Abstract

Since the financial crisis several studies have argued that markets treat responsible companies as if they are fundamentally ‘better’ in some way: Nofsinger and Varma (2013) find that responsible funds had stronger performance during the financial crisis than might be expected from their risk factor exposures; DiBartolomeo (2010) shows that markets expect companies in a social index to survive longer than companies that are not represented. This research explores the idea that these observations can be attributed to superior fundamental characteristics of responsible companies, notably the sustainability of their competitive position as expressed by Morningstar Economic Moat ratings. We find a strong association between membership in North American social indexes and wider economics moats. We also find that one alternative explanation - that responsible companies might have faster growing and/or more predictable earnings (as measured by S&P quality rating) - is not supported.
Topics

• Responsible investment goes global
  ✓ The problem with ESG ratings
  ✓ Are responsible companies better?

• Responsible companies appear to have better futures
  ✓ Less debt
  ✓ Wider moats
Responsible investment goes global
Four related movements

**Sin-Free Investing (from 19th century)**
- Avoids sin stocks, e.g., alcohol, tobacco, gambling, pornography, etc.

**Traditional SRI (from mid-1980s)**
- Originally created in U.S. by confluence of Nuclear Freeze movement and South Africa boycott, evolved to include environmental and employee relations screens as well.

**Sustainable Investing (from early 2000s)**
- Reframed screening approach to focus on sustainability issues, especially climate change, and within climate change, carbon. Strong focus on solutions.

**ESG Alpha (modern era)**
- Moves away from values-based or normative approaches and toward alpha generation. Can we use intangible ESG information to gain an investment advantage?
  (We don’t know if this works.)
Your boss may have already signed you up

Source: unpri.org
How do we do this?

The six Principles for Responsible Investment are a voluntary and aspirational set of investment principles that offer a menu of possible actions for incorporating ESG issues into investment practice.

The Principles were developed by investors, for investors. They have nearly 1,500 signatories, from over 50 countries, representing US$60 trillion.

**PRINCIPLE 1**

WE WILL INCORPORATE ESG ISSUES INTO INVESTMENT ANALYSIS AND DECISION-MAKING PROCESSES.

**PRINCIPLE 2**

WE WILL BE ACTIVE OWNERS AND INCORPORATE ESG ISSUES INTO OUR OWNERSHIP POLICIES AND PRACTICES.

**PRINCIPLE 3**

WE WILL SEEK APPROPRIATE DISCLOSURE ON ESG ISSUES BY THE ENTITIES IN WHICH WE INVEST.

**PRINCIPLE 4**

WE WILL PROMOTE ACCEPTANCE AND IMPLEMENTATION OF THE PRINCIPLES WITHIN THE INVESTMENT INDUSTRY.

**PRINCIPLE 5**

WE WILL WORK TOGETHER TO ENHANCE OUR EFFECTIVENESS IN IMPLEMENTING THE PRINCIPLES.

**PRINCIPLE 6**

WE WILL EACH REPORT ON OUR ACTIVITIES AND PROGRESS TOWARDS IMPLEMENTING THE PRINCIPLES.

Source: unpri.org
This raises questions

• How do we do this?

• What happens to our opportunity set when we do it?
The problem with ESG ratings
Use of ESG ratings is growing rapidly

- Well-developed rating systems
- New (and appropriate) focus on materiality
- Rapid adoption by quant researchers and academics
- Increasingly used by risk oversight groups

**BUT**: are we clear on what we’re talking about?
Number of ESG analysts by firm

Source: company websites, 10/20/16
Two rating systems in perfect agreement (ideal)

\[ y = x \]

\[ R^2 = 100\% \]
High degree of agreement (bond ratings)

\[ y = 0.9939x + 0.0194 \]

\[ R^2 = 94.1\% \]
Less agreement (ESG agency merger)

\[ y = 0.992x + 0.0232 \]

\[ R^2 = 76.8\% \]
Big problem (is the underlying concept even valid?)

\[ y = 0.017x + 0.5285 \]
\[ R^2 = 0\% \]
Three ESG rating systems compared

This analysis is based on 2013-14 data. Two of the vendors were subsequently acquired.
What the vendors said

• Each vendor had good expertise and independent research capability.

• Each vendor believed their system was well-designed and internally consistent.

• Even though they were all marketed as institutional ESG solutions, the vendors acknowledged that the systems were designed to measure different things, e.g.,
  ✓ Environment performance
  ✓ Shareholder-friendly governance
  ✓ Suitability for a North American responsible investment strategy

So...it’s best to think of ESG as a group of interrelated concepts, not a single easily-quantified property.
  ✓ What kind of ESG performance do you care about?
Virtues of responsible investment indexes

• Binary value: “in” or “out” – appropriate since these are gross distinctions

• Good overlap among North American responsible indexes - agreement about what we’re measuring

• Representative indexes:
  ✓ MSCI KLD 400 Social Index
  ✓ Calvert U.S. Large Cap Core Responsible Index
  ✓ FTSE4Good US Select Index
Percentage of MSCI KLD 400 mkt cap in Calvert Index

- In Calvert: 84%
- Not in Calvert: 16%

Sources: Blackrock, Calvert – data as of 7/28/16
Are responsible companies better?
Responsible companies perform better in crises

*Alpha of SRI funds vs. matched conventional funds, 2000-2012*

Source: Ik analysis of Table 4 (B) in Nofsinger and Varma (2013)
But they do not have higher S&P quality ratings
Less debt
Responsible companies are expected to live longer

Starting with Merton (1974), financial researchers have long understood the theoretical links between equity risk and credit risk. While “structural models” of credit risk such as Moody’s-KMV have been available for some time, we have developed a new approach for the use of such models. In our approach, we derive the market-implied expected life of a firm based on the firm’s stock price, balance sheet leverage and the equity risk forecast from our models.

The concept of corporate “sustainability” as broadly used by socially responsible investors appears to be supported, with purportedly sustainable firms having average expected lives which are longer than those of non-sustainable firms to a statistically significant degree.

Source: DiBartolomeo (2010)
Wisdom of crowds?

*If we let the ESG systems vote, the stocks liked by all three systems (Portfolio A) have different financial characteristics (higher valuation, lower financial leverage) from stocks disliked (Portfolio B) by all three systems...*
Exposure to financial leverage in a multifactor model

Source: lk anzlyxix using Bloomberg multifactor risk model, November 2016
Wider moats
The difference between GEICO’s costs and those of its competitors is a kind of moat that protects a valuable and much-sought-after business castle. [Geico] continually widens the moat by driving down costs still more, thereby defending and strengthening the economic franchise.

- Warren Buffett, 1986
Munger’s perspective

“
We have to deal in things we’re capable of understanding. And then, once we’re over that filter, we have to have a business with some intrinsic characteristics that give it a durable competitive advantage...
”

Source: BBC interview with Charles Munger, 2012
https://www.youtube.com/watch?v=3WkpQ4PpId4
Invest in moats to fight mean regression → sustainability

Exhibit 20: Positive EM Decaying to Zero Economic Profit
Exhibit 21: Negative EM Decaying to Zero Economic Profit

Source: Applied Finance Group
Morningstar has formalized moat assessment

Source: Morningstar
Moat sources [examples]

- Brands [Disney, Starbucks]
- Patents [Sanofi, Monsanto]
- Regulation [Televisa, Wynn Resorts]
- Cost Advantage [Managed care organizations, railroads]
- Switching Costs [Apple]
- Network Effect [Expedia]
- Efficient Scale [Pipeline companies]

Source: Brilliant and Collins, ‘Why Moats Matter’
## Strong sector bias to moat ratings

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<th>Sector</th>
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<td><strong>TOTAL</strong></td>
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<th>Total</th>
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<td>43%</td>
<td>43%</td>
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<td>Healthcare</td>
<td>41%</td>
<td>49%</td>
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<tr>
<td>Financial Services</td>
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<td>Technology</td>
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<tr>
<td>Real Estate</td>
<td>0%</td>
<td>62%</td>
<td>38%</td>
<td>100%</td>
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</table>

| **Average**           | 25%  | 52%    | 24%  | 100%  |

*Source: Iik analysis based on Morningstar data, 7/27/2016*
Strong size bias, even within a big cap universe

Source: Ik analysis based on Morningstar data, 7/27/2016
Wide moat stocks have performed well

<table>
<thead>
<tr>
<th>June 2002 - May 2014</th>
<th>Average Monthly Returns (Arithmetic)</th>
<th>Average Monthly Returns (Geometric)</th>
<th>Standard Deviation of Returns</th>
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<tr>
<td>Wide Moat Portfolio (E)</td>
<td>0.87%</td>
<td>0.77%</td>
<td>4.37%</td>
</tr>
<tr>
<td>Wide Moat Portfolio (V)</td>
<td>0.88%</td>
<td>0.80%</td>
<td>3.94%</td>
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<tr>
<td>S&amp;P 500</td>
<td>0.68%</td>
<td>0.58%</td>
<td>4.35%</td>
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<td>Russell 3000</td>
<td>0.72%</td>
<td>0.62%</td>
<td>4.48%</td>
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<td>CRSP Valued Weighted</td>
<td>0.61%</td>
<td>0.51%</td>
<td>4.45%</td>
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Source: Kanuri (2015)
http://acumen.lib.ua.edu/content/u0015/0000001/0002023/u0015_0000001_0002023.pdf
Wide moat stocks have performed well (continued)

Table 3.6 – Risk-adjusted Alpha

This table reports the net alphas (for Carhart four-factor model and Fama-French five-factor model) for the Wide-Moat portfolio from June 2002-May 2014. Reported are the estimates for equal- and value-weighted Wide Moat portfolio. All alphas have been annualized. Standard errors are heteroskedasticity-consistent. T-stats are in brackets.

<table>
<thead>
<tr>
<th>Wide Moat (E)</th>
<th>Annualized Alpha (%)</th>
<th>Monthly Alpha (%)</th>
<th>K</th>
<th>SMB</th>
<th>HML</th>
<th>MOM</th>
<th>RMW</th>
<th>CMA</th>
<th>R²</th>
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<tbody>
<tr>
<td>Carhart Four-Factor Model</td>
<td>2.08%</td>
<td>0.172%**</td>
<td>0.9267682***</td>
<td>0.0012678</td>
<td>0.0193119</td>
<td>-0.0748003***</td>
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<tr>
<td></td>
<td>[2.51]</td>
<td>[44.59]</td>
<td>[0.04]</td>
<td>[0.66]</td>
<td>[-3.63]</td>
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<td></td>
<td></td>
<td>0.9647</td>
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<tr>
<td>Fama-French Five-Factor Model</td>
<td>1.94%</td>
<td>0.16%**</td>
<td>0.9647375***</td>
<td>-0.0058968</td>
<td>0.0507269</td>
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<td></td>
<td>[2.02]</td>
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<td>[-0.91]</td>
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<td>0.9593</td>
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<tr>
<td>Fama-French Five-Factors plus</td>
<td>1.84%</td>
<td>0.152%**</td>
<td>0.9410757***</td>
<td>0.0262706</td>
<td>0.0169065</td>
<td>-0.0837045***</td>
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<tr>
<td>Momentum factor</td>
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<td>[42.33]</td>
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<table>
<thead>
<tr>
<th>Wide Moat (V)</th>
<th>Annualized Alpha (%)</th>
<th>Monthly Alpha (%)</th>
<th>K</th>
<th>SMB</th>
<th>HML</th>
<th>MOM</th>
<th>RMW</th>
<th>CMA</th>
<th>R²</th>
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<tr>
<td>Carhart Four-Factor Model</td>
<td>3.66%</td>
<td>0.30%***</td>
<td>0.8715328***</td>
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<td>-0.0206067</td>
<td>-0.044043 *</td>
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<td>Fama-French Five-Factor Model</td>
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*** - Significant at 1%
**  - Significant at 5%
*   - Significant at 10%

Source: Kanuri (2015)
Responsible companies tend to have wider moats (MSCI KLD 400)

Source: Ik analysis based on Morningstar and Blackrock data, 7/27/2016
Responsible companies tend to have wider moats (Calvert)

Source: Ik analysis based on Morningstar and Calvert data, 8/2/2016
Responsible companies tend to have wider moats (FTSE4Good)

Source: Ik analysis based on Morningstar and Calvert data, 8/2/2016
Responsible stocks tend to have wider moats...

### Percent Within Each Moat Classification

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<tr>
<th># Social Indexes</th>
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</tr>
<tr>
<td>0</td>
<td>14%</td>
<td>15%</td>
<td>21%</td>
<td>16%</td>
</tr>
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</table>

Total

- 100%
- 100%
- 100%
- 100%

n= 122  216  98  436
Closing thoughts

• ESG

✓ More and better research
✓ But big problems with measurement error

• Responsible companies are believed to have brighter futures

✓ Less debt → Merton inference of longer firm life
✓ Wider moats → M’star view of sustainability of competitive advantage

✧ BUT: S&P Quality ratings are not different


