Altruism versus Egoism in Investment Decisions

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33% increase in US market for socially responsible investing (SRI) 2014-2016 – $8.7tn AuM (USSIF (2016))

UNPRI (2016): > 1,600 institutional investors signatories; $62tn AuM

Pecuniary and non-pecuniary motives
(Beal et al. (2005); Derwall et al. (2011); Døskeland and Pedersen (2016); Glac (2009); Nilsson (2008, 2009); Riedl and Smeets (2017); Wiesel et al. (2016); Wins and Zwergel (2016))

More recent evidence suggests that political and religious values, as well as social norms significantly impact investment decisions
(Fama and French (2007); Heinkel et al. (2001); Hong and Kacperczyk (2009); Hong and Kostovetsky (2012); Kumar et al. (2011); Peifer (2010))
Can altruism and egoism explain socially responsible investment decisions?

So far, we have no full understanding why people invest responsibly

Survey of 306 individuals at local citizen service center

- Rate mutual funds (1-10) with different return, risk, and SR characteristics
- Assess individual’s altruism and egoism (Schwartz (1992))
- Perceived SRI effectiveness (Nilsson (2008, 2009); Riedl and Smeets (2017))
- Moral obligation to comply with beliefs (Schwartz (1977); Stern et al. (1999))
- Demographics
### Linear regression results

<table>
<thead>
<tr>
<th></th>
<th>$w_{SRI}$</th>
<th>$w_{SRI}$</th>
<th>PSE</th>
<th>Norm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-0.1093</td>
<td>0.0164</td>
<td>3.9956***</td>
<td>-1.1270*</td>
</tr>
<tr>
<td>PSE</td>
<td>0.0263*</td>
<td>-</td>
<td>-</td>
<td>0.5244***</td>
</tr>
<tr>
<td>Norm</td>
<td>0.0213**</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Altruism</td>
<td>0.0485***</td>
<td>0.0703***</td>
<td>0.3694***</td>
<td>0.3771***</td>
</tr>
<tr>
<td>Egoism</td>
<td>-0.0272***</td>
<td>-0.0354***</td>
<td>-0.1669***</td>
<td>-0.0928</td>
</tr>
<tr>
<td>Gender</td>
<td>-0.0383</td>
<td>0.0391</td>
<td>0.0299</td>
<td>-0.0186</td>
</tr>
<tr>
<td>PercRet</td>
<td>0.0843***</td>
<td>0.0824***</td>
<td>-0.1347**</td>
<td>0.1467*</td>
</tr>
<tr>
<td>Age</td>
<td>-0.0019</td>
<td>-0.0023*</td>
<td>-0.0088</td>
<td>-0.0051</td>
</tr>
<tr>
<td>InvKH</td>
<td>0.0034</td>
<td>0.0091</td>
<td>0.0742</td>
<td>0.1387***</td>
</tr>
<tr>
<td>Income</td>
<td>0.0335*</td>
<td>0.0313*</td>
<td>-0.1072</td>
<td>0.0842</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.3702</td>
<td>0.3371</td>
<td>0.3071</td>
<td>0.4751</td>
</tr>
</tbody>
</table>

Note:

$t$-statistics (in parentheses) are derived from heteroscedasticity consistent standard errors (Long and Ervin (2000)). Variance inflation factors (unreported) for all covariates are below 2, suggesting no multicollinearity to be present. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.
Pure effect of altruism on relative importance of SRI in investment decisions

- \( w_{SRI} \) increases by 9.70pp for increase in altruism from 25\(^{th}\) to 75\(^{th}\) percentile

Combined effect ⇒ moral obligation activated by perceived SRI effectiveness

- \( w_{SRI} \) increases by 14.06pp for increase in altruism from 25\(^{th}\) to 75\(^{th}\) percentile
Egoism, Altruism, and SRI return perception

- For egoistic individuals, a higher return leads to a higher relative importance of SRI.

- For very altruistic individuals, a higher return leads to a lower relative importance of SRI.

⇒ “crowding-out” effect
  - extrinsic incentives crowd out intrinsic motivations
  - blood donations, charitable behavior
    (Andreoni and Payne (2011); Ariely et al. (2009); Frey and Jegen (2001);
    Frey and Oberholzer-Gee (1997); Gneezy and Rustichini (2000a,b);
    Gneezy et al. (2011))
Conclusion and Implications

- Psychological values can explain socially responsible investment decisions
  ⇒ relevance of non-pecuniary motives

- Important from academic perspective

- Important for portfolio managers


UNPRI (2016). About the PRI.


Value-Belief-Norm-theory (Stern et al. (1999)) posits a causal chain

- **Values determine**
- **Beliefs**
  1. things an individual values are threatened
  2. her behavior can help avert this threat
- **Activate Norms**

⇒ moral obligation to comply

Explains e.g. household energy consumption, personal car use, climate change strategies, donation behavior (De Groot and Steg (2008); Nilsson et al. (2004); Nordlund and Garvill (2003); Steg et al. (2005))
Hypotheses

H1: Altruistic values are positively linked to the relative importance of social responsibility in investment decisions.
- Intrinsic motivation for SRI (Andreoni (1989, 1990); Beal et al. (2005); Nilsson (2008, 2009); Riedl and Smeets (2017); Wiesel et al. (2016); Wins and Zwergel (2016))

H2: Perceived SRI effectiveness is positively linked to the relative importance of social responsibility in investment decisions.
- More SRI holdings (Nilsson (2008); Riedl and Smeets (2017))

H3: Norms are positively linked to the relative importance of social responsibility in investment decisions.
- Norms have a significant impact on investments (e.g., Hong and Kacperczyk (2009); Hong and Kostovetsky (2012))
H4: The link between altruistic values and the relative importance of social responsibility in investment decisions is mediated by perceived SRI effectiveness and norms.

- Beliefs and norms mediate link between values and proenvironmental behavior (e.g., Stern et al. (1999))

H5: Egoistic values are negatively related to the relative importance of social responsibility in investment decisions.

- “Profit-seekers” do not benefit from doing good (Derwall et al. (2011); Riedl and Smeets (2017))

H6: The link between egoistic values and the relative importance of social responsibility in investment decisions is moderated by the perception of the financial performance of SRI.

- High perceived returns as motive for SRI (Døskeland and Pedersen (2016))
Composition

1. Reduced form of Schwartz (1992) value inventory: altruism and egoism

2. Measurement of Investor Preferences $\Rightarrow$ Conjoint Analysis

3. Investment Knowledge, SRI Assessment (Risk, Return, Effectiveness)

4. Norm Elicitation

5. Demographics

Local citizen center $\Rightarrow$ representative sample

University town

No apparent selection bias
306 Respondents  
Mean age: 34.6

<table>
<thead>
<tr>
<th>Measure</th>
<th>Value</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Female</td>
<td>52.1</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>47.9</td>
</tr>
<tr>
<td>Education</td>
<td>High school</td>
<td>23.5</td>
</tr>
<tr>
<td></td>
<td>University</td>
<td>42.5</td>
</tr>
<tr>
<td>Occupation</td>
<td>Employee</td>
<td>43.8</td>
</tr>
<tr>
<td></td>
<td>Undergoing Education</td>
<td>27.5</td>
</tr>
<tr>
<td>Net Income</td>
<td>&lt;1,499€</td>
<td>52.3</td>
</tr>
<tr>
<td></td>
<td>1,500-3,499€</td>
<td>35.0</td>
</tr>
<tr>
<td>Marital Status</td>
<td>Single</td>
<td>62.4</td>
</tr>
<tr>
<td></td>
<td>Married</td>
<td>31.7</td>
</tr>
</tbody>
</table>
## Perceived Return and Risk of SRI

<table>
<thead>
<tr>
<th>Return perception</th>
<th>%</th>
<th>Risk perception</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Much lower</td>
<td>4.60</td>
<td>A lot less risky</td>
<td>3.30</td>
</tr>
<tr>
<td>Lower</td>
<td>43.80</td>
<td>Less risky</td>
<td>27.50</td>
</tr>
<tr>
<td>About the same</td>
<td>36.60</td>
<td>About the same</td>
<td>54.20</td>
</tr>
<tr>
<td>Higher</td>
<td>12.10</td>
<td>More risky</td>
<td>14.40</td>
</tr>
<tr>
<td>Much higher</td>
<td>2.60</td>
<td>A lot more risky</td>
<td>0.30</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>99.70</strong></td>
<td><strong>Total</strong></td>
<td><strong>99.70</strong></td>
</tr>
<tr>
<td>(Missing)</td>
<td>(0.30)</td>
<td>(Missing)</td>
<td>(0.30)</td>
</tr>
</tbody>
</table>
## Self-assessed financial literacy

<table>
<thead>
<tr>
<th>Measure</th>
<th>Value</th>
<th>#</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment know-how</td>
<td>Poor</td>
<td>141</td>
<td>46.1</td>
</tr>
<tr>
<td></td>
<td>Average</td>
<td>87</td>
<td>28.4</td>
</tr>
<tr>
<td></td>
<td>Good</td>
<td>78</td>
<td>25.5</td>
</tr>
<tr>
<td>Investment time</td>
<td>None</td>
<td>195</td>
<td>63.7</td>
</tr>
<tr>
<td></td>
<td>&lt;1 year</td>
<td>4</td>
<td>1.3</td>
</tr>
<tr>
<td></td>
<td>1-3 years</td>
<td>29</td>
<td>9.5</td>
</tr>
<tr>
<td></td>
<td>3-5 years</td>
<td>23</td>
<td>7.5</td>
</tr>
<tr>
<td></td>
<td>5-10 years</td>
<td>19</td>
<td>6.2</td>
</tr>
<tr>
<td></td>
<td>&gt;10 years</td>
<td>36</td>
<td>11.8</td>
</tr>
<tr>
<td>SRI awareness</td>
<td>No</td>
<td>109</td>
<td>35.6</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>197</td>
<td>64.4</td>
</tr>
</tbody>
</table>
Computing Relative Importance Weights

\[ U_j = w_{1j} \times Return + w_{2j} \times Risk + w_{3j} \times Social \ Responsibility \] (1)

For participant \( j \), with \( U_{ij}^{\text{max}} \) and \( U_{ij}^{\text{min}} \) reflecting the estimated part-worths of the most and least desired level of attribute \( i \), the relative importance weight is

\[ w_{ij} = \frac{U_{ij}^{\text{max}} - U_{ij}^{\text{min}}}{\sum_{i=1}^{n} (U_{ij}^{\text{max}} - U_{ij}^{\text{min}})} \] (2)

Mean utility function:

\[ Utility = 24.89\% \times Return + 26.75\% \times Risk + 48.36\% \times Social \ Responsibility \]
Results

Do Altruism and Egoism affect the Investment Decision?

\[ PSE = \beta_{0,PSE} + \beta_1 \times Altruism + \beta_2 \times Egoism + \beta_3 \times Gender \\
+ \beta_4 \times PercRet + \beta_5 \times Age + \beta_6 \times InvKH + \beta_7 \times Income + \epsilon_{PSE} \] (3)

\[ Norm = \beta_{0,Norm} + \beta_1 \times PSE + \beta_2 \times Altruism + \beta_3 \times Egoism \\
+ \beta_4 \times Gender + \beta_5 \times PercRet + \beta_6 \times Age \\
+ \beta_7 \times InvKH + \beta_8 \times Income + \epsilon_{Norm} \] (4)

\[ w_{SRI} = \beta_{0,w_{SRI}} + \beta_1 \times PSE + \beta_2 \times Norm + \beta_3 \times Altruism \\
+ \beta_4 \times Egoism + \beta_5 \times Gender + \beta_6 \times PercRet + \beta_7 \times Age \\
+ \beta_8 \times InvKH + \beta_9 \times Income + \epsilon_{w_{SRI}} \] (5)

Total Effect Model without inclusion of PSE & Norm to assess mediation (Baron and Kenny (1986); Zhao et al. (2010))
Results

Visualization of Causal Chain

Note: Adapted causal chain from the Value-Belief-Norm theory (Stern et al. (1999)). The effect of altruism on $w_{SRI}$ is mediated through perceived SRI effectiveness (PSE) and Norm.

The total effect coefficient is the sum of the product of all paths:

$$0.0485 \times 0.3694 \times 0.5244 \times 0.0213 + 0.3771 \times 0.0213 + 0.3694 \times 0.263 = 0.0703.$$ 

Coefficients are obtained from the linear regressions as specified above.

***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.
Pure effect of altruism on relative importance of SRI in investment decision

- $w_{SRI}$ increases by 9.70pp for increase in altruism from 25\textsuperscript{th} to 75\textsuperscript{th} percentile\textsuperscript{1}

Combined effect: moral obligation activated by perceived SRI effectiveness

- $w_{SRI}$ increases by 14.06pp for increase in altruism from 25\textsuperscript{th} to 75\textsuperscript{th} percentile\textsuperscript{2}

\textsuperscript{1}Level of altruism changes by 2 from 25\textsuperscript{th} to 75\textsuperscript{th} percentile. This factor is multiplied with the coefficient of the direct effect of altruism on $w_{SRI}$, 0.0485.

\textsuperscript{2}Level of altruism changes by 2 from 25\textsuperscript{th} to 75\textsuperscript{th} percentile. This factor is multiplied with the coefficient of the total effect of altruism on $w_{SRI}$, 0.0703.
Results

Egoism, Altruism, and SRI return perception

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