the investment increases, the smaller the amount at stake. Imagine that W_1 and W_2 move inward and approach W_0. At the limit, where W_1 and W_2 are extremely close to W_0, the expected utility of the ethical investment is highest. This analysis implies that the ethical investor experiences more utility, the less money is at stake in such investments.

This simple model captures the psychic augmentation to total utility derived by the ethical investor independent of the investment outcome. To determine whether the model has explanatory power—whether it explains some of the observable behavior of ethical investors—we must compare the main prediction of the model with observed behavior.

The central prediction of the model is that utility-maximizing ethical investors will invest nominal sums (compared to their total wealth) in their ethical investments. This does appear to accord with the observed behavior of our sample; about 30% of respondents classify the proportion of ethical investments in their portfolios at 20% or less. It is also consistent with the U.K. results of Lewis and Mackenzie [2000a] and Rosen and Sandler [1991] in the U.S.

Our fun of participation model provides a good depiction of the consumption-investors' utility function, where the investor wants to achieve close to a market rate of return with the additional feel-good factor from the label, *ethical investor.*

Including Ethical Intensity in the Utility Function

A second way to place ethical investment within a theoretical economic framework is to make an adjustment to the utility function that modern finance theory usually ascribes to investors. In finance, the standard treatment of investor behavior is to combine expected return and risk (the standard deviation of the possible divergence of actual investment outcomes from expected investment outcomes) in a utility function:

$$U = f(E_R, \sigma_R) \tag{1}$$

Because the investor is assumed to like expected return and dislike risk, E_R has a positive influence on utility, and σ_R has a negative influence. In expected return-risk space, the investor's indifference curves are upward-sloping because additional expected return is required to compensate the investor for bearing additional risk. This is depicted in Exhibit 2.

To adapt this particular utility configuration for the ethical investor, we must insert an additional argument into the utility function. This might be called the *degree of ethicalness* of an investment. Letting e denote the degree of ethicalness of an investment, the utility function for the ethical investor might be stated as:

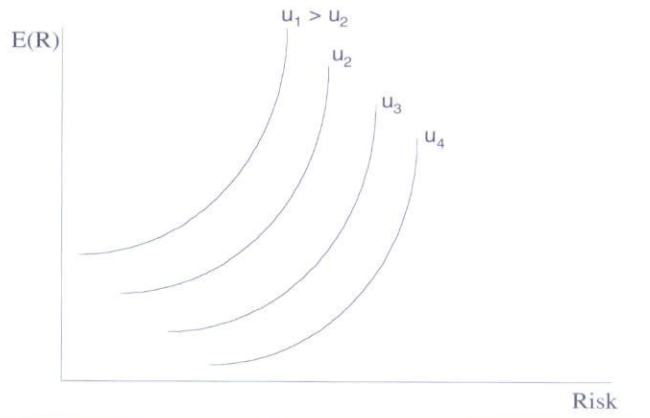
$$U = f(E_R, \sigma_R, e) \tag{2}$$

In this case, the indifference map based on this utility function will be described not by curves but by indifference planes. Exhibit 3 displays one such plane in expected return-risk-ethicalness space.

Exhibit 3 depicts the indifference plane of an ethical investor. The individual is indifferent between any two points that lie on this indifference plane. It shows the trade-offs the investor is willing to make. In accordance with conventional analysis, the investor demands compensation in the form of additional expected returns for bearing additional risk, but the investor also takes into account the degree of ethicalness of a particular investment. In this model, the investor is willing to accept diminished expected returns if the investment is more ethical (even if the risk-return trade-off for ethical invest-

EXHIBIT 2

Investor's Indifference Curves



ments is equivalent to those of ordinary investments). This may not be true of all ethical investors.

If ethical investors are unwilling to make any concessions regarding the ethicalness of their investments, no matter how much additional return they could gain, we remove the trade-off between return and ethicalness and make certain parts of the indifference plane off limits. With these changes, it is possible to consider a wide range of behavior under this framework.

For example, investors uninterested in the ethicalness of their investments (14% of respondents in our sample) will inhabit the front edge of the indifference plane, just like the orthodox investor in modern finance. Investment-investors will restrict themselves to parts of the indifference plane that correspond with the level of ethicalness they are willing to accept and the level of ethicalness they can obtain, given the current set of investment options. This is displayed in Exhibit 4.

In Exhibit 4, the orthodox investor who is uninterested in ethicalness again inhabits the edge of the indifference plane (line 0, E). The consumption-investor will lie a little farther into the plane, but close to the orthodox investor. The investment-investor may choose some minimum level of ethicalness, say, A. In this case, the relevant portion of the indifference plane would be the area ABCD.

Investors whose objectives fall somewhere between those of consumption-investors and investment-investors may choose some level of ethicalness that they are willing to accept, say, A again. In this case, the relevant portion of the indifference plane will be line AB. It is a simple exercise in geometry to account for a variety of different combinations.

This model is flexible enough to account for a variety of the observed behaviors of ethical investors. By altering the shape of the indifference plane, one could consider the actions of ethical investors who are:

1. Interested in return, risk, and ethicalness, and are willing to make trade-offs among all three (the 62% of our respondents who "sometimes" consider ethical performance in their investment decisions.
2. Interested in return, risk, and ethicalness, but are unwilling to make trade-offs between return and ethicalness (the 84% of our sample who consider some companies are too bad to invest in).
3. Uninterested in return or risk (NGO activists, for example). For this last possibility we could remove return and risk from the utility function entirely. In this case, the investor would attempt to maximize the ethicalness of his or her investments (subject to any income or budgetary constraints).

This model is flexible and provides a useful framework for thinking about different types of ethical investors and their behavior. The downside of this particular type of analysis is its abstractness. It does not shed any light on how to quantify or measure the psychic utility derived from ethical investing. In order to develop that sort of model, we must take a further step away from conventional economic analysis of investor behavior.

Incorporating Happiness into the Model

A more revolutionary way to model the behavior of ethical investors is through applying some new methods of happiness research. In both the models developed above, the type of utility under consideration is *decision utility*. According

EXHIBIT 3

Indifference Plane of an Ethical Investor

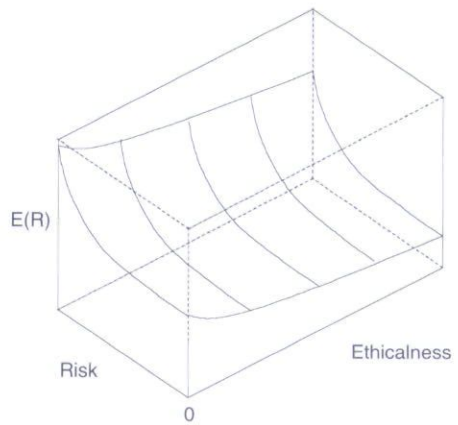
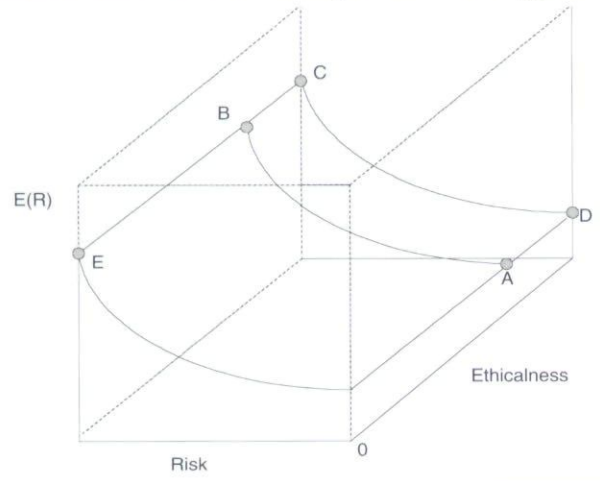


EXHIBIT 4

Indifference Planes for Range of Investor Types



to Kahneman, Wakker, and Sarin [1997, p. 375], "Decision utility is the weight of an outcome in a decision." This means that investors assess the possible outcomes of a decision and accord them weights in their investment decision. Decision utility is inferred from observing the choices of economic agents and is then used to explain these choices.

Happiness researchers make use of another type of utility called *experienced utility*. Experienced utility is subjective in nature. It refers to the flow of pleasure (or displeasure) that the individual experiences while engaged in a particular activity. We can use this experienced utility concept in our attempt to place ethical investing within a theoretical economic framework.

One particular advantage of experienced utility is that it may be measured directly and does not have to be inferred from observation of investor behavior. Recent advances in measuring experienced utility have been found to yield accurate and consistent results (see Kahneman et al. [2004]). One measure of experienced utility that may be particularly useful for research into the behavior of ethical investors is *net affective experience*.

Net affective experience is the name given to the result generated by a survey sort of instrument deployed to extract a measure of the well-being that individuals attribute to various activities and events. To obtain a value for net affective experience, psychologists use a technique called the *experience sampling method* (ESM).

According to Kahneman et al. [2004, p. 431]:

> ESM is carried out by supplying subjects with an electronic diary (e.g. a specially programmed Palm Pilot) that beeps at random times of the day and asks respondents to describe what they were doing just before the prompt. The electronic diary also asks respondents to indicate the intensity of various feelings (e.g., happy, frustrated...). These may be averaged to produce a metric reflecting actual daily experience . . . Net affective experience is defined as the average of the positive adjectives less the average of the negative adjectives, for individuals engaged in each activity.

The key problem is of course how to incorporate these ideas into a model of ethical investor behavior. Actually, the problem is solved quite easily. Assume first that ethical investments yield their owners a flow of pleasure (happiness, psychic return, or experienced utility) over time, and that that flow of pleasure is measured by net affective experience. The utility derived from this flow of pleasure over the course of the investment is equal to the sum of the product of the investment period and the net affective experience associated with the ownership of the ethical investment:

$$u_i = \Sigma_j h_{ij} \mu_{ij} \tag{3}$$

where h_{ij} is the amount of time an individual i is engaged in a particular activity j, and μ_{ij} is the net affective experience of activity j (see Kahneman et al. [2004, p. 432]). Now assume that, besides this flow of pleasure, the individual also derives *utility* from the expected return associated with the investment and *disutility* from the risk associated with the investment. In accordance with standard analysis, this part of the utility derived from the investment can be represented by a quadratic function of the form:

$$u_i = (1 + b)E_R + bE_R^2 - c\sigma_R^2 \tag{4}$$

where E_R and σ_R^2 denote the expected financial return and the variance of returns, respectively; b is a parameter that adheres to the restriction $-1 < b < 0$ when investors are risk-averse; and c is a parameter that adheres to the restriction $0 < c < 1$ (see Tobin [1958, p. 76] for some caveats associated with the use of this particular quadratic function).

The total utility, U_i, derived from an ethical investment may therefore be represented by a function that aggregates both the experienced and decision utility associated with the ethical investment:

$$U_i = \Sigma_j h_{ij} \mu_{ij} + [(1 + b)E_R + bE_R^2 - c\sigma_R^2] \tag{5}$$

This function is derived by assuming that the ethical investor wishes to maximize utility. Total utility is represented by a quadratic function of the rate of return on the investment with declining marginal utility *plus* the net affective experience during the period of ethical investment. For those who are unconcerned with the risk and return of the investment, the function reduces to Equation (3). For the orthodox investor uninterested in ethics, the function reduces to Equation (4).

Variations in the level of ethical intensity will be accounted for somewhere between these two extremes by Equation (5). This function captures the essential characteristics of ethical investing as an economic behavior. Furthermore, the subjective utility derived from the ethical investment, identified here as experienced utility, can be measured and quantified. Hence, our first steps toward a theoretical economic framework for ethical investing have led us to a combination of psychology and happiness research with orthodox financial economics.

SUMMARY

We have proposed three motivations for ethical investment: financial returns, non-wealth returns, and social change. These motives are neither exhaustive nor exclusive, and one single motive will not explain the behavior of all ethical investors.

The requirement of a financial return is necessary for an activity to be considered an investment, but there may be a trade-off between financial and psychic returns for some investors. The trade-off for consumption-investors is expected to be close to zero (total utility is maximized with low levels of ethical investment in the fun of participation model) and is expected to vary with the ethical intensity of investment-investors, as shown when we include ethical intensity in the investor's utility function. Psychic return can also be viewed as an increase in happiness, an approach that would lend itself to empirical testing to improve our understanding of why we invest ethically.

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